APPENDIX 3. OVERFISHING DEFINITIONS CONTAINED IN FEDERAL FISHERY MANAGEMENT PLANS

NOTE: Unless otherwise noted, definitions have been approved in conformance with the Sustainable Fisheries Act amendments (i.e. are post SFA criteria)

Sea scallop - Northwestern Atlantic Coast

Overfishing defined	F_{MAX}	Overfished defined	B_{MAX}	½ B_{MAX}
Overfishing occurs when one of the three conditions apply: F exceeds F_{MAX} (proxy for F_{MSY}) when the stock biomass is equal to or greater than B_{MAX} (proxy for B_{MSY}); fishing mortality exceeds the level that has a 50 percent probability of achieving B_{MAX} in 10 years when the stock biomass is below B_{MAX} but above ½B_{MAX}, and in that case overfishing occurs when F is above a level to rebuild in 5 years; or F is greater than zero and the stock biomass is below ¼B_{MAX}.	0.24	The scallop stock is overfished when the scallop biomass is below ½$B_{MAX.}$	5.6 kg/tow	2.8 kg/tow

Atlantic salmon - Gulf of Maine

Overfishing defined	F_{MSY}	Overfished defined	$B_{MSY\ proxy}$	$B_{threshold}$
Overfishing is currently not defined (fishing mortality is set equal to zero).	undefined	A stock is overfished when the stock biomass falls below B_{MSY}	54,000 spawning salmon	54,000 spawning salmon

NORTHEAST MULTISPECIES

Atlantic cod - Gulf of Maine

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing occurs when F exceeds F_{MSY}.	0.24	The stock is overfished when the total stock biomass is less than ½ B_{MSY}.	58,248 mt	29124 mt

Atlantic cod - Georges Bank

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}

Overfishing occurs when F exceeds F_{MSY}.	0.25	The stock is overfished when the total stock biomass is less than ½ B_{MSY}.	148,084 mt	74,042 mt

Haddock - Gulf of Maine

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ survey\ proxy}$	½ $B_{MSY\ survey\ proxy}$
Overfishing occurs when the relative exploitation index (catch/autumn biomass index) exceeds F_{MSY} proxy.	0.43	The stock is overfished when the total stock biomass is less than the survey proxy for ½B_{MSY}.	5900 mt	2950 mt

Haddock - Georges Bank

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing occurs when F exceeds $F_{40\%}$.	0.35	The stock is overfished when the spawning stock biomass is less than ½ B_{MSY}.	158,873 mt	79,437 mt

American plaice - Gulf of Maine / Georges Bank

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing occurs when F exceeds $F_{40\%}$.	0.19	The stock is overfished when the spawning stock biomass is less than ½ B_{MSY}.	21,940 mt	10,970 mt

Acadian redfish - Gulf of Maine / Georges Bank

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	B_{target} (B_{MSY})	½ B_{MSY}
Overfishing occurs when F exceeds $F_{50\%}$.	0.04	The stock is overfished when the spawning stock biomass is less than ½B_{MSY}. B_{MSY} is based on total biomass.	271,000 mt	135,500 mt

Witch flounder - Northwestern Atlantic Coast

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing occurs when F exceeds the F_{MSY} proxy ($F_{40\%}$).	0.2	The stock is overfished when the total stock biomass is less than ½ B_{MSY}.	11,447 mt	5723 mt

Yellowtail flounder - Georges Bank

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing occurs when F exceeds F_{MSY}.	0.25	The stock is overfished when the total stock biomass is less than ½ B_{MSY}.	43,200 mt	21,600 mt

Yellowtail flounder - Southern New England / Mid-Atlantic

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing occurs when F exceeds F_{MSY}.	0.25	The stock is overfished when the total stock biomass is less than ½ B_{MSY}.	27,400 mt	13,700 mt

Yellowtail flounder - Cape Cod / Gulf of Maine

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing occurs when F exceeds F_{MSY}.	0.24	The stock is overfished when the total stock biomass is less than ½ B_{MSY}.	7790 mt	3895 mt

White hake - Gulf of Maine / Georges Bank

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	½ $B_{MSY\ proxy}$
Overfishing occurs when F exceeds $F_{MSY\ proxy}$.	0.13	The stock is overfished when the total stock biomass is less than ½ B_{MSY}.	56,254 mt	28,127 mt

Pollock - Gulf of Maine / Georges Bank

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	½ $B_{MSY\ proxy}$
Overfishing occurs when F exceeds the FMSY proxy, a relative exploitation index (catch/survey biomass index).	5.66 catch/ survey index	The stock is overfished when the total stock biomass is less than the survey proxy for ½ B_{MSY}	2 kg/tow	1 kg/tow

Ocean pout - Northwestern Atlantic Coast

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	½ $B_{MSY\ proxy}$
Overfishing occurs when F exceeds $F_{MSY\ proxy}$.	0.76 catch/ survey index	The stock is overfished when the total stock biomass is less than the ½$B_{MSY\ proxy}$	4.94 kg/tow	2.47 kg/tow

Atlantic halibut - Northwestern Atlantic Coast

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing occurs when F exceeds the FMSY catch-YPR proxy	0.07	The stock is overfished when the total stock biomass is less than ½ B_{MSY}.	49,000 mt	24,500 mt

Windowpane - Gulf of Maine / Georges Bank

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	½ $B_{MSY\ proxy}$
Overfishing occurs when F exceeds the FMSY proxy of a relative exploitation index	0.5 catch/ survey index	The stock is overfished when the total stock biomass is less than ½ $B_{MSY\ proxy}$.	1.4 kg/tow	0.7 kg/tow

Windowpane - Southern New England / Mid-Atlantic

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	½ $B_{MSY\ proxy}$
Overfishing occurs when F exceeds the FMSY proxy of a relative exploitation index	1.47 catch/ survey index	The stock is overfished when the total stock biomass is less than ½ $B_{MSY\ proxy}$.	0.34 kg/tow	0.17 kg/tow

Winter flounder - Gulf of Maine

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}

| Overfishing occurs when F exceeds F_{MSY}. | 0.28 | The stock is overfished when the total stock biomass is less than ½ B_{MSY}. | 3792 mt | 1896 mt |

Winter flounder - Georges Bank

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing occurs when F exceeds F_{MSY}.	0.26	The stock is overfished when the total stock biomass is less than ½ B_{MSY}.	16,000 mt	8,000 mt

Winter flounder - Southern New England / Mid-Atlantic

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing occurs when F exceeds F_{MSY}.	0.25	The stock is overfished when the total stock biomass is less than ½ B_{MSY}.	38,761 mt	19,380 mt

Silver Hake - Gulf of Maine/Northern Georges Bank

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	½ $B_{MSY\ proxy}$
Overfishing occurs when F exceeds F_{MSY}, proxy exploitation index	2.57	The stock is overfished when the total stock biomass is less than ½ $B_{MSY\ proxy}$.	6.63 kg/tow	3.315 kg/tow

Silver Hake - Southern Georges Bank/Middle Atlantic

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	½ $B_{MSY\ proxy}$
Overfishing occurs when F exceeds F_{MSY}, proxy exploitation index	34.39	The stock is overfished when the total stock biomass is less than ½ $B_{MSY\ proxy}$.	1.78 kg/tow	0.89 kg/tow

Offshore Hake

Overfishing defined	F_{MSY}	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold

Undefined	undefined	The stock is overfished when the 3-year moving average weight per individual in the autumn survey falls below the 25th percentile of the average weight per individual from the autumn survey time series 1963-1997 (0.236) and when the 3-year moving average of the abundance of immature fish less than 30 cm falls below the median value of the 1963-1997 autumn survey abundance of fish less than 30 cm (0.33).	not estimated	0.236 and 0.33

Note: The overfishing definition is the approved definition from Amendment 12 to the NE Multispecies FMP; however, there is an error in this definition that needs to be corrected by the New England Fishery Management Council in the next FMP amendment. The overfishing definition in the FMP should read that "overfishing is occurring when . . ." not that offshore hake is overfished. Thus, the approved overfishing definition contains a B component but not an F component. In this case, overfishing, per se, is undefined. In practice, the correct overfishing definition should contain an F component, leaving the B component undefined.

Red Hake - Gulf of Maine/Northern Georges Bank

Overfishing defined	F_{MSY}	Overfished defined	$B_{MSY\ proxy}$	½ $B_{MSY\ proxy}$
Overfishing occurs when F exceeds F_{MSY}.	0.65	The stock is overfished when the total stock biomass is less than ½ $B_{MSY\ proxy}$.	1.6 kg/tow	0.8 kg/tow

Red Hake - Southern Georges Bank/Middle Atlantic

Overfishing defined	F_{MSY}	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Undefined	undefined	The southern stock of red hake is in an overfished condition when the 3-year moving average weight per individual in the autumn survey falls below the 25th percentile of the average weight per individual from the autumn survey time series 1963-1997 (0.12) and when the 3-year moving average of the abundance of immature fish less than 25 cm falls below the median value of the 1963-1997 autumn survey abundance of fish less than 25 cm (4.72).	not available	0.12 and 4.72

Note: The overfishing definition is the approved definition from Amendment 12 to the NE Multispecies FMP; however, there is an error in this definition that needs to be corrected by the New England Fishery Management Council in the next FMP amendment. The overfishing definition in the FMP should read that "overfishing is occurring when . . ." not that the southern stock of red hake is overfished. Thus, the approved overfishing definition contains a B component but not an F component. In this case, overfishing, per se, is undefined. In practice, the correct overfishing definition should contain an F component, leaving the B component undefined.

NORTHEAST SKATE COMPLEX

Winter Skate

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	½ $B_{MSY\ proxy}$
Overfishing occurs when the 3-year moving average of the autumn survey mean weight per tow declines 20% or more, or when the autumn survey mean weight per tow declines for 3 consecutive years.	See Overfishing defined	The stock is in an overfished condition when the 3-year moving average of the autumn survey mean weight per tow is less than one-half of the 75th percentile of the mean weight per tow observed in the autumn trawl survey from the selected reference time series.	5.6 kg/tow	2.8 kg/tow

Thorny Skate

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	½ $B_{MSY\ proxy}$
Overfishing occurs when the 3-year moving average of the autumn survey mean weight per tow declines 20% or more, or when the autumn survey mean weight per tow declines for 3 consecutive years.	See Overfishing defined	The stock is in an overfished condition when the 3-year moving average of the autumn survey mean weight per tow is less than one-half of the 75th percentile of the mean weight per tow observed in the autumn trawl survey from the selected reference time series.	4.12 kg/tow	2.06 kg/tow

Little Skate

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	½ $B_{MSY\ proxy}$

Overfishing occurs when the 3-year moving average of the spring survey mean weight per tow declines 20% or more, or when the spring survey mean weight per tow declines for three consecutive years.	See Overfishing defined	The stock is in an overfished condition when the 3-year moving average of the spring survey mean weight per tow is less than one-half of the 75th percentile of the mean weight per tow observed in the spring trawl survey from the selected reference time series.	7.03 kg/tow	3.51 kg/tow

Barndoor Skate

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	½ $B_{MSY\ proxy}$
Overfishing occurs when the 3-year moving average of the autumn survey mean weight per tow declines 30% or more, or when the autumn survey mean weight per tow declines for 3 consecutive years.	See Overfishing defined	The stock is in an overfished condition when the 3-year moving average of the autumn survey mean weight per tow is less than one-half of the mean weight per tow observed in the autumn trawl survey from 1963-1966.	1.62 kg/tow	0.81 kg/tow

Smooth Skate

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	½ $B_{MSY\ proxy}$
Overfishing occurs when the 3-year moving average of the autumn survey mean weight per tow declines 30% or more, or when the autumn survey mean weight per tow declines for 3 consecutive years.	See Overfishing defined	The stock is in an overfished condition when the 3-year moving average of the autumn survey mean weight per tow is less than one-half of the 75th percentile of the mean weight per tow observed in the autumn trawl survey from the selected reference time series.	0.29 kg/tow	0.145 kg/tow

Clearnose Skate

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	½ $B_{MSY\ proxy}$

Overfishing occurs when the 3-year moving average of the autumn survey mean weight per tow declines 30% or more, or when the autumn survey mean weight per tow declines for 3 consecutive years.	See Overfishing defined	The stock is in an overfished condition when the 3-year moving average of the autumn survey mean weight per tow is less than one-half of the 75th percentile of the mean weight per tow observed in the autumn trawl survey from the selected reference time series.	0.77 kg/tow	0.38 kg/tow

Rosette Skate

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	$\frac{1}{2} B_{MSY\ proxy}$
Overfishing occurs when the 3-year moving average of the autumn survey mean weight per tow declines 60% or more, or when the autumn survey mean weight per tow declines for 3 consecutive years.	See Overfishing defined	The stock is in an overfished condition when the 3-year moving average of the autumn survey mean weight per tow is less than one-half of the 75th percentile of the mean weight per tow observed in the autumn trawl survey from the selected reference time series.	0.048 kg/tow	0.024 kg/tow

ATLANTIC HERRING

Atlantic Herring

Overfishing defined	F_{MSY}	Overfished defined	$B_{MSY\ proxy}$	$\frac{1}{2} B_{MSY\ proxy}$
If the stock biomass is equal to or greater than B_{MSY}, overfishing occurs when F exceeds F_{MSY}. If the stock biomass is less than B_{MSY}, overfishing occurs when F exceeds the level that has a 50-percent probability of rebuilding the stock biomass to B_{MSY} in 5 years ($F_{THRESHOLD}$).	0.27	The stock is overfished when stock biomass is less than $\frac{1}{2} B_{MSY}$.	670,600 mt	335,300 mt

DEEP-SEA RED CRAB

Deep-Sea Red Crab

Overfishing defined	F_{MSY}	Overfished defined	$B_{MSY\ proxy}$	$\frac{1}{2} B_{MSY\ proxy}$

| Overfishing is defined as any rate of exploitation such that the ratio of current exploitation to an idealized exploitation under MSY conditions exceeds a value of 1.0 (the actual measure of exploitation used is determined by the availability of suitable data). | not available | The stock is overfished when one of the following three conditions is met:

Condition 1 – The current biomass in the management unit is below ½ B_{MSY}.
Condition 2 – The annual fleet average CPUE, measured as marketable crabs landed per trap haul, continues to decline below a baseline level for 3 or more years. The baseline level = ½ CPUE under virgin stock conditions (not currently specified).
Condition 3 – The annual fleet average CPUE, measured as marketable crabs landed per trap haul, declines below a minimum threshold level in any single year. The minimum threshold level = ¼ CPUE under virgin stock conditions (not currently specified). | not estimated | not estimated |

MONKFISH

Monkfish - Northern Stock

Overfishing defined	$F_{threshold}$	Overfished defined	B_{target}	$B_{threshold}$
Overfishing occurs when F exceeds $F_{THRESHOLD}$, which is set equal to F_{MAX}.	0.31	The stock is overfished when the survey index is less than $B_{THRESHOLD}$, which is set equivalent to ½ B_{TARGET}. Thus, $B_{THRESHOLD}$=1.25 kg/tow for the northern stock.	2.50 kg/tow	1.25kg/tow

Monkfish - Southern Stock

Overfishing defined	$F_{threshold}$	Overfished defined	B_{target}	$B_{threshold}$
Overfishing occurs when F exceeds $F_{THRESHOLD}$, which is set equal to F_{MAX}.	0.4	The stock is overfished when the survey index is less than $B_{THRESHOLD}$, which is set equivalent to ½ B_{TARGET}. Thus, $B_{THRESHOLD}$=0.92 kg/tow for the southern stock.	1.84 kg/tow	0.92 kg/tow

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Spiny Dogfish

Overfishing defined	$F_{threshold}$	Overfished defined	B_{target}	$B_{threshold}$
Overfishing occurs when F exceeds $F_{THRESHOLD}$, the mortality rate that stabilizes the population at SSB_{MAX} when size at entry to the fishery is at 27.5 inches (70cm).	0.39 (Ftarget=0.08)	The stock is overfished when the biomass is less than ½SSB_{MAX}.	not estimated	100,000 mt female biomass

SUMMER FLOUNDER, SCUP, AND BLACK SEA BASS

Summer Flounder

Overfishing defined	F_{MAX}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing occurs when F exceeds the threshold of F_{MAX} (F_{MAX} is used as a proxy for F_{MSY}).	0.310	The stock is overfished when the spawning stock biomass falls below the minimum biomass threshold of ½B_{MSY}. The best available estimate for the proxy of B_{MSY} is 89,411 mt of spawning stock biomass.	60,074 mt	30,037 mt

Scup

Overfishing defined	F_{MAX}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing occurs when F exceeds the threshold F_{MAX} (F_{MAX} is used as a proxy for F_{MSY}).	0.177	The stock is overfished when the spawning stock biomass falls below the minimum biomass threshold of ½BMSY.	92,044 mt	46,022 mt

Black Sea Bass

Overfishing defined	F_{MAX}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing occurs when F exceeds the threshold F_{MAX} (F_{MAX} is used as a proxy for F_{MSY}).	0.42	The stock is overfished when the spawning stock biomass falls below the minimum biomass threshold of ½BMSY.	12,537 mt	6,268 mt

BLUEFISH

Bluefish (except Gulf of Mexico)

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	$\frac{1}{2} B_{MSY}$
Overfishing occurs when F exceeds the threshold F_{MSY}.	0.19	The stock is overfished when the minimum biomass is less than $\frac{1}{2}B_{MSY}$.	147,052 mt	73,526 mt

ATLANTIC SURFCLAM AND OCEAN QUAHOG

Surfclam

Overfishing defined	F_{MSY}	Overfished defined	$B_{MSY\ proxy}$	$\frac{1}{2} B_{MSY\ proxy}$
Overfishing occurs when F exceeds $F_{MSY} = M$ (the natural mortality rate).	0.15	The stock is overfished when the current biomass estimate is less than $\frac{1}{2}$ of the $B_{MSY\ proxy}$ (1/2 of the B_{1999}).	543,000 mt (meat weight)	272,000 mt (meat weight)

Ocean Quahog

Overfishing defined	F_{TARGET}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the overfishing target is exceeded, which is $F_{TARGET} = F_{0.1}$ for the exploited region. The best available estimate of $F_{0.1}$ is 0.028.	0.022	The stock is overfished when the minimum biomass is less than the biomass threshold of $\frac{1}{2}B_{MSY}$ or $\frac{1}{4}$ of the virgin biomass.	1.79 million mt (meat weight).	1.43 million mt (meat weight)

ATLANTIC MACKEREL, SQUID, AND BUTTERFISH

Illex Squid

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	$\frac{1}{2} B_{MSY}$

Overfishing occurs when F exceeds the fishing mortality threshold of F_{MSY}.	1.22	The stock is overfished when the minimum biomass is less than $\frac{1}{2}B_{MSY}$.	39,300 mt	19,650 mt

Loligo Squid

Overfishing defined	F_{MAX}	Overfished defined	B_{MSY}	$\frac{1}{2} B_{MSY}$
Overfishing occurs when F exceeds the fishing mortality threshold of F_{MAX} (F_{MAX} is a proxy for F_{MSY}).	0.7 and 1.2 for winter and summer cohorts, respectively	The stock is overfished when the minimum biomass is less than the biomass threshold of $\frac{1}{2}B_{MSY}$.	80,000 mt	40,000 mt

Atlantic Mackerel

Overfishing defined	F_{MAX}	Overfished defined	B_{MSY}	$\frac{1}{2} B_{MSY\ PROXY}$
Overfishing occurs when F exceeds the fishing mortality threshold of F_{MSY}. To avoid low levels of recruitment, the threshold F decreases linearly from 0.45 at 644,000 mt SSB to zero at 161,000 mt SSB ($\frac{1}{4}B_{MSY}$).	0.16	The stock is overfished when the SSB is less than 322,000 mt. The estimates of the component parts of this overfishing definition were not re-estimated from past levels and therefore remain the best available estimates.	644,000 mt	322,000 mt

Butterfish (Atlantic)

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	B_{MSY}	$\frac{1}{2} B_{MSY}$
Overfishing occurs when F exceeds the fishing mortality threshold of F_{MSY}. Overfishing is defined as $F_{0.1}$	0.38	The stock is overfished when the minimum biomass is less than the biomass threshold of $\frac{1}{2}B_{MSY}$.	22,800 mt	11,400 mt

TILEFISH

Tilefish (except South Atlantic and Gulf of Mexico)

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	$\frac{1}{2} B_{MSY}$ ($B_{threshold}$)

Overfishing occurs when the catch associated with a threshold F of F_{MSY} is exceeded.	0.16	The stock is overfished when the total stock biomass falls below the minimum biomass threshold ($B_{THRESHOLD}$) of ½B_{MSY}.	11,400 mt	4,692 mt

GOLDEN CRAB OF THE SOUTH ATLANTIC

Golden Crab

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the F associated with the fishing mortality rate that produces maximum sustainable yield (F_{MSY}) is exceeded.	0.21	A stock is overfished when the current biomass ($B_{CURRENT}$) is less than the minimum stock size threshold (MSST). The MSST is defined as a ratio of current biomass ($B_{CURRENT}$) to biomass at MSY or (1-M)* B_{MSY}, where 1-M should never be less than 0.5.	837,000 lbs	753,000 lbs

Jonah Crab and Red Crab

Overfishing defined	F_{MSY}	Overfished defined	$B_{MSY\ proxy}$	MSST
Undefined	Undefined	Undefined	Undefined	Undefined

SHRIMP FISHERY OF THE SOUTH ATLANTIC

White shrimp - Southern Atlantic Coast

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	MSST
Overfishing (MFMT) is a fishing mortality rate that diminishes the stock below the designated MSY stock abundance (BMSY) for two consecutive years.	14,500,000 lbs. tails	MSST is established with two thresholds: (1) if the stock diminishes to ½ MSY abundance (½ B_{MSY}) in one year, or (b) if the stock is diminished below MSY abundance (B_{MSY}) for two consecutive years. In addition a stock is overfished when the overwintering white shrimp population within a state's water declines by 80% or more following severe winter resulting in prolonged cold water temperatures. A proxy for B_{MSY} would be established for each species using CPUE information from SEAMAP-SA data as the lowest values in the 1990-2003 time period that produced catches meeting MSY the following year.	CPUE = 5.868 individuals per hectare	The proxy for B_{MSY} is CPUE = 5.868 individual per hectare.

Brown rock shrimp - Southern Atlantic Coast

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	MSST

| MSY/OY for rock shrimp is the mean total landings for the South Atlantic during 1986 through 2000 (4,912,927 pounds heads on), where overfishing (MFMT) for rock shrimp is a fishing mortality rate that leads to annual landings larger than two standard deviations (9,774,848 pounds heads on) above MSY (4,912,927 + 9,774,848 = 14,687,775 //pounds heads on) for two consecutive years. | 14,687,775 pounds heads on) for two consecutive years. | A stock is overfished when it falls below MSST, which is the parent stock size less than ½ (B_{MSY}) for two consecutive years. A proxy for B_{MSY} has not been defined. | not estimated | MSST would be parent stock size less than ½ (Bmsy) for two consecutive years. |

Brown shrimp - Southern Atlantic Coast

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	MSST
Overfishing (MFMT) is a fishing mortality rate that diminishes the stock below the designated MSY stock abundance (B_{MSY}) for two consecutive years.	9,200,000 lbs. tails	MSST is established with two thresholds: (1) if the stock diminishes to ½ MSY abundance (½ B_{MSY}) in one year, or (b) if the stock is diminished below MSY abundance (BMSY) for two consecutive years. A proxy for B_{MSY} would be established for each species using CPUE information from SEAMAP-SA data as the lowest values in the 1990-2003 time period that produced catches meeting MSY the following year.	CPUE = 2.000 individuals per hectare	The proxy for B_{MSY} is CPUE = 2.000 individuals per hectare.

Pink shrimp - Southern Atlantic Coast

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	MSST
Overfishing (MFMT) is a fishing mortality rate that diminishes the stock below the designated MSY stock abundance (B_{MSY}) for two consecutive years.	1,800,000 lbs. tails	MSST is established with two thresholds: (1) if the stock diminishes to ½ MSY abundance (½ B_{MSY}) in one year, or (b) if the stock is diminished below MSY abundance (B_{MSY}) for two consecutive years. A proxy for B_{MSY} would be established for each species using CPUE information from SEAMAP-SA data as the lowest values in the 1990-2003 time period that produced catches meeting MSY the following year.	CPUE = 0.461 individuals per hectare	The proxy for B_{MSY} = 0.461 individuals per hectare.

SOUTH ATLANTIC SNAPPER-GROUPER

Tilefish

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST

Overfishing is defined as an F that exceeds MFMT = F$_{MSY}$.	0.043	Overfished is defined as a stock size less than MSST. MSST = (1-M)B$_{MSY}$ and M = 0.08. Amendment 15A is being developed, which would change the definition of MSST = 0.75*B$_{MSY}$.	1,938,750 lbs	1,783,650 lbs.

Snowy Grouper

Overfishing defined	F$_{MSY}$	Overfished defined	B$_{MSY}$	MSST
Overfishing is defined as an F that exceeds MFMT = F$_{MSY}$.	0.05	Overfished is defined as a stock size less than MSST. MSST = (1-M)B$_{MSY}$ and M = 0.12. Amendment 15A is being developed, which would change the definition of MSST = 0.75*B$_{MSY}$.	4,664,980 lbs	4,105,182 l lbs.

Black Sea Bass

Overfishing defined	F$_{MSY}$	Overfished defined	B$_{MSY}$	MSST
Overfishing is defined as an F that exceeds MFMT = F$_{MSY}$.	0.43	Overfished is defined as a stock size less than MSST. MSST = 1-M(B$_{MSY}$) and M = 0.30.	15.0 million lbs or 6,813 mt	10.5 million lbs. or 4,768 mt

Red Porgy

Overfishing defined	F$_{MSY}$	Overfished defined	B$_{MSY}$	MSST
Overfishing is defined as an F that exceeds MFMT = F$_{MSY}$.	0.19	Overfished is defined as a stock size less than MSST. MSST = (1-M)B$_{MSY}$ and M = 0.225.	7.13 million lbs or 3,236 mt	5.53 million lbs. or 2,508 mt

Gag

Overfishing defined	F$_{MSY}$	Overfished defined	B$_{MSY}$	MSST
Overfishing is defined as an F that exceeds MFMT = F$_{MSY}$ where F$_{MSY}$ = F$_{30\%SPR}$.	0.20	Overfished is defined as a stock size less than MSST, where MSST = 1-M*B$_{MSY}$.	7,925,000 lbs*	6,816,000*

* Estimate is preliminary pending final review of stock assessment

Greater Amberjack

Overfishing defined	F$_{MSY}$	Overfished defined	B$_{MSY}$	MSST
Overfishing is defined as an F that exceeds MFMT = F$_{MSY}$ where F$_{MSY}$ = F$_{30\%SPR}$.	0.424	Overfished is defined as a stock size less than MSST, where MSST = 1-M*B$_{MSY}$ and M = 0.25.	1,940 mt	1,455 mt

Vermilion Snapper

Overfishing defined	F$_{MSY}$	Overfished defined	B$_{MSY}$	MSST

| Overfishing is defined as an F that exceeds MFMT = F_{MSY}. | 0.38 | Overfished is defined as a stock size less than MSST = (1-c)B_{MSY}, where c is the lesser of M or 0.5. M = 0.25; the best estimate of MSST is 0.75B_{MSY}. | 9.157 trillion eggs | 7.142 trillion eggs |

Nassau Grouper

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT = F_{MSY}, where F_{MSY} = $F_{40\% SPR}$.	There is no estimate of $F_{40\%SPR}$. M = 0.18, which could be used as an approximation of F_{MSY}.	Overfished is defined as a stock size less than MSST. MSST = 1-M*B_{MSY}.	not estimated	not estimated

Red Snapper

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT = F_{MSY} where F_{MSY} = $F_{30\%SPR}$.	0.07	Overfished is defined as a stock size less than MSST. MSST = 1-M*B_{MSY}.	7,891 mt	7,275 mt

Speckled Hind

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT = F_{MSY} where F_{MSY} = $F_{30\%SPR}$.	0.14	Overfished is defined as a stock size less than MSST. MSST = 1-M*B_{MSY}.	not estimated	not estimated

Scamp

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST

| Overfishing is defined as an F that exceeds MFMT $= F_{MSY}$ where $F_{MSY} = F_{30\%SPR}$. | 0.23 | Overfished is defined as a stock size less than MSST. MSST $= 1-M*B_{MSY}$. | not estimated | not estimated |

White Grunt

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT $= F_{MSY}$ where $F_{MSY} = F_{30\%SPR}$.	0.26	Overfished is defined as a stock size less than MSST. MSST $= 1-M*B_{MSY}$.	not estimated	not estimated

Gray Triggerfish

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT $= F_{MSY}$ where $F_{MSY} = F_{30\%SPR}$.	0.80	Overfished is defined as a stock size less than MSST. MSST $= 1-M*B_{MSY}$.	not estimated	not estimated

Red Grouper

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT $= F_{MSY}$ where $F_{MSY} = F_{30\%SPR}$.	0.28	Overfished is defined as a stock size less than MSST. MSST $= 1-M*B_{MSY}$.	not estimated	not estimated

Black Grouper

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT $= F_{MSY}$ where $F_{MSY} = F_{30\%SPR}$.	0.25	Overfished is defined as a stock size less than MSST. MSST $= 1-M*B_{MSY}$.	not estimated	not estimated

Yellowedge Grouper

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT = F_{MSY} where F_{MSY} = $F_{30\%SPR}$.	0.20	Overfished is defined as a stock size less than MSST. MSST = 1-M*B_{MSY}.	not estimated	not estimated

Warsaw Grouper

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT = F_{MSY} where F_{MSY} = $F_{30\%SPR}$.	0.18	Overfished is defined as a stock size less than MSST. MSST = 1-M*B_{MSY}.	not estimated	not estimated

Wreckfish

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT = F_{MSY} where F_{MSY} = $F_{30\%SPR}$.	0.36	Overfished is defined as a stock size less than MSST. MSST = 1-M*B_{MSY}.	not estimated	not estimated

Lane Snapper

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT = F_{MSY} where F_{MSY} = $F_{30\%SPR}$.	0.67	Overfished is defined as a stock size less than MSST. MSST = 1-M*B_{MSY}.	not estimated	not estimated

Gray (Mangrove) Snapper, Queen Triggerfish, Ocean Triggerfish, Yellow Jack, Blue Runner, Crevalle Jack, Bar Jack, Lesser Amberjack, Almaco Jack, Banded Rudderfish, Atlantic Spadefish, Black Margate, Porkfish, Margate, Tomtate, Smallmouth Grunt, French Grunt, Spanish Grunt, Cottonwick, Sailors Choice, Bluestriped Grunt, Hogfish, Puddingwife, Black Snapper, Queen Snapper, Schoolmaster, Blackfin Snapper, Cubera Snapper, Mahogany Snapper, Dog Snapper, Silk Snapper, Blueline Tilefish, Sand Tilefish, Bank Sea Bass, Rock Sea Bass, Rock Hind, Graysby, Coney, Red Hind, Misty Grouper, Yellowmouth Grouper, Tiger Grouper, Yellowfin Grouper, Sheepshead, Grass Porgy, Jolthead Porgy, Saucereye Porgy, Whitebone Porgy, Knobbed Porgy, Longspine Porgy, Scup

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT = F_{MSY} where F_{MSY} = $F_{30\%SPR}$.	not estimated	Overfished is defined as a stock size less than MSST, where MSST = 1-M*B_{MSY}.	not estimated	not estimated

SOUTH ATLANTIC SNAPPER-GROUPER AND REEF FISH RESOURCES OF THE GULF OF MEXICO

Goliath Grouper

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F in excess of the fishing mortality rate corresponding to a 40% Static SPR in South Atlantic and 50% Static SPR in the Gulf.	Unknown	South Atlantic - Overfished is defined as a stock size less than MSST. Gulf of Mexico - Overfished is undefined.	not estimated	See Overfished Definition

Yellowtail Snapper

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT = F_{MSY}.	0.33	Overfished is defined as a stock size less than MSST = (1-c)B_{MSY}, where c is the lesser of M or 0.5. M = 0.2; the best estimate of MSST for yellowtail snapper is 0.8B_{MSY}.	4,522 mt	3,618 mt

Mutton Snapper

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST

Overfishing is defined as an F that exceeds MFMT = F_{MSY} where F_{MSY} = $F_{30\%SPR}$.	0.34	Overfished is defined as a stock size less than MSST = (1-c)B_{MSY}, where c is the lesser of M or 0.5. M = 0.2; the best estimate of MSST for yellowtail snapper is 0.8B_{MSY}.	6,296 mt	5,603 mt

ATLANTIC COAST RED DRUM

Red Drum

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT = FMSY where F_{MSY} = $F_{30\%SPR}$.	0.8	Overfished is defined as a stock size less than MSST, where MSST = 1-M*B_{MSY}.	not estimated	not estimated

CORAL, CORAL REEFS, AND LIVE / HARD BOTTOM HABITATS OF THE SOUTH ATLANTIC REGION

Fire Corals, Hydrocorals, Octocorals, Stony Corals, Black Corals

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an annual level of harvest that exceeds optimum yield (OY). OY for coral reefs, stony corals, hydrocorals, black corals, seafans, and live rock is zero, except as may be authorized for scientific and educational purposes. Harvest of allowable octocorals in the EEZ is specified by the South Atlantic Council each year.	0 for all species except octocorals (F/F_{MSY} <1)	In South Atlantic overfished is defined as a stock size less than MSST. MSST = 1-M*B_{MSY}.	not estimated	not estimated

PELAGIC SARGASSUM HABITAT OF THE SOUTH ATLANTIC REGION

Sargassum

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST

| Overfishing is defined as the rate of harvest which compromises the stock's ability to produce MSY. | *not estimated | A stock is overfished when the stock is reduced below MSST. | 50,000 mt | 25,000 mt |

*Although the MFMT was disapproved, an examination of the rate of harvest (currently zero), relative to the approved MSY level (100,000 mt), indicates that overfishing is not occurring. In addition, no directed fishery for this stock currently exists. This species has the capacity to increase its biomass through vegetative growth by as much as 10 percent per day, thus doubling its biomass every two weeks.

DOLPHIN WAHOO

Wahoo

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as a fishing mortality rate (F) in the excess of F_{MSY} (F30% Static SPR).	Unknown	A stock is overfished if current biomass (Bcurr) is less than MSST and would be recovered when current biomass was equal or greater than the biomass at MSY. MSST is defined $(1-M)*B_{MSY}$, where 1-M should never be less than 0.5. Using the best estimates of natural mortality (M = 0.68-0.80) in the formula results in a MSST of 50% B_{MSY}.	not estimated	not estimated

DOLPHIN WAHOO AND COASTAL MIGRATORY PELAGICS OF THE GULF OF MEXICO AND SOUTH ATLANTIC

Dolphin

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as a fishing mortality rate (F) in the excess of F_{MSY} (F30% Static SPR).	0.49	A stock is overfished if current biomass (Bcurr) is less than MSST and would be recovered when current biomass was equal or greater than the biomass at MSY. MSST is defined $(1-M)*B_{MSY}$, where 1-M should never be less than 0.5. Using the best estimates of natural mortality (M = 0.68-0.80) in the formula results in a MSST of 50% B_{MSY}.	B1998/Bmsy = 1.56; Bmsy not estimated.	B1998/MSST > 1; MSST not estimated

COASTAL MIGRATORY PELAGICS OF THE SOUTH ATLANTIC AND GULF OF MEXICO

King Mackerel - Gulf Group

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT = F_{MSY} where $F_{MSY} = F_{30\%SPR}$.	0.187	A stock is overfished when the stock size is less than the minimum stock size threshold. For Gulf group King Mackerel, MSST = (1-M)*B_{MSY} or 80% of B_{MSY}.	3.166 trillion eggs	2.615 trillion eggs

King Mackerel - Atlantic Group

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT = F_{MSY} where $F_{MSY} = F_{30\%SPR}$.	0.256	A stock is overfished when the stock size is less than the minimum stock size threshold. For Atlantic group King Mackerel, MSST = (1-M)*B_{MSY} or 85% of B_{MSY}.	2.175 trillion eggs	1.826 trillion eggs

Spanish Mackerel - Gulf Group

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT = F_{MSY} where $F_{MSY} = F_{30\%SPR}$.	0.629	A stock is overfished when the stock size is less than the minimum stock size threshold. MSST = (1-M)*B_{MSY} or 70% of B_{MSY}	16.486 mp	11.5402 mp

Spanish Mackerel - Atlantic Group

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT = F_{MSY} where $F_{MSY} = F_{30\%SPR}$.	0.38-0.48	A stock is overfished when the stock size is less than the minimum stock size threshold. MSST = (1-M)*B_{MSY} or 70% of B_{MSY}	12.1-15.9 (unitless relative fecundity estimate in millions)	8.5-11.1 (unitless relative fecundity estimate in millions)

Little Tunny

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the F is in excess of the F corresponding to a 30% Static SPR.	0.197	Undefined (Gulf); In South Atlantic overfished is defined as a stock size less than MSST. MSST = 1-M*B_{MSY}.	3,561,000 mt	1,780,500 to 2,848,800

Cobia

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F that exceeds MFMT = F_{MSY} where F_{MSY} = $F_{30\%SPR}$.	0.33	A stock is overfished when the stock size is less than the minimum stock size threshold. MSST = $(1-M)*B_{MSY}$ or 70% of B_{MSY}	960 mt	1,372 mt

Cero Mackerel

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the F is in excess of the F corresponding to a 30% Static SPR.	not estimated	(Gulf) Overfished is defined as a stock size less than MSST. MSST = $1-M*B_{MSY}$.	not estimated	not estimated

Bluefish - Gulf of Mexico only

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the F is in excess of the F corresponding to a 30% Static SPR.	0.29	(Gulf) Overfished is defined as a stock size less than MSST. MSST = $1-M*B_{MSY}$.	not estimated	not estimated

SPINY LOBSTER FISHERY OF THE SOUTH ATLANTIC AND GULF OF MEXICO

Spiny Lobster

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an F in excess of the fishing mortality rate corresponding to a 20% SPR where F_{MSY} = $F_{20\%SPR}$.	0.42	(Gulf) Overfished is defined as a stock size less than MSST. MSST = $1-M*B_{MSY}$.	not estimated	not estimated

Slipper Lobster

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Undefined	Undefined	Undefined	Undefined	Undefined

STONE CRAB FISHERY OF THE GULF OF MEXICO

Stone Crab

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST

Overfishing defined	Fmsy	Overfished defined		Overfished
Overfishing occurs and a stock is overfished when the realized egg production per recruit is reduced below 70% of potential production. This will be avoided when there is a minimum claw length (length of prodopus) that assures survival of the crabs to achieve 70% egg production per recruit potential.	Fmsy is not known	Undefined	Undefined	Undefined

SHRIMP FISHERY OF THE GULF OF MEXICO

Brown Shrimp

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing is occurring when the parent stock levels are reduced below 125 million shrimp. Parent stock is defined for brown shrimp as the number of age 7+ (months) shrimp during the November through February period.	Parent stock level = 125 million shrimp.	An overfished condition would result when a parent stock number falls below one-half of the overfishing definition.	125 million shrimp	63 million shrimp

Pink Shrimp

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing is occurring when parent stock levels are reduced below 100 million shrimp. Parent stock is defined for pink shrimp as the number of 5+ (months) shrimp during the July through June period.	Parent stock level = 100 million shrimp.	An overfished condition would result when a parent stock number falls below one-half of the overfishing definition.	100 million shrimp	50 million shrimp

White Shrimp

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold

Overfishing is occurring when parent stock levels are reduced below 330 million shrimp. Parent stock is defined for white shrimp as the number of age 7+ (months) shrimp during the May through August period.	Parent stock = 330 million shrimp.	An overfished condition would result when a parent stock number falls below one-half of the overfishing definition.	330 million shrimp	165 million shrimp

Royal Red Shrimp

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
The overfishing threshold for royal red shrimp is defined as the fishing mortality rate (F) that results in an annual catch exceeding MSY for 2 consecutive years. Under the current management regime for royal red shrimp, OY is equal to MSY at a range of 392,000 to 650,000 pounds.	OY = 392,000 - 650,000 pounds of tails.	The royal red shrimp stock would be considered as overfished when its spawning stock biomass (B) is less than 50% of B_{MSY}. B and Bmsy are unknown.	392,000	392,000

Rock Shrimp and Seabob Shrimp

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Undefined	Undefined	Undefined	Undefined	Undefined

CORAL AND CORAL REEFS OF THE GULF OF MEXICO

Fire Corals, Hydrocorals, Octocorals, Stony Corals, Black Corals

Overfishing defined (pre-SFA)	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as an annual level of harvest that exceeds optimum yield (OY). OY for coral reefs, stony corals, hydrocorals, black corals, seafans, and live rock is zero, except as may be authorized for scientific and educational purposes. Harvest of allowable octocorals in the EEZ is not to exceed 50,000 colonies per year (Gulf and South Atlantic EEZ combined).	0 for all species except octocorals (F/F_{MSY} <1)	Undefined	Undefined	Undefined

REEF FISH OF THE GULF OF MEXICO

Red Snapper

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is occurring when the fishing mortality rate is in excess of MFMT = F_{MSY}.	0.53	A stock is overfished when the relative spawning potential drops below the MSST = $(1-M)*B26\%$.	10.16	9.14

Red Grouper

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as a fishing mortality rate that exceeds MFMT = F_{MSY}.	0.187	Overfished is defined as a stock size less than MSST = $(1-M)*B_{MSY}$.	712.7 mt	612.9 mt

Greater Amberjack

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the fishing mortality rate exceeds that associated with a 30% static SPR.	0.57	Overfished is defined as a stock size less than MSST = $(1-c)B_{MSY}$, where c is the lesser of M or 0.5. M=0.25; the best estimate of MSST =$0.75B_{MSY}$.	8.87 million lbs	6.65 million lbs.

Vermilion Snapper

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
The post SFA definition of overfishing is MFMT = F_{MSY}.	0.81	Overfished is defined as a stock size less than MSST = $(1-M)B_{MSY}$. M=0.25.	69 trillion eggs	51.7 trillion eggs

Nassau Grouper

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the fishing mortality rates exceeds that associated with a 40% static SPR.	0.18 = M	Undefined	Undefined	Undefined

Gag

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as a fishing mortality rate that exceeds MFMT = F_{MSY}.	0.22	Overfished is defined as a stock size less than MSST = (1-M)*B_{MSY}.	24,020,000 lbs.	20,410,000 lbs.

* Based on the overfished definition in Amendment 30B and the biomass proxy (SSBmax = SSB$_{MSY}$), SSBmax = 27.3 million pounds and MSST = 23.5 million pounds.

Gray Triggerfish

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the fishing mortality rates exceeds that associated with a 30% static SPR.	0.27 ($F_{30\%SPR}$ proxy)	Undefined. The preferred overfished definition in Amendment 30A would define overfished as a stock size less than MSST = (1-c)BMSY, where c is the lesser of M or 0.5. M = 0.27.	Undefined**	Undefined**

** Based on the overfished definition in Amendment 30A and the biomass proxy (Bmsy = B$_{30\%SPR}$), Bmsy = 2.094 trillion eggs and MSST = 1.528 trillion eggs

Lesser Amberjack, Almaco Jack, Banded Rudderfish, Queen Snapper, Schoolmaster, Blackfin Snapper, Cubera Snapper, Gray (Mangrove) Snapper, Dog Snapper, Mahogany Snapper, Lane Snapper, Silk Snapper, Wenchman, Goldface Tilefish, Blackline Tilefish, Anchor Tilefish, Blueline Tilefish, Tilefish, Rock Hind, Speckled Hind, Yellowedge Grouper, Red Hind, Misty Grouper, Warsaw Grouper, Snowy Grouper, Black Grouper, Yellowmouth Grouper, Scamp, Yellowfin Grouper, Hogfish, Dwarf Sand Perch, Sand Perch

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the fishing mortality rate exceeds that associated with a 30% static SPR.		Undefined	Undefined	Undefined

GULF OF MEXICO RED DRUM

Red Drum

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the fishing mortality rates exceeds that associated with a 30% static SPR.	F30%SPR = 0.50	Undefined	Undefined	Undefined

SPINY LOBSTER FISHERY OF PUERTO RICO AND THE U.S. VIRGIN ISLANDS

Spiny Lobster

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as a fishing mortality rate that exceeds MFMT = F_{MSY}. When the data needed to determine F_{MSY} are not available, natural mortality (M) is used as a proxy for F_{MSY}.	0.34	Overfished is defined as a stock size less than MSST is set = $B_{MSY}(1-c)$; where c = the natural mortality rate (M) or 0.50, whichever is smaller.	2,217,000 lbs.	1,463,000 lbs.

QUEEN CONCH RESOURCES OF PUERTO RICO AND THE U.S. VIRGIN ISLANDS

Queen Conch

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as a fishing mortality rate that exceeds MFMT = F_{MSY}.	0.30	Overfished is defined as a stock size less than MSST is set = $B_{MSY}(1-c)$; where c = the natural mortality rate (M) or 0.50, whichever is smaller.	2,005,000 lbs.	1,404,000 lbs.

Data Collection Purposes only - Atlantic Triton's Trumpet, Cameo Helmet, Green Star Shell, Hawkwing Conch, Milk Conch, Roostertail Conch, West Indian Fighting Conch, and True Tulip.

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
N/A	N/A	N/A	N/A	N/A

CORAL AND REEF ASSOCIATED INVERTEBRATES OF PUERTO RICO AND THE U.S. VIRGIN ISLANDS

Innumerable species for data collection purposes only

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
N/A	N/A	N/A	N/A	N/A

REEF FISH OF PUERTO RICO AND THE U.S. VIRGIN ISLANDS

Snapper Unit 1 (Silk snapper, Blackfin Snapper, Black Snapper, Vermilion Snapper)

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as a fishing mortality rate that exceeds MFMT = F_{MSY}.	0.86	Overfished is defined as a stock size less than MSST is set = $B_{MSY}(1-c)$; where c = the natural mortality rate (M) or 0.50, whichever is smaller.	1,202,000 lbs.	601,000 lbs.

NOTE: A combination of qualitative and quantitative data were used to make the most recent status determination for Snapper Unit 1.

Snapper Unit 2 (Queen Snapper, Wenchman)

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as a fishing mortality rate that exceeds MFMT = F_{MSY}.	0.44	Overfished is defined as a stock size less than MSST is set = $B_{MSY}(1-c)$; where c = the natural mortality rate (M) or 0.50, whichever is smaller.	516,000 lbs.	289,000 lbs.

Snapper Unit 3 (Gray Snapper, Lane Snapper, Mutton Snapper, Dog Snapper, Schoolmaster, Mahogany Snapper)

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as a fishing mortality rate that exceeds MFMT = F_{MSY}.	0.30	Overfished is defined as a stock size less than MSST is set = $B_{MSY}(1-c)$; where c = the natural mortality rate (M) or 0.50, whichever is smaller.	2,403,000 lbs.	1,682,000 lbs.

Snapper Unit 4 (Yellowtail Snapper)

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as a fishing mortality rate that exceeds MFMT = F_{MSY}.	0.20	Overfished is defined as a stock size less than MSST is set = $B_{MSY}(1-c)$; where c = the natural mortality rate (M) or 0.50, whichever is smaller.	2,214,000 lbs.	1,771,000 lbs.

Grouper Unit 1 (Nassau Grouper)

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as a fishing mortality rate that exceeds MFMT = F_{MSY}.	0.18	Overfished is defined as a stock size less than MSST is set = $B_{MSY}(1-c)$; where c = the natural mortality rate (M) or 0.50, whichever is smaller.	20,000-190,000 lbs.	18,000-171,000 lbs.

NOTE: A combination of qualitative and quantitative data were used to make the most recent status determination for Grouper Unit 1.

Grouper Unit 2 (Goliath Grouper)

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST

| Overfishing is defined as a fishing mortality rate that exceeds MFMT = F_{MSY}. | 0.13 | Overfished is defined as a stock size less than MSST is set = $B_{MSY}(1-c)$; where c = the natural mortality rate (M) or 0.50, whichever is smaller. | 40,000-120,000 lbs. | 38,000-114,000 lbs. |

NOTE: A combination of qualitative and quantitative data were used to make the most recent status determination for Grouper Unit 2.

Grouper Unit 3 (Red Hind, Coney, Rock Hind, Graysby, Creole-fish)

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as a fishing mortality rate that exceeds MFMT = F_{MSY}.	0.18	Overfished is defined as a stock size less than MSST is set = $B_{MSY}(1-c)$; where c = the natural mortality rate (M) or 0.50, whichever is smaller.	1,045,000 lbs.	857,000 lbs.

Grouper Unit 4 (Red Grouper, Yellowedge Grouper, Misty Grouper, Tiger Grouper, Yellowfin Grouper)

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing is defined as a fishing mortality rate that exceeds MFMT = F_{MSY}.	0.18	Overfished is defined as a stock size less than MSST is set = $B_{MSY}(1-c)$; where c = the natural mortality rate (M) or 0.50, whichever is smaller.	626,000 lbs.	513,000 lbs.

NOTE: A combination of qualitative and quantitative data were used to make the most recent status determinations for Grouper Unit 4.

Grunts (White grunt, Margate, Tomtate, Bluestriped Grunt, French Grunt, Porkfish)**, Goatfishes** (Spotted Goatfish, Yellow Goatfish)**,
Porgies** (Jolthead Porgy, Sea Bream, Sheepshead Porgy, Pluma), **Squirrelfishes** (Blackbar Soldierfish, Bigeye, Longspine Squirrelfish, Squirrelfish), **Tilefishes** (Blackline Tilefish, Sand Tilefish), **Jacks** (Blue Runner, Horse-eye Jack, Black Jack, Almaco Jack, Bar Jack, Greater Amberjack, Yellow Jack), **Parrotfishes** (Blue Parrotfish, Midnight Parrotfish, Princess Parrotfish, Queen Parrotfish, Rainbow Parrotfish, Redfin Parrotfish, Redtail Parrotfish, Stoplight Parrotfish, Redband Parrotfish, Striped Parrotfish), **Surgeonfishes** (Blue Tang, Ocean Surgeonfish, Doctorfish), **Triggerfishes** (Ocean Triggerfish, Queen Triggerfish, Sargassum Triggerfish), **Filefishes (Scrawled Filefish, Whitespotted Filefish, Black Durgon), Boxfishes** (Honeycomb Cowfish, Scrawled Cowfish, Trunkfish, Spotted Trunkfish, Smooth Trunkfish), **Wrasses** (Hogfish, Puddingwife, Spanish Hogfish), **Angelfishes** (Queen Angelfish, Gray Angelfish, French Angelfish)

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Undefined	Undefined	Undefined	Undefined	Undefined

COASTAL PELAGIC SPECIES

Pacific (Chub) Mackerel

Overfishing defined	$F_{MSY\,proxy}$	Overfished defined	$B_{MSY\,proxy}$	Overfished Threshold
Overfishing occurs whenever catch exceeds ABC, which is the annual value of the MSY control rule	0.3	A stock is overfished when the biomass level is low enough to jeopardize the capacity of the stock to produce MSY on a continuing basis	115,000 mt	18,200 mt

Pacific Sardine

Overfishing defined	$F_{MSY\,proxy}$	Overfished defined	$B_{MSY\,proxy}$	Overfished Threshold
Overfishing occurs whenever catch exceeds ABC, which is the annual value of the MSY control rule	0.05-0.15	A stock is overfished when the biomass level is low enough to jeopardize the capacity of the stock to produce MSY on a continuing basis	1,952,000 mt	50,000 mt

Jack Mackerel

Overfishing defined	$F_{MSY\,proxy}$	Overfished defined	$B_{MSY\,proxy}$	Overfished Threshold
Overfishing occurs whenever catch exceeds ABC, which, based on the default MSY control rule used for monitored species, is set at 25% of estimated MSY.	0.25	A stock is overfished when the biomass level is low enough to jeopardize the capacity of the stock to produce MSY on a continuing basis	194,000 mt	48,500 mt

Northern Anchovy - Central Subpopulation

Overfishing defined	$F_{MSY\,proxy}$	Overfished defined	$B_{MSY\,proxy}$	Overfished Threshold
Overfishing occurs whenever catch exceeds ABC, which, based on the default MSY control rule used for monitored species, is set at 25% of estimated MSY.	0.25	A stock is overfished when the biomass level is low enough to jeopardize the capacity of the stock to produce MSY on a continuing basis	733,000 mt	183,250 mt

Market Squid

Overfishing defined	$F_{MSY\,proxy}$	Overfished defined	$B_{MSY\,proxy}$	Overfished Threshold

Overfishing occurs when market squid are harvested at a rate or level that results in egg escapement falling below 30 percent of the potential maximum level.	1.5	A stock is overfished when the ratio of egg escapement compared to the potential maximum level results in a ratio below 30 percent.	not estimated	0.25 -0.60

Northern Anchovy - Northern Subpopulation

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs whenever catch exceeds ABC, which, based on the default MSY control rule used for monitored species, is set at 25% of estimated MSY.	0.25	A stock is overfished when the biomass level is low enough to jeopardize the capacity of the stock to produce MSY on a continuing basis	100,000 mt	25,000 mt

WEST COAST HIGHLY MIGRATORY SPECIES

Skipjack Tuna - Eastern Pacific

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M=1.5)	not available	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M=1.5)	not available	not available

Yellowfin Tuna - Eastern Tropical Pacific

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold

Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M=0.8),	not available	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M=0.8),	400,484 mt	200,242 mt

Striped Marlin - Eastern Pacific

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not available	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not available	not available

PELAGIC FISHERIES OF THE WESTERN PACIFIC / WEST COAST HIGHLY MIGRATORY SPECIES

Albacore - North Pacific

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	0.3-0.42	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	562,000-656,000 mt	393,400-459,200

Bigeye Tuna - Eastern Pacific

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold

Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M = 0.4)	not available	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M = 0.4)	326,329 mt	195,792 mt

Bluefin Tuna - Pacific

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not estimated	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not estimated	not estimated

Common Thresher Shark - North Pacific

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not estimated	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not estimated	not estimated

Bigeye Thresher Shark - North Pacific

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not estimated	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not estimated	not estimated

Pelagic Thresher Shark - North Pacific

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not estimated	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not estimated	not estimated

Shortfin Mako Shark - North Pacific

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not estimated	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not estimated	not estimated

WASHINGTON, OREGON, AND CALIFORNIA GROUNDFISH

Stock	Overfishing Definition	2008 ABC (mt) ($F_{MSY\ proxy}$)	Overfished Definition	40% SSBO (BMSY Proxy)	25%SSBO (MSST)	NOTES
Lingcod	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) is $F_{45\%}$ for other groundfish such as sablefish and lingcod.	6296 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	21140	13213	*Values for Bmsy and MSST taken from 2005 Coastwide Lingcod stock assessment.*
Pacific Ocean Perch	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) is for $F_{50\%}$ rockfish (including thornyheads).	935 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	14,793 mt	9,245.75 mt	*ABC applies to area north of 40o10' Lat. Southern catch is included in the Other Slope Rockfish category.*
Bocaccio	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) is for $F_{50\%}$ rockfish (including thornyheads).	642 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	5428.8 billion eggs	3393 billion eggs	*ABC applies to area south of 40o10' Lat. Northern catch is included in Other Shelf Rockfish category. Bmsy and MSST are reported in Spawning Output (10^{9} eggs)*
Canary rockfish	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) is for $F_{50\%}$ rockfish (including thornyheads).	177 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	13,024 mt	8,140 mt	

Stock	Overfishing Definition	2008 ABC (mt) ($F_{MSY\ proxy}$)	Overfished Definition	40% SSBO (BMSY Proxy)	25%SSBO (MSST)	NOTES
Cowcod	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (FMSY) on a continual basis. The default FMSY proxy used for setting acceptable biological catches (ABCs) is for F50% rockfish (including thornyheads).	100 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	995 mt	622 mt	*ABC applies to the area south of 40o10' Lat. Northern catch is included in Other Shelf Rockfish category.*
Darkblotched rockfish	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (FMSY) on a continual basis. The default FMSY proxy used for setting acceptable biological catches (ABCs) is for F50% rockfish (including thornyheads).	486 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	12,256 10^8 eggs	7,660 10^8 eggs	*Bmsy and MSST are reported in Spawning Output (10^8 eggs)*
Widow rockfish	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (FMSY) on a continual basis. The default FMSY proxy used for setting acceptable biological catches (ABCs) is for F50% rockfish (including thornyheads).	4760 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	20,298 million eggs	12,687 million eggs	*Bmsy and MSST are reported in Spawning Output (million eggs)*
Yelloweye rockfish	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) is for $F_{50\%}$ rockfish (including thornyheads).	26 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	1,225 mt	766 mt	*40% SSBO and 25%SSBO are taken from coastwide "alternative" base case model where M=0.043*

Stock	Overfishing Definition	2008 ABC (mt) ($F_{MSY\ proxy}$)	Overfished Definition	40% SSBO (BMSY Proxy)	25%SSBO (MSST)	NOTES
Bank rockfish	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) is for $F_{50\%}$ rockfish (including thornyheads).	contributes 350 mt to the Remaining Rockfish-South ABC	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	537,889 - 536,571 eggs	336,181 - 335,357 eggs	*This ABC is based on a 2000 stock assessment for the Monterey and Conception areas. This stock contributes 263 mt towards the minor rockfish OY in the south. Point estimates were not available for 40%and 25% SSBO but the range is included and reported in Spawning Output (eggs). However, the 2000 stock assessment results indicated the stock was between 26-31% of unfished levels.*
Shortspine thornyhead	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) is for $F_{50\%}$ rockfish (including thornyheads).	2475 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	52258	32662	
Longspine thornyhead	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) is for $F_{50\%}$ rockfish (including thornyheads).	3954 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	42063	26289	
Yellowtail rockfish	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) is for $F_{50\%}$ rockfish (including thornyheads).	4760 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	12406	7754	*ABC applies to area north of 40o10'Lat. Southern catch are included in the Other Shelf Rockfish category*

Stock	Overfishing Definition	2008 ABC (mt) ($F_{MSY\ proxy}$)	Overfished Definition	40% SSBO (BMSY Proxy)	25%SSBO (MSST)	NOTES
Pacific Whiting	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) is $F_{40\%}$ for flatfish and Whiting.	294,358 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	1,156,000 mt	722,500 mt	*Range of 40% SSBO and 25%SSBO are from coastwide (US and Canada) equally plausible models, "base case" where q=0. and "alternative" where q=0.7.*
Sablefish	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) is $F_{45\%}$ for other groundfish such as sablefish and lingcod.	4675 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	98,086 mt	61,304 mt	
Dover sole	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) is $F_{40\%}$ for flatfish and Whiting.	28,142 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	119622	74764	
English sole	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) is $F_{40\%}$ for flatfish and Whiting.	6228 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	14,405 mt	9,003 mt	
Petrale sole	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) is $F_{40\%}$ for flatfish and Whiting.	2935 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	12147	7592	

Stock	Overfishing Definition	2008 ABC (mt) ($F_{MSY\ proxy}$)	Overfished Definition	40% SSBO (BMSY Proxy)	25%SSBO (MSST)	NOTES
Chillipepper rockfish	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) is for $F_{50\%}$ rockfish (including thornyheads).	2516 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	13,356 mt	8,348 mt	*ABC applies to area south of 40o10'. Northern catch is included in the Other Shelf Rockfish category.*
Shortbelly rockfish	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) is for $F_{50\%}$ rockfish (including thornyheads).	13,900 mt	The overfished determination is presumably based on the 1989 stock assessment where virgin spawning biomass was estimated from an acoustic survey and a potential yield model was used to estimate MSY. Because this assessment was conducted pre-SFA, neither current biomass estimates nor an overfished threshold were identified.	19,800 mt	12,375 mt	*This assessment is published as a NOAA Technical Memorandum since it was conducted external to the Pacific Fishery Management Council process. It was reviewed by the SSC but not by a STAR panel.*
Arrowtooth flounder	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) is $F_{40\%}$ for flatfish and Whiting.	5,800 mt	This overfished determination is presumably based on the 1993 assessment which estimated an equilibrium yield per recruit using a dynamic pool model. Because the assessment was conducted pre-SFA, neither the overfished threshold nor current biomass estimate were identified.	32,125 mt	20,078 mt	*Arrowtooth flounder is scheduled to be assessed and reviewed again in 2007.*
Black rockfish - North	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (FMSY) on a continual basis. The default FMSY proxy used for setting acceptable biological catches (ABCs) is for F50% rockfish (including thornyheads).	537 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	928.4 mt	580.25 mt	*The ABC for the area N of 46o16' lat. is 540 mt and S of 46o10' is 753 mt. The overfished determination for the northern stock is based on a 2003 assessment. Overfished reference points refer to spawning output in numbers of larvae.*
Black rockfish - South	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (FMSY) on a continual basis. The default FMSY proxy used for setting acceptable biological catches (ABCs) is for F50% rockfish (including thornyheads).	723 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	1831.4 million larvae	1144 million larvae	

Stock	Overfishing Definition	2008 ABC (mt) ($F_{MSY\ proxy}$)	Overfished Definition	40% SSBO (BMSY Proxy)	25%SSBO (MSST)	NOTES
Starry flounder	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F_{MSY}) on a continual basis. The default F_{MSY} proxy used for setting acceptable biological catches (ABCs) are is F40% for flatfish and whiting.	1050 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	2,864	1,790	*Starry flounder was first assessed in 2005 and was estimated to be above target of 40%SSBO. An individual ABC did not exist for this species in 2005.*
Cabezon South	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (FMSY) on a continual basis. The default FMSY proxy used for setting acceptable biological catches (ABCs) is F45% for other groundfish such as sablefish and lingcod.	95 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	544	340	*ABC applies to south of 42oN lat.*
Kelp Greenling - Oregon	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (FMSY) on a continual basis. The default FMSY proxy used for setting acceptable biological catches (ABCs) is F45% for other groundfish such as sablefish and lingcod.	NA	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	128	80	*Kelp greenling - Oregon stock was first assessed in 2005 and was estimated to be above target of 40%SSB0. An individual ABC did not exist for this stock in 2005.*
Blackgill Rockfish	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (FMSY) on a continual basis. The default FMSY proxy used for setting acceptable biological catches (ABCs) is for F50% rockfish (including thornyheads).	contributes 292 mt to the Remaining Rockfish-South ABC	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	3,799	2,376	*ABC of 343 mt is the sum of the Conception area ABC of 268 mt based on the stock assessment and the Monterey area ABC of 75 mt. Northern catch is included in the Other Slope Rockfish category.*
Gopher Rockfish	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (FMSY) on a continual basis. The default FMSY proxy used for setting acceptable biological catches (ABCs) is for F50% rockfish (including thornyheads).	contributes 302 mt to the Remaining Rockfish-South ABC	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	798	499	*Gopher rockfish was assessed in 2005 and was estimated to be above target of 40%SSB0. An individual ABC did not exist for this species in 2005.*

Stock	Overfishing Definition	2008 ABC (mt) ($F_{MSY\ proxy}$)	Overfished Definition	40% SSBO (BMSY Proxy)	25%SSBO (MSST)	NOTES
California Scorpionfish	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (FMSY) on a continual basis. The default FMSY proxy used for setting acceptable biological catches (ABCs) is F45% for other groundfish such as sablefish and lingcod.	216 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	409	256	*California scorpionfish was first assessed in 2005 and was estimated to be above target of 40%SSBO. An individual ABC did not exist for this species in 2005.*
Pacific Cod	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (FMSY) on a continual basis. The default FMSY proxy used for setting acceptable biological catches (ABCs) is F45% for other groundfish.	3900 mt	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	Unknown	Unknown	*An ABC of 3,200 mt is based on historical landings data and is set at the same level as it was in 2004. An assessment has not been conducted.*
Silvergrey Rockfish	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (FMSY) on a continual basis. The default FMSY proxy used for setting acceptable biological catches (ABCs) is for F50% rockfish (including thornyheads).	contributes 38 mt to the Northern Remaining Rockfish ABC	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	Unknown	Unknown	*Silvergrey is a non-FSSI stock.*
Blue Rockfish	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (FMSY) on a continual basis. The default FMSY proxy used for setting acceptable biological catches (ABCs) is for F50% rockfish (including thornyheads).	NA	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	830.8 million larvae	519.25 million larave	*First assessment*
Longnose Skate	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (FMSY) on a continual basis. The default FMSY proxy used for setting acceptable biological catches (ABCs) is F45% for other groundfish such as sablefish and lingcod.	NA	A stock is overfished if its current biomass is less than 25% of the unfished biomass level or if the current biomass is less than 50% of the biomass that would produce the maximum sustainable yield (MSY).	2,814 mt	1,759 mt	*First assessment*

Stock	Overfishing Definition	2008 ABC (mt) ($F_{MSY\ proxy}$)	Overfished Definition	40% SSBO (BMSY Proxy)	25%SSBO (MSST)	NOTES
Conservation Objective						
Unspecified portion of 150,000 to 200,000 natural spawners (>60 natural spawners/mile of accessible spawning habitat)						

Oregon Coastal Natural comprised of Southern, South-Central, North-Central, and Northern Oregon Stocks. (Southern Stock - ESA Threatened 1997)

Conservation Objective
Total exploitation rate of no more than 13-35% depending on parent escapement and survival index

Washington Coastal Coho Grays Harbor

Conservation Objective
>35,400 natural spawners

Washington Coastal Coho Queets

Conservation Objective
>5,800 natural spawners

Washington Coastal Coho Hoh

Conservation Objective
>2,000 natural spawners

Washington Coastal Coho Quillayute Fall

Conservation Objective
>6,300 natural spawners

Stock	Overfishing Definition	2008 ABC (mt) ($F_{MSY\ proxy}$)	Overfished Definition	40% SSBO (BMSY Proxy)	25% SSBO (MSST)	NOTES

Washington Coastal Coho
Western Strait of Juan De Fuca (Sekiu, Hoko, Clallam, Pysht, East and West, and Lyre Rivers and miscellaneous streams west of the Elwha River)

Conservation Objective
>11,900 natural spawners

Puget Sound Coho
Eastern Strait of Juan De Fuca (streams east of Salt Creek through Chimacum Creek)

Conservation Objective
>950 natural spawners

Puget Sound Coho
Hood Canal

Conservation Objective
>21,500 natural spawners

Puget Sound Coho
Skagit

Conservation Objective
>30,000 natural spawners

Puget Sound Coho
Stillaguamish

Conservation Objective
>17,000 natural spawners

Puget Sound Coho
Snohomish

Conservation Objective

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Stock	Overfishing Definition	2008 ABC (mt) ($F_{MSY\ proxy}$)	Overfished Definition	40% SSBO (BMSY Proxy)	25%SSBO (MSST)	NOTES
>70,000 natural spawners						

All other salmon stocks

Conservation Objective

All other salmon stocks are exempt from overfishing and overfished criteria. The Salmon FMP contains three exceptions to the application of overfishing criteria and subsequent PFMC actions for stocks or stock complexes with conservation objectives in Table 3-1: (1) hatchery stocks, (2) stocks for which PFMC management actions have inconsequential impacts, and (3) stocks listed under the ESA.

PELAGIC FISHERIES OF THE WESTERN PACIFIC REGION

Yellowfin Tuna - Central Western Pacific

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M = 0.8-1.6)	0.08	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M = 0.8-1.6)	1,979,000 mt	1,979,000 mt

Skipjack Tuna - Central Western Pacific

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M > 0.5)	not available	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M > 0.5)	not available	not available

Striped Marlin - Central Western Pacific

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not estimated	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not estimated	not estimated

Albacore - South Pacific

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold

| Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M = 0.3) | not available | A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M = 0.3) | not available | not available |

Indo-Pacific Blue Marlin - Pacific

Overfishing defined	$F_{MSY \ proxy}$	Overfished defined	$B_{MSY \ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M = 0.2)	not available	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M = 0.2)	not available	not available

Shortbill Spearfish - Pacific, Wahoo - Pacific, Kawakawa - Tropical Pacific, Moonfish (Opah) - Pacific, other tuna relatives (Auxis spp., Scomber spp., and Allothunnus spp.) - Tropical Pacific, Scomber spp., Black Marlin - Pacific, Pomfrets - Pacific, Sailfish - Pacific, Oilfish family - Western Pacific, Longfin Mako Shark - North Pacific, Silky Shark - Tropical Pacific, Oceanic Whitetip Shark - Tropical Pacific, Salmon Shark - North Pacific

Overfishing defined	$F_{MSY \ proxy}$	Overfished defined	$B_{MSY \ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not estimated	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not estimated	not estimated

PELAGIC FISHERIES OF THE WESTERN PACIFIC REGION / WEST COAST HIGHLY MIGRATORY SPECIES

Albacore - North Pacific, Dolphinfish (Dorado or Mahimahi) - Pacific, Bluefin Tuna - Pacific, Common Thresher Shark - North Pacific, Bigeye Thresher Shark - North Pacific, Pelagic Thresher Shark - North Pacific, Shortfin Mako Shark - North Pacific

Overfishing defined	$F_{MSY \ proxy}$	Overfished defined	$B_{MSY \ proxy}$	Overfished Threshold

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not estimated	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not estimated	not estimated

Bigeye Tuna - Central Western Pacific

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M = 0.4)	0.26	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M = 0.4)	249,600 mt	249,600 mt

Swordfish - North Pacific

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M = 0.2)	not available	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. (M = 0.2)	not available	not available

Blue Shark - North Pacific

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold

Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not available	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not available	not available

CRUSTACEAN FISHERIES OF THE WESTERN PACIFIC REGION

Lobster complex (Red and Green spiny lobster and Common, Chinese, and Giant slipper lobster) of the Northwestern Hawaiian Islands

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / B_{MSY} if the stock biomass (B) is less than or equal to B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than B_{MSY}	not estimated	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5.	not estimated	not estimated

Lobster complex (Red and Green spiny lobster and Common, Chinese, and Giant slipper lobster) of areas other than the Northwestern Hawaiian Islands

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Undefined	undefined	Undefined	undefined	undefined

Kona Crab of the Hawaiian Archipelago

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Undefined	undefined	Undefined	undefined	undefined

PRECIOUS CORAL FISHERIES OF THE WESTERN PACIFIC REGION

Precious Corals Multi-Species Complex - Makapuʻu Bed [Pink Corals (Corallium secundum, Corallium regale, Corallium laauense), Gold Corals (Gerardia spp., Callogorgia gilberti, Narella spp., Calyptrophora spp.), Bamboo Corals (Lepidisis olapa, Acanella spp.), Black Corals (Antipathes grandis, Antipathes dichotoma, Antipathes ulex)]

Precious Corals Multi-Species Complex - Conditional Beds [Pink Corals (Corallium secundum, Corallium regale, Corallium laauense), Gold Corals (Gerardia spp., Callogorgia gilberti, Narella spp., Calyptrophora spp.), Bamboo Corals (Lepidisis olapa, Acanella spp.), Black Corals (Antipathes grandis, Antipathes dichotoma, Antipathes ulex)]

Black Coral - Auʻau Bed [Black Corals (Antipathes grandis, Antipathes dichotoma, Antipathes ulex)]

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than 0.066	0.066	A stock is overfished when the ratio of the total spawning stock biomass for all species combined to the estimated unfished total spawning stock biomass for all species combined (SPR) is less than 0.3, based on cohort analysis of the pink coral, Corallium secundum.	not estimated	not estimated

BOTTOMFISH AND SEAMOUNT GROUNDFISH FISHERIES OF THE WESTERN PACIFIC REGION

Bottomfish Multi-Species Complex - Hawaiian Archipelago [Seabass (hapu upuu), Squirrelfish Snapper (ehu), Red Longtail Snapper (onaga), Silver Jaw Jobfish (lehi), Gray Jobfish (uku), Blueline Snapper (taape), Yellowtail Snapper (yellow tail kalekale), Crimson Jobfish (opakapaka), Yelloweye Snapper (yelloweye opakapaka), Von Siebolds snapper (kalekale), Oblique-banded snapper (gindai), Giant Trevally (white ulua), Black Trevally (black ulua), Thick Lipped Trevally (pig ulua), Amberjack (kahala), Blacktip Grouper, Lunartail Grouper, Ambon Emperor (mafuti), Redgill Emperor (mafuti)]

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than $F_{MSY}\ B\ /\ c\ B_{MSY}$ if the stock biomass (B) is less than or equal to $c\ B_{MSY}$, or when F is greater than F_{MSY} if the stock biomass (B) is greater than $c\ B_{MSY}$, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. Effort (E) is used as a proxy for F. (M=0.3)	0.34	A stock is overfished when stock biomass (B) is less than $c\ B_{MSY}$, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. CPUE is used as a proxy for B. (M=0.3)	3,552,000 lbs.	2,486,000 lbs.

Bottomfish Multi-Species Complex - Northern Mariana Islands [Seabass (hapu upuu), Squirrelfish Snapper (ehu), Red Longtail Snapper (onaga), Silver Jaw Jobfish (lehi), Gray Jobfish (uku), Blueline Snapper (taape), Yellowtail Snapper (yellow tail kalekale), Crimson Jobfish (opakapaka), Yelloweye Snapper (yelloweye opakapaka), Von Siebolds snapper (kalekale), Oblique-banded snapper (gindai), Giant Trevally (white ulua), Black Trevally (black ulua), Thick Lipped Trevally (pig ulua), Amberjack (kahala), Blacktip Grouper, Lunartail Grouper, Ambon Emperor (mafuti), Redgill Emperor (mafuti)]

Seamount Groundfish Complex - Hancock Seamount (Pelagic Armorhead, Alfonsin, Raftfish)

Bottomfish Multi-Species Complex - American Samoa [Seabass (hapu upuu), Squirrelfish Snapper (ehu), Red Longtail Snapper (onaga), Silver Jaw Jobfish (lehi), Gray Jobfish (uku), Blueline Snapper (taape), Yellowtail Snapper (yellow tail kalekale), Crimson Jobfish (opakapaka), Yelloweye Snapper (yelloweye opakapaka), Von Siebolds snapper (kalekale), Oblique-banded snapper (gindai), Giant Trevally (white ulua), Black Trevally (black ulua), Thick Lipped Trevally (pig ulua), Amberjack (kahala), Blacktip Grouper, Lunartail Grouper, Ambon Emperor (mafuti), Redgill Emperor (mafuti)]

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. Effort (E) is used as a proxy for F. (M=0.3)	0.29	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. CPUE is used as a proxy for B. (M=0.3)	708,000 lbs.	495,600 lbs.

Bottomfish Multi-Species Complex - Guam [Seabass (hapu upuu), Squirrelfish Snapper (ehu), Red Longtail Snapper (onaga), Silver Jaw Jobfish (lehi), Gray Jobfish (uku), Blueline Snapper (taape), Yellowtail Snapper (yellow tail kalekale), Crimson Jobfish (opakapaka), Yelloweye Snapper (yelloweye opakapaka), Von Siebolds snapper (kalekale), Oblique-banded snapper (gindai), Giant Trevally (white ulua), Black Trevally (black ulua), Thick Lipped Trevally (pig ulua), Amberjack (kahala), Blacktip Grouper, Lunartail Grouper, Ambon Emperor (mafuti), Redgill Emperor (mafuti)]

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. Effort (E) is used as a proxy for F. (M=0.3)	0.28	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. CPUE is used as a proxy for B. (M=0.3)	195,500 lbs.	136,850 lbs.

CORAL REEF ECOSYSTEMS OF THE WESTERN PACIFIC REGION

Coral Reef Ecosystem Multi-Species Complex - Hawaiian Archipelago (This complex contains up to 146 "currently harvested coral reef taxa" and innumerable "potentially harvested coral reef taxa."), **Bigeye Scad - Hawaiian Archipelago, Mackerel Scad - Hawaiian Archipelago, Coral Reef Ecosystem Multi-Species Complex - American Samoa** (This complex contains up to 146 "currently harvested coral reef taxa" and innumerable "potentially harvested coral reef taxa."), **Coral Reef Ecosystem Multi-Species Complex - Northern Mariana Islands** (This complex contains up to 146 "currently harvested coral reef taxa" and innumerable "potentially harvested coral reef taxa."), **Coral Reef Ecosystem Multi-Species Complex - Guam** (This complex contains up to 146 "currently harvested coral reef taxa" and innumerable "potentially harvested coral reef taxa."), **Coral Reef Ecosystem Multi-Species Complex - Pacific remote island areas** (This complex contains up to 146 "currently harvested coral reef taxa" and innumerable "potentially harvested coral reef taxa.")

Overfishing defined	$F_{MSY\ proxy}$	Overfished defined	$B_{MSY\ proxy}$	Overfished Threshold
Overfishing occurs when F is greater than F_{MSY} B / c B_{MSY} if the stock biomass (B) is less than or equal to c B_{MSY}, or when F is greater than F_{MSY} if the stock biomass (B) is greater than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. Effort (E) is used as a proxy for F. (M = 0.3)	not estimated	A stock is overfished when stock biomass (B) is less than c B_{MSY}, where c is equal to the greater of 1 minus the natural mortality rate (M) and 0.5. CPUE is used as a proxy for B. (M=0.3)	not estimated	not estimated

GROUNDFISH OF THE GULF OF ALASKA

Walleye pollock - Western / Central Gulf of Alaska

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	72,110 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	217,000 mt	108,500 mt

Walleye pollock - Eastern Gulf of Alaska

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	11,040 mt	No B_{MSY} estimate exists. Therefore, no MSST is defined.	undefined	undefined

Pacific cod - Gulf of Alaska

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	88,660 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	102,375 mt	51,187 mt

Arrowtooth flounder - Gulf of Alaska

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	266,914 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	419,125 mt	209,562 mt

Pacific ocean perch - Gulf of Alaska

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	17,807 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	79,625 mt	39,812 mt

Northern rockfish - Western / Central Gulf of Alaska

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	5430 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	21,525 mt	10,762 mt

Flathead sole - Gulf of Alaska

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	55,787 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	43,663 mt	21,831 mt

Dusky Rockfish (indicator species for **Pelagic Shelf Rockfish Complex**)

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Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	6400 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	16,800 mt	8,400 mt

Dover Sole (indicator species for **Deepwater Flatfish Complex)**

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	11,343 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	5671 mt	2835 mt

Rex sole - Gulf of Alaska

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	11,933 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ B_{MSY} is one of 2 reference points used in defining MSST.	19,425 mt	9712 mt

Atka mackerel - Gulf of Alaska

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}

| Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL). | 6,200 mt | No B_{MSY} estimate exists. Therefore, no MSST is defined. | undefined | undefined |

Shortspine Thornyhead (indicator species for **Thornyhead Rockfish Complex**)

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	2540 mt	No B_{MSY} estimate exists. Therefore, no MSST is defined.	undefined	undefined

Yelloweye Rockfish (indicator species for **Demersal Shelf Rockfish Complex)**

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	611 mt	No B_{MSY} estimate exists. Therefore, no MSST is defined.	undefined	undefined

Gulf of Alaska Blackspotted and Rougheye Rockfish Complex

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	1548 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	8925 mt	4462 mt

Gulf of Alaska Other Slope Rockfish Complex

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	5624 mt	No B_{MSY} estimate exists. Therefore, no MSST is defined.	undefined	undefined

Gulf of Alaska Shallow Water Flatfish Complex

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	74,364 mt	No B_{MSY} estimate exists. Therefore, no MSST is defined.	undefined	undefined

Big skate - Gulf of Alaska

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	4439 mt	No B_{MSY} estimate exists. Therefore, no MSST is defined.	undefined	undefined

Longnose skate - Gulf of Alaska

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	3849 mt	No B_{MSY} estimate exists. Therefore, no MSST is defined.	undefined	undefined

Gulf of Alaska Other Skates Complex

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	$\frac{1}{2} B_{MSY}$
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	2806 mt	No B_{MSY} estimate exists. Therefore, no MSST is defined.	undefined	undefined

Shortraker rockfish - Gulf of Alaska

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	$\frac{1}{2} B_{MSY}$
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	1197 mt	No B_{MSY} estimate exists. Therefore, no MSST is defined.	undefined	undefined

Gulf of Alaska Other Species Complex

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	$\frac{1}{2} B_{MSY}$
There is no MFMT defined for this complex.	undefined	No B_{MSY} estimate exists. Therefore, no MSST is defined.	undefined	undefined

GROUNDFISH OF THE BERING SEA AND ALEUTIAN ISLANDS MANAGEMENT AREA

Walleye Pollock - Eastern Bering Sea

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	$\frac{1}{2} B_{MSY}$*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	1,440,000 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	1,863,000 mt	931,500 mt

Walleye Pollock - Aleutian Islands

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	34,000 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	104,300 mt	52,150 mt

Pacific cod - Bering Sea / Aleutian Islands

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	207,000 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	359,625 mt	179,812 mt

Yellowfin sole - Bering Sea / Aleutian Islands

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	265,000 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	330,000 mt	165,000 mt

Greenland halibut - Bering Sea / Aleutian Islands

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*

Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	15,600 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	21,223 mt	10,611 mt

Arrowtooth Flounder (indicator stock for Bering Sea / Aleutian Islands Arrowtooth Flounder Complex)

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	297,000 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	259,875 mt	129,937 mt

Northern Rock Sole (indicator stock for Bering Sea / Aleutian Islands Rock Sole Complex)

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	304,000 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	242,000 mt	121,000 mt

Flathead Sole (indicator stock for Bering Sea / Aleutian Islands Flathead Sole Complex)

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	86,000 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	119,875 mt	59,937 mt

Pacific ocean perch - Bering Sea / Aleutian Islands

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	25,700 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	107,625 mt	53,813 mt

Atka mackerel - Aleutian Islands

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	71,400 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	83,213 mt	41,606 mt

Alaska plaice - Bering Sea / Aleutian Islands

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	248,000 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	179,375 mt	89,687 mt

Northern rockfish - Bering Sea / Aleutian Islands

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	9,740 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	48,388 mt	24,194 mt

Bering Sea / Aleutian Islands Blackspotted and Rougheye Rockfish Complex

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	269 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	5,880 mt	2,940 mt

Walleye Pollock - Bogoslof

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}

| Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL). | 58,400 mt | No B_{MSY} estimate exists. Therefore, no MSST is defined. | undefined | undefined |

Shortraker rockfish - Bering Sea / Aleutian Islands

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	564 mt	No B_{MSY} estimate exists. Therefore, no MSST is defined.	undefined	undefined

Bering Sea / Aleutian Islands Other Rockfish Complex

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	1,330 mt	No B_{MSY} estimate exists. Therefore, no MSST is defined.	undefined	undefined

Bering Sea / Aleutian Islands Other Flatfish Complex

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}

Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	28,800 mt	No B_{MSY} estimate exists. Therefore, no MSST is defined.	undefined	undefined

Bering Sea / Aleutian Islands Squid Complex

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	2,620 mt	No B_{MSY} estimate exists. Therefore, no MSST is defined.	undefined	undefined

Bering Sea / Aleutian Islands Other Species Complex

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	104,000 mt	No B_{MSY} estimate exists. Therefore, no MSST is defined.	undefined	undefined

GROUNDFISH OF THE GULF OF ALASKA / GROUNDFISH OF THE BERING SEA AND ALEUTIAN ISLANDS MANAGEMENT AREA

Sablefish

Overfishing defined	2009 OFL	Overfished defined	B_{MSY}	½ B_{MSY}*
Overfishing is defined as any rate of fishing in excess of the maximum fishing mortality threshold (MFMT). The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "overfishing level" (OFL).	21,310 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: ½ the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock were exploited at the MFMT. *NOTE: ½ BMSY is one of 2 reference points used in defining MSST.	98,875 mt	49,437 mt

BERING SEA / ALEUTIAN ISLANDS KING AND TANNER CRABS

Blue King Crab - Pribilof Islands

Overfishing defined	SYL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.2 The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "sustainable yield level" (SYL).	136 mt	A stock is overfished when it falls below MSST, which is equal to ½ the MSY stock size	4082 mt	2041 mt

Blue King Crab - Saint Matthews Island

Overfishing defined	SYL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.2 The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "sustainable yield level" (SYL).	739 mt	A stock is overfished when it falls below MSST, which is equal to ½ the MSY stock size	3629 mt	1814 mt

Red King Crab - Bristol Bay

Overfishing defined	SYL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.2 The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "sustainable yield level" (SYL).	10,977 mt	A stock is overfished when it falls below MSST, which is equal to ½ the MSY stock size	31,116 mt	15,558 mt

Red King Crab - Pribilof Islands

Overfishing defined	SYL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.2 The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "sustainable yield level" (SYL).	1506 mt	A stock is overfished when it falls below MSST, which is equal to ½ the MSY stock size	3983 mt	1991 mt

Snow Crab - Bering Sea

Overfishing defined	SYL	Overfished defined	B_{MSY}	½ B_{MSY}

| Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.3. The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "sustainable yield level" (SYL). | 35,063 mt | A stock is overfished when it falls below MSST, which is equal to ½ the MSY stock size | 148,234 mt | 74,117 mt |

Southern Tanner Crab - Eastern Bering Sea

Overfishing defined	SYL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.3. The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "sustainable yield level" (SYL).	7039 mt	A stock is overfished when it falls below MSST, which is equal to ½ the MSY stock size	86,092 mt	43,046 mt

Blue King Crab - Saint Lawrence Island

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.2	0.2	Overfished is not defined	undefined	undefined

Red King Crab - Aleutian Islands, Dutch Harbor

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.2	0.2	Overfished is not defined	undefined	undefined

Tanner Crab - Adak (Western Aleutians)

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.3	0.3	Overfished is not defined	undefined	undefined

Tanner Crab - Eastern Aleutian Islands

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.3	0.3	Overfished is not defined	undefined	undefined

Tanner Crab - Western Aleutian Islands Grooved

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.3	0.3	Overfished is not defined	undefined	undefined

Golden King Crab - Aleutian Islands

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.2	0.2	Overfished is not defined	undefined	undefined

Red King Crab - Aleutian Islands, Adak

Overfishing defined	SYL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.3. The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "sustainable yield level" (SYL).	208 mt	Overfished is not defined	undefined	undefined

Red King Crab - Norton Sound

Overfishing defined	SYL	Overfished defined	B_{MSY}	½ B_{MSY}

| Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.3. The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "sustainable yield level" (SYL). | 323 mt | A stock is overfished when it falls below MSST, which is equal to ½ the MSY stock size | 1397 mt | 698 mt |

Golden King Crab - Northern District

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.2	0.2	Overfished is not defined	undefined	undefined

Golden King Crab - Pribilof Islands

Overfishing defined	SYL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.3. The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "sustainable yield level" (SYL).	77 mt	Overfished is not defined	undefined	undefined

Golden King Crab - Aleutian Islands

Overfishing defined	SYL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.3. The catch corresponding to fishing at a rate equal to the MFMT is referred to as the "sustainable yield level" (SYL).	4164 mt	Overfished is not defined	undefined	undefined

Tanner Crab - Eastern Aleutian Islands Grooved

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.3	0.3	Overfished is not defined	undefined	undefined

Tanner Crab - Eastern Aleutian Islands Triangle

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.3	0.3	Overfished is not defined	undefined	undefined

Tanner Crab - Eastern Bering Sea Grooved

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.3	0.3	Overfished is not defined	undefined	undefined

Tanner Crab - Eastern Bering Sea Triangle

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as any rate of fishing mortality in excess of M, where M = 0.3	0.3	Overfished is not defined	undefined	undefined

SCALLOP FISHERY OFF ALASKA

Weathervane Scallop - Alaska

Overfishing defined	SYL	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is defined as the catch corresponding to fishing at a rate equal to the MFMT is referred to as the "sustainable yield level" (SYL).	1,240,000 pounds of scallop meat	Overfished is not defined	undefined	undefined

Bering Scallop - Alaska

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is not defined	undefined	Overfished is not defined	undefined	undefined

Giant Rock Scallop - Alaska

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is not defined	undefined	Overfished is not defined	undefined	undefined

Reddish Scallop - Alaska

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is not defined	undefined	Overfished is not defined	undefined	undefined

Spiny Scallop - Alaska

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is not defined	undefined	Overfished is not defined	undefined	undefined

White Scallop - Alaska

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	½ B_{MSY}
Overfishing is not defined	undefined	Overfished is not defined	undefined	undefined

PACIFIC HALIBUT

Pacific Halibut - Pacific Coast / Alaska

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSBL
Overfishing is not defined	undefined	A stock is overfished if it falls below the minimum spawning biomass limit equal to 20% of the unfished level.	not available	264 million lbs.

SALMON FISHERIES IN THE EEZ OFF THE COAST OF ALASKA

Data not available

FISH RESOURCES OF THE ARCTIC MANAGEMENT AREA

Arctic Cod - Arctic management area

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST

CONSOLIDATED ATLANTIC HIGHLY MIGRATORY SPECIES

Blue Marlin - Atlantic

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	not available	A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = (1-M)B_{MSY} when M < 0.5; MSST = B_{LIMIT} = 0.5B_{MSY} when M > 0.5.	not available	not available

White Marlin - Atlantic

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	not available	A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = (1-M)B_{MSY} when M < 0.5; MSST = B_{LIMIT} = 0.5B_{MSY} when M > 0.5.	not available	not available

Sailfish - West Atlantic

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	not available	A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = (1-M)B_{MSY} when M < 0.5; MSST = B_{LIMIT} = 0.5B_{MSY} when M > 0.5.	not available	not available

Bigeye Tuna - Atlantic

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	not available	A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = (1-M)B_{MSY} when M < 0.5; MSST = B_{LIMIT} = 0.5B_{MSY} when M > 0.5.	not available	not available

Albacore - North Atlantic

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	0.175	A stock is overfished when the stock level biomass falls below MSST, which is set at $MSST = B_{LIMIT} = (1-M)B_{MSY}$ when $M < 0.5$; $MSST = B_{LIMIT} = 0.5B_{MSY}$ when $M > 0.5$.	53,660 mt	37,562 mt

Bluefin Tuna - West Atlantic

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	not available	A stock is overfished when the stock level biomass falls below MSST, which is set at $MSST = B_{LIMIT} = (1-M)B_{MSY}$ when $M < 0.5$; $MSST = B_{LIMIT} = 0.5B_{MSY}$ when $M > 0.5$.	not available	not available

Yellowfin Tuna - Atlantic

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	not available	A stock is overfished when the stock level biomass falls below MSST, which is set at $MSST = B_{LIMIT} = (1-M)B_{MSY}$ when $M < 0.5$; $MSST = B_{LIMIT} = 0.5B_{MSY}$ when $M > 0.5$. For Yellowfin Tuna, $MSST = 0.5B_{MSY}$.	not available	not available

Swordfish - North Atlantic

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	0.222	A stock is overfished when the stock level biomass falls below MSST, which is set at $MSST = B_{LIMIT} = (1-M)B_{MSY}$ when $M < 0.5$; $MSST = B_{LIMIT} = 0.5B_{MSY}$ when $M > 0.5$.	61,861 mt	not available

Sandbar Shark

Overfishing defined	F_{MSY}	Overfished defined	SSF_{MSY}	MSST

| Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$. | 0.15 | A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = (1-M)B_{MSY} when M < 0.5; MSST = B_{LIMIT} = 0.5B_{MSY} when M > 0.5. In 2006 stock assessment M ranged from 0.1 to 0.2 depending on age. | 5.94 e+5 | 4.75-5.35e+5 |

Blacktip Shark - Gulf of Mexico

Overfishing defined	F_{MSY}	Overfished defined	SSF_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	0.2	A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = (1-M)B_{MSY} when M < 0.5; MSST = B_{LIMIT} = 0.5B_{MSY} when M > 0.5. In 2006 stock assessment M ranged across ages; stock assessment unable to determine which model to use so range across all of them.	1.23-1.78 e+7	0.99-1.07 e+7

Blacktip Shark - Atlantic

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	not estimated	A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = (1-M)B_{MSY} when M < 0.5; MSST = B_{LIMIT} = 0.5B_{MSY} when M > 0.5. From 2006 stock assessment.	not estimated	not estimated

Large Coastal Shark Complex (In addition to Sandbar Shark, Gulf of Mexico Blacktip Shark, and Atlantic Blacktip Shark, the Large Coastal Shark Complex also consists of additional stocks including Spinner Shark, Silky Shark, Bull Shark, Tiger Shark, Lemon Shark, Nurse Shark, Scalloped Hammerhead Shark, Great Hammerhead Shark, and Smooth Hammerhead Shark. In addition, several LCS species cannot be retained in commercial or recreational fisheries, including Dusky Shark, Bignose Shark, Galapagos Shark, Night Shark, Caribbean Reef Shark, Narrowtooth Shark, Sand Tiger Shark, Bigeye Sand Tiger Shark, Whale Shark, Basking Shark, White Shark)

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	not estimated	A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = BLIMIT = (1-M)BMSY when M < 0.5; MSST = BLIMIT = 0.5BMSY when M > 0.5. From 2006 stock assessment.	not estimated	not estimated

Finetooth Shark

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	0.03-0.44	A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = (1-M)B_{MSY} when M < 0.5; MSST = B_{LIMIT} = 0.5B_{MSY} when M > 0.5. From 2002 stock assessment and 2003 Amendment 1.	08-1.65	0.4-1.4

Atlantic Sharpnose Shark

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	0.04-0.42	A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = (1-M)B_{MSY} when M < 0.5; MSST = B_{LIMIT} = 0.5B_{MSY} when M > 0.5. From 2002 stock assessment and 2003 Amendment 1.	23-43.3	11.5-33.4

Blacknose Shark

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	0.03-0.32	A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = (1-M)B_{MSY} when M < 0.5; MSST = B_{LIMIT} = 0.5B_{MSY} when M > 0.5. From 2002 stock assessment and 2003 Amendment 1.	3.3-5.4	1.6-4.5

Bonnethead Shark

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	0.05-0.53	A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = (1-M)B_{MSY} when M < 0.5; MSST = B_{LIMIT} = 0.5B_{MSY} when M > 0.5. From 2002 stock assessment and 2003 Amendment 1.	4.6-9.2	2.3-7.3

Small Coastal Shark Complex (In addition to Finetooth Shark, Atlantic Sharpnose Shark, Blacknose Shark, and Bonnethead Shark, the Small Coastal Shark Complex also consists of: Atlantic Angel Shark, Caribbean Sharpnose Shark, and Smalltail Shark)

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST

| Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$. | 0.04-0.28 | A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = $(1-M)B_{MSY}$ when M < 0.5; MSST = B_{LIMIT} = $0.5B_{MSY}$ when M > 0.5. From 2002 stock assessment and 2003 Amendment 1. | 32.3-60.75 | 16.2-50.2 |

Shortfin Mako Shark

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	not estimated	A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = $(1-M)B_{MSY}$ when M < 0.5; MSST = B_{LIMIT} = $0.5B_{MSY}$ when M > 0.5. From ICCAT stock assessment.	not estimated	not estimated

Porbeagle Shark

Overfishing defined	F_{MSY}	Overfished defined	SSN_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	0.03-0.36	A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = $(1-M)B_{MSY}$ when M < 0.5; MSST = B_{LIMIT} = $0.5B_{MSY}$ when M > 0.5. From 2005 Canadian stock assessment; Assessment provides only Z, not M.	29382 - 40676	not available

Blue Shark

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	not estimated	A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = $(1-M)B_{MSY}$ when M < 0.5; MSST = B_{LIMIT} = $0.5B_{MSY}$ when M > 0.5. From ICCAT stock assessment.	not estimated	not estimated

Dusky Shark

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST

| Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$. | 0.0115 | A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = (1-M)B_{MSY} when M < 0.5; MSST = B_{LIMIT} = 0.5B_{MSY} when M > 0.5. From 2006 Dusky Shark stock assessment; tables do not include M; used state space age structured model. | 4409144 | not available |

Longbill Spearfish - West Atlantic

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	not estimated	A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = (1-M)B_{MSY} when M < 0.5; MSST = B_{LIMIT} = 0.5B_{MSY} when M > 0.5.	not estimated	not estimated

Skipjack Tuna - West Atlantic

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	not estimated	A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = (1-M)B_{MSY} when M < 0.5; MSST = B_{LIMIT} = 0.5B_{MSY} when M > 0.5.	not estimated	not estimated

Pelagic Shark Complex (In addition to Shortfin Mako Shark, Blue Shark, and Porbeagle Shark, the Pelagic Shark Complex also consists of: Oceanic Whitetip Shark and Thresher Shark. This complex also consists of stocks that cannot be retained in recreational or commercial fisheries, which include: Bigeye Thresher Shark, Bigeye Sixgill Shark, Longfin Mako Shark, Sevengill Shark, and Sixgill Shark)

Overfishing defined	F_{MSY}	Overfished defined	B_{MSY}	MSST
Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$.	not estimated	A stock is overfished when the stock level biomass falls below MSST, which is set at MSST = B_{LIMIT} = (1-M)B_{MSY} when M < 0.5; MSST = B_{LIMIT} = 0.5B_{MSY} when M > 0.5.	not estimated	not estimated