

**APPENDIX 3. OVERFISHING AND OVERFISHED 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)

**ATLANTIC SEA SCALLOP**

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Sea scallop - Northwestern Atlantic Coast	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 $\frac{1}{2}B_{MAX}$ , 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 $\frac{1}{4}B_{MAX}$ .	0.29	The scallop stock is overfished when the scallop biomass is below $\frac{1}{2}B_{MAX}$ .	108,600 mt	54,300 mt

**ATLANTIC SALMON**

Atlantic salmon - Gulf of Maine	Overfishing is currently not defined (fishing mortality is set equal to zero).	Undefined	A stock is overfished when the stock biomass falls below the Conservation Spawning Escapement (CSE).	54,000	29,199
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**NORTHEAST MULTISPECIES**

Atlantic cod - Gulf of Maine	Overfishing occurs when F exceeds F at 40% maximum spawning potential.	0.24	Overfished is defined as spawning stock biomass less than $\frac{1}{2}$ Btarget; Btarget is defined as 40% MSP	58,248 mt	29124 mt
Acadian redfish - Gulf of Maine / Georges Bank	Overfishing occurs when F exceeds F at 50% maximum spawning potential.	0.04	Overfished is defined as spawning stock biomass less than $\frac{1}{2}$ Btarget; Btarget is defined as 40% MSP	271,000 mt	135,500 mt

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American plaice - Gulf of Maine / Georges Bank	Overfishing occurs when F exceeds F at 40% maximum spawning potential.	0.19	Overfished is defined as spawning stock biomass less than 1/2 Btarget; Btarget is defined as 40% MSP	21,940 mt	10,970 mt
Atlantic cod - Georges Bank	Overfishing occurs when F exceeds F at 40% maximum spawning potential.	0.25	Overfished is defined as spawning stock biomass less than 1/2 Btarget; Btarget is defined as 40% MSP	148,084 mt	74,042 mt
Atlantic halibut - Northwestern Atlantic Coast	Overfishing occurs when F exceeds F <sub>0.1</sub> .	0.07	The stock is overfished when the total stock biomass is less than 1/2 Btarget.	49,000 mt	24,500 mt
Atlantic wolffish - Gulf of Maine / Georges Bank	Overfishing occurs when F exceeds F at 40% maximum spawning potential.	0.185	Overfished is defined as spawning stock biomass less than 1/2 Btarget; Btarget is defined as 40% MSP	1,747 mt	874 mt
Haddock - Georges Bank	Overfishing occurs when F exceeds F at 40% maximum spawning potential.	0.35	Overfished is defined as spawning stock biomass less than 1/2 Btarget; Btarget is defined as 40% MSP	158,873 mt	79,437 mt

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

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Haddock - Gulf of Maine	Overfishing occurs when F exceeds F at 40% maximum spawning potential.	0.43	Overfished is defined as spawning stock biomass less than $\frac{1}{2}$ Btarget; Btarget is defined as 40% MSP	5900 mt	2950 mt
Ocean pout - Northwestern Atlantic Coast	Overfishing occurs when the exploitation ratio is less than the median exploitation ratio from 1977-1985.	0.76 catch/ survey index	The stock is overfished when the 3-year moving average of the NEFSC spring survey is less than $\frac{1}{2}$ B <sub>MSY</sub> proxy; where B <sub>MSY</sub> proxy = average observed 1977-1985.	4.94 kg/tow	2.47 kg/tow
Offshore hake - Northwestern Atlantic Coast	Undefined	undefined	Undefined	undefined	undefined

Note: The overfishing definition for offshore hake 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.

Pollock - Gulf of Maine / Georges Bank	Overfishing occurs when F exceeds F at 40% maximum spawning potential.	0.25	Overfished is defined as spawning stock biomass less than $\frac{1}{2}$ Btarget; Btarget is defined as 40% MSP	91,000 mt	45,500 mt
Red Hake - Gulf of Maine/Northern Georges Bank	Overfishing occurs when F exceeds F <sub>MSY</sub> .	0.65	The stock is overfished when the total stock biomass is less than $\frac{1}{2}$ B <sub>MSY proxy</sub> .	1.6 kg/tow	0.8 kg/tow

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

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Red Hake - Southern Georges Bank/Middle Atlantic	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
Silver Hake - Gulf of Maine/Northern Georges Bank	Overfishing occurs when F exceeds $F_{0.1}$ , proxy exploitation index	2.57	The stock is overfished when the total stock biomass is less than $\frac{1}{2} B_{MSY \text{ proxy}}$ .	6.63 kg/tow	3.315 kg/tow
Silver Hake - Southern Georges Bank/Middle Atlantic	Overfishing occurs when F exceeds $F_{0.1}$ , proxy exploitation index	34.39	The stock is overfished when the total stock biomass is less than $\frac{1}{2} B_{MSY \text{ proxy}}$ .	1.78 kg/tow	0.89 kg/tow
White hake - Gulf of Maine / Georges Bank	Overfishing occurs when F exceeds F at 40% maximum spawning potential.	0.13	Overfished is defined as spawning stock biomass less than $\frac{1}{2} B_{target}$ ; $B_{target}$ is defined as 40% MSP	56,254 mt	28,127 mt
Windowpane - Gulf of Maine / Georges Bank	Overfishing occurs when the exploitation ratio is less than the median exploitation ratio from 1975-2007.	0.5 catch/ survey index	The stock is overfished when the 3-year moving average of the fall survey is less than $\frac{1}{2} B_{MSY \text{ proxy}}$ ; where $B_{MSY \text{ proxy}}$ = average observed 1975-2007.	1.4 kg/tow	0.7 kg/tow

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

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Windowpane - Southern New England / Mid-Atlantic	Overfishing occurs when the exploitation ratio is less than the median exploitation ratio from 1975-2007.	1.47 catch/ survey index	The stock is overfished when the 3-year moving average of the fall survey is less than $\frac{1}{2}$ $B_{MSY}$ proxy; where $B_{MSY}$ proxy = average observed 1975-2007.	0.34 kg/tow	0.17 kg/tow
Winter flounder - Georges Bank	Overfishing occurs when F exceeds F at 40% maximum spawning potential.	0.26	Overfished is defined as spawning stock biomass less than $\frac{1}{2}$ $B_{target}$ ; $B_{target}$ is defined as 40% MSP	16,000 mt	8,000 mt
Winter flounder - Gulf of Maine	Overfishing occurs when F exceeds F at 40% maximum spawning potential.	not estimated	Overfished is defined as spawning stock biomass less than $\frac{1}{2}$ $B_{target}$ ; $B_{target}$ is defined as 40% MSP	not estimated	not estimated
Winter flounder - Southern New England / Mid-Atlantic	Overfishing occurs when F exceeds F at 40% maximum spawning potential.	0.25	Overfished is defined as spawning stock biomass less than $\frac{1}{2}$ $B_{target}$ ; $B_{target}$ is defined as 40% MSP	38,761 mt	19,380 mt
Witch flounder - Northwestern Atlantic Coast	Overfishing occurs when F exceeds F at 40% maximum spawning potential.	0.20	Overfished is defined as spawning stock biomass less than $\frac{1}{2}$ $B_{target}$ ; $B_{target}$ is defined as 40% MSP	11,447 mt	5723 mt
Yellowtail flounder - Cape Cod / Gulf of Maine	Overfishing occurs when F exceeds F at 40% maximum spawning potential.	0.24	Overfished is defined as spawning stock biomass less than $\frac{1}{2}$ $B_{target}$ ; $B_{target}$ is defined as 40% MSP	7790 mt	3895 mt

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

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Yellowtail flounder - Georges Bank	Overfishing occurs when F exceeds F at 40% maximum spawning potential.	0.25	Overfished is defined as spawning stock biomass less than 1/2 Btarget; Btarget is defined as 40% MSP	43,200 mt	21,600 mt
Yellowtail flounder - Southern New England / Mid-Atlantic	Overfishing occurs when F exceeds F at 40% maximum spawning potential.	0.25	Overfished is defined as spawning stock biomass less than 1/2 Btarget; Btarget is defined as 40% MSP	27,400 mt	13,700 mt

**NORTHEAST SKATE COMPLEX**

Barndoor skate - Georges Bank / Southern New England	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 Definition	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
Clearnose skate - Southern New England / Mid-Atlantic	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 Definition	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 1975-2007.	0.77 kg/tow	0.38 kg/tow
Little skate - Georges Bank / Southern New England	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 Definition	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 mean weight per tow observed in the spring trawl survey from 1982-2008.	7.03 kg/tow	3.51 kg/tow
Rosette skate - Southern New England / Mid-Atlantic	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 Definition	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 1967-2007.	0.048 kg/tow	0.024 kg/tow

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Smooth skate - Gulf of Maine	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 Definition	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 1963-2007.	0.29 kg/tow	0.145 kg/tow
Thorny skate - Gulf of Maine	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 Definition	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 1963-2007.	4.12 kg/tow	2.06 kg/tow
Winter skate - Georges Bank / Southern New England	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 Definition	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 1967-2007.	5.6 kg/tow	2.8 kg/tow

**ATLANTIC HERRING**

Atlantic herring - Northwestern Atlantic Coast	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
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**DEEP-SEA RED CRAB**

Red deepsea crab - Northwestern Atlantic	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).	2830 mt	The stock is overfished if current biomass is below $\frac{1}{2} B_{msy}$ , annual fleet average CPUE continues to decline below a baseline level for three or more consecutive years, or annual fleet average CPUE falls below a minimum threshold level in any single year.	not estimated	not estimated
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National Marine Fisheries Service - 2010 Status of U.S. Fisheries

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**MONKFISH**

Monkfish - Gulf of Maine / Northern Georges Bank	Overfishing occurs when $F$ exceeds $F_{\text{THRESHOLD}}$ , which is set equal to $F_{\text{MAX}}$ .	0.31	The stock is overfished when total stock biomass is less than $1/2 B_{\text{max}}$ .	92,200 mt	65,200 mt
Monkfish - Southern Georges Bank / Mid-Atlantic	Overfishing occurs when $F$ exceeds $F_{\text{THRESHOLD}}$ , which is set equal to $F_{\text{MAX}}$ .	0.4	The stock is overfished when total stock biomass is less than $1/2 B_{\text{max}}$ .	122,500 mt	96,400 mt

**SPINY DOGFISH**

Spiny dogfish - Atlantic Coast	Overfishing occurs when $F$ exceeds $F_{\text{msy}}$ or a reasonable proxy thereof.	0.325	The stock is overfished when the biomass is less than $1/2 B_{\text{msy}}$ or a reasonable proxy thereof.	159,288 mt	79,644 mt
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**SUMMER FLOUNDER, SCUP, AND BLACK SEA BASS**

Summer flounder - Mid-Atlantic Coast	Overfishing occurs when $F$ exceeds the threshold of $F_{\text{msy}}$ or reasonable proxy thereof.	0.31	The stock is overfished when the spawning stock biomass falls below the minimum biomass threshold of $1/2 B_{\text{msy}}$ or reasonable proxy thereof.	60,074 mt	30,037 mt
Black sea bass - Mid-Atlantic Coast	Overfishing occurs when $F$ exceeds the threshold of $F_{\text{msy}}$ or reasonable proxy thereof.	0.42	The stock is overfished when the spawning stock biomass falls below the minimum biomass threshold of $1/2 B_{\text{msy}}$ or reasonable proxy thereof.	12,537 mt	6,268 mt
Scup - Atlantic Coast	Overfishing occurs when $F$ exceeds the threshold of $F_{\text{msy}}$ or reasonable proxy thereof.	0.177	The stock is overfished when the spawning stock biomass falls below the minimum biomass threshold of $1/2 B_{\text{msy}}$ or reasonable proxy thereof.	92,044 mt	46,022 mt

**BLUEFISH**

Bluefish - Atlantic Coast	Overfishing occurs when $F$ exceeds the threshold $F_{\text{MSY}}$ .	0.19	The stock is overfished when the minimum biomass is less than $1/2 B_{\text{MSY}}$ .	147,052 mt	73,526 mt
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National Marine Fisheries Service - 2010 Status of U.S. Fisheries

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**ATLANTIC SURFLCLAM AND OCEAN QUAHOG**

Atlantic surfclam - Mid-Atlantic Coast	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 Bmsy proxy.	543,000 mt (meat weight)	272,000 mt (meat weight)
Ocean quahog - Atlantic Coast	Overfishing occurs when F exceeds F25% MSP.	0.02	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**

Atlantic mackerel - Gulf of Maine / Cape Hatteras	Overfishing occurs when F exceeds the fishing mortality threshold of $F_{MSY}$ .	0.16	A stock is overfished when biomass falls below $\frac{1}{2}$ BMSY.	644,000 mt	322,000 mt
Butterfish - Gulf of Maine / Cape Hatteras	Overfishing occurs when F exceeds the fishing mortality threshold of $F_{MSY}$ .	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
Longfin inshore squid - Georges Bank / Cape Hatteras	Overfishing occurs when fishing mortality exceeds FThreshold	undefined	The stock is overfished when biomass is less than $\frac{1}{2}B_{MSY}$ .	80,000 mt	40,000 mt
Northern shortfin squid - Northwestern Atlantic Coast	Overfishing occurs when fishing mortality exceeds FThreshold	1.22	Undefined	not estimated	not estimated

**TILEFISH**

Tilefish - Mid-Atlantic Coast	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 $\frac{1}{2}B_{MSY}$ .	11,400 mt	5,700 mt
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National Marine Fisheries Service - 2010 Status of U.S. Fisheries

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<b>GOLDEN CRAB FISHERY OF THE SOUTH ATLANTIC REGION</b>					
Golden deepsea crab - Southern Atlantic Coast	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
<b>SHRIMP FISHERY OF THE SOUTH ATLANTIC</b>					
White shrimp - Southern Atlantic Coast	Overfishing (MFMT) is a fishing mortality rate that diminishes the stock below the designated MSY stock abundance ( $B_{MSY}$ ) for two consecutive years.	14,500,000 lbs. tails	MSST is established with two thresholds: (1) if the stock diminishes to $\frac{1}{2}$ MSY abundance ( $\frac{1}{2} B_{MSY}$ ) 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	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 $\frac{1}{2} (B_{MSY})$ for two consecutive years. A proxy for $B_{MSY}$ has not been defined.	not estimated	MSST would be parent stock size less than $\frac{1}{2} (B_{msy})$ for two consecutive years.

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

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Brown shrimp - Southern Atlantic Coast	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 $\frac{1}{2}$ MSY abundance ( $\frac{1}{2} B_{MSY}$ ) 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 = 2.000 individuals per hectare	The proxy for $B_{MSY}$ is CPUE = 2.000 individuals per hectare.
Pink shrimp - Southern Atlantic Coast	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 $\frac{1}{2}$ MSY abundance ( $\frac{1}{2} B_{MSY}$ ) 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.

**SNAPPER-GROUPER FISHERY OF THE SOUTH ATLANTIC REGION**

Black grouper - Southern Atlantic Coast	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
Black sea bass - Southern Atlantic Coast	Overfishing is defined as an F that exceeds MFMT = $F_{MSY}$ .	0.429	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
Gag - Southern Atlantic Coast	Overfishing is defined as an F that exceeds MFMT = $F_{MSY}$ .	0.237	Overfished is defined as a stock size less than MSST, where $MSST = 1-M*SSB_{MSY}$ .	7,925,000 lbs	6,816,000
Gray triggerfish - Southern Atlantic Coast	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
Greater amberjack - Southern Atlantic Coast	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

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

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Lane snapper - Southern Atlantic Coast	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
Red grouper - Southern Atlantic Coast	Overfishing is defined as an F that exceeds MFMT = $F_{MSY}$ where $F_{MSY} = F_{30\%SPR}$ .	0.221	Overfished is defined as a stock size less than MSST. $MSST = 1-M*SSB_{MSY}$ .	2592 mt	2229 mt
Red porgy - Southern Atlantic Coast	Overfishing is defined as an F that exceeds MFMT = $F_{MSY}$ .	0.20	Overfished is defined as a stock size less than MSST. $MSST = (1-M)B_{MSY}$ and $M = 0.225$ .	3,236 mt	2,508 mt
Red snapper - Southern Atlantic Coast	Overfishing is defined as an F that exceeds MFMT = $F_{MSY}$ .	0.178	Overfished is defined as a stock size less than MSST. $MSST = 1-M*B_{MSY}$ .	156 mt	144 mt
Scamp - Southern Atlantic Coast	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
Snowy grouper - Southern Atlantic Coast	Overfishing is defined as an F that exceeds MFMT = $F_{MSY}$ .	0.05	Overfished is defined as a stock size less than MSST. $MSST = SSB_{MSY}(0.75)$ .	4.37 million lbs.	3.50 million lbs.
Speckled hind - Southern Atlantic Coast	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
Tilefish - Southern Atlantic Coast	Overfishing is defined as an F that exceeds MFMT = $F_{MSY}$ .	0.043	Overfished is defined as a stock size less than MSST. $MSST = SSB_{MSY}(0.75)$ .	1.82 million lbs.	1.45 million lbs.
Vermilion snapper - Southern Atlantic Coast	Overfishing is defined as an F that exceeds MFMT = $F_{MSY}$ .	0.386	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
Warsaw grouper - Southern Atlantic Coast	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
White grunt - Southern Atlantic Coast	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

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Wreckfish - Southern Atlantic Coast	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
Yellowedge grouper - Southern Atlantic Coast	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
Remaining stocks in South Atlantic Snapper-Grouper FMP	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 - Southern Atlantic Coast / Gulf of Mexico	Overfishing is defined as an F in excess of the fishing mortality rate corresponding to a 40% Static SPR in the South Atlantic and 50% Static SPR in the Gulf of Mexico.	Unknown	South Atlantic - Overfished is defined as a stock size less than MSST. Gulf of Mexico - Overfished is undefined.	not estimated	See Overfished Definition
Mutton snapper - Southern Atlantic Coast / Gulf of Mexico	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
Yellowtail snapper - Southern Atlantic Coast / Gulf of Mexico	Overfishing is defined as an F that exceeds MFMT = $F_{MSY}$ where $F_{MSY} = F_{30\%SPR}$ .	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

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

Fire Corals, Hydrocorals, Octocorals, Stony Corals, Black Corals	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
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National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
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**PELAGIC SARGASSUM HABITAT OF THE SOUTH ATLANTIC REGION**

Sargassum - Southern Atlantic Coast	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 AND WAHOO FISHERY OF THE ATLANTIC**

Wahoo - Southern Atlantic Coast	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
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**DOLPHIN AND WAHOO FISHERY OF THE ATLANTIC / COASTAL MIGRATORY PELAGICS OF THE GULF OF MEXICO AND SOUTH ATLANTIC**

Dolphinfish - Southern Atlantic Coast / Gulf of Mexico	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% $B_{MSY}$ .	$B_{1998}/B_{msy} = 1.56$ ; Bmsy not estimated.	$B_{1998}/MSST > 1$ ; MSST not estimated
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**COASTAL MIGRATORY PELAGIC RESOURCES OF THE GULF OF MEXICO AND SOUTH ATLANTIC**

Cobia - Gulf of Mexico	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
King mackerel - Gulf of Mexico	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

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
King mackerel - Southern Atlantic Coast	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
Little tunny - Gulf of Mexico	Overfishing is defined as an F that exceeds MFMT = $F_{MSY}$ where $F_{MSY} = F_{30\%SPR}$ .	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
Spanish mackerel - Gulf of Mexico	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 - Southern Atlantic Coast	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)

**SPINY LOBSTER IN THE GULF OF MEXICO AND SOUTH ATLANTIC**

Caribbean spiny lobster - Southern Atlantic Coast / Gulf of Mexico	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
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**STONE CRAB FISHERY OF THE GULF OF MEXICO**

Stone crabs (Menippe spp.) - Gulf of Mexico	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.	$F_{msy}$ is not known	Undefined	Undefined	Undefined
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**SHRIMP FISHERY OF THE GULF OF MEXICO**

Brown shrimp - Gulf of Mexico	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
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National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Pink shrimp - Gulf of Mexico	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
Royal red shrimp - Gulf of Mexico	Fishing mortality rate that results in an annual catch exceeding MSY for 2 consecutive years. MSY is equal to a range of 392,000 to 650,000 pounds and overfishing occurs if the lower level of this range is exceeded.	OY = 392,000 - 650,000 pounds of tails.	Undefined	Undefined	Undefined
White shrimp - Gulf of Mexico	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

**REEF FISH RESOURCES OF THE GULF OF MEXICO**

Black grouper - Gulf of Mexico	Overfishing occurs when the fishing mortality rate exceeds that associated with a 30% static SPR.	0.216	Overfished is defined as a stock size less than $MSST = (1-M)*SSB_{MSY}$ .	5.92 million lbs.	5.12 million lbs.
Gag - Gulf of Mexico	Overfishing is defined as a fishing mortality rate that exceeds $MFMT = F_{max}$ .	0.22	Overfished is defined as a stock size less than $MSST = (1-M)*SSB_{MSY}$ .	24.02 million lbs.	20.41 million lbs.
Gray triggerfish - Gulf of Mexico	Overfishing occurs when the fishing mortality rates exceeds that associated with a 30% static SPR.	0.45	Overfished is defined as a stock size less than $MSST = (1-M)*SSB_{MSY}$ .	1.316 trillion eggs	1.21 trillion eggs
Greater amberjack - Gulf of Mexico	Overfishing occurs when the fishing mortality rate exceeds that associated with a 30% static SPR.	0.333	Overfished is defined as a stock size less than $MSST = (1-M)*BMSY$ .	14.73 million lbs.	11.048 million lbs.
Red grouper - Gulf of Mexico	Overfishing is defined as a fishing mortality rate that exceeds $MFMT = F_{MSY}$ .	0.187	Overfished is defined as a stock size less than $MSST = (1-M)*SSB_{MSY}$ .	712.7 mt	612.9 mt



National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Red snapper - Gulf of Mexico	Overfishing occurs when the fishing mortality rate exceeds that associated with a 26% static SPR.	0.53	A stock is overfished when the relative spawning potential drops below the MSST = (1-M)*B26%.	10.16	9.14
Vermilion snapper - Gulf of Mexico	Overfishing occurs when the fishing mortality rate exceeds that associated with a 30% static SPR.	0.81	A stock is overfished when the relative spawning potential drops below the MSST = (1-M)*B30%.	71.4 trillion eggs	68.8 trillion eggs

**RED DRUM FISHERY OF THE GULF OF MEXICO**

Red drum - Gulf of Mexico	Overfishing occurs when the fishing mortality rates exceeds that associated with a 30% static SPR.	F30%SPR = 0.50	Undefined	Undefined	Undefined
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**SPINY LOBSTER FISHERY OF PUERTO RICO AND THE U.S. VIRGIN ISLANDS**

Caribbean spiny lobster - Caribbean	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.
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**QUEEN CONCH RESOURCES OF PUERTO RICO AND THE U.S. VIRGIN ISLANDS**

Queen conch - Caribbean	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.
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**REEF FISH FISHERY OF PUERTO RICO AND THE U.S. VIRGIN ISLANDS**

Caribbean Grouper Unit 1	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.				
Caribbean Grouper Unit 2	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.				
Caribbean Grouper Unit 3	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.

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Caribbean Grouper Unit 4	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.					
Caribbean Snapper Unit 1	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.					
Caribbean Snapper Unit 2	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.
Caribbean Snapper Unit 3	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.
Caribbean Snapper Unit 4	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.

COASTAL PELAGIC SPECIES

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Jack mackerel - Pacific Coast	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	Undefined	Undefined	Undefined
Northern anchovy - Southern Pacific Coast	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	Undefined	Undefined	Undefined
Opalescent inshore squid - Pacific Coast	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.	not estimated	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	not estimated

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Pacific chub mackerel - Pacific Coast	Overfishing occurs whenever catch exceeds ABC, which is the annual value of the MSY control rule	0.155	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 - Pacific Coast	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

**U.S. WEST COAST FISHERIES FOR HIGHLY MIGRATORY SPECIES**

Skipjack tuna - Eastern Tropical Pacific	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
Striped marlin - Eastern Tropical Pacific	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
Yellowfin tuna - Eastern Tropical Pacific	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. ( $M=0.8$ ),	372,909 mt	186,454 mt

**U.S. WEST COAST FISHERIES FOR HIGHLY MIGRATORY SPECIES / PACIFIC PELAGICS FISHERIES OF THE WESTERN PACIFIC REGION**

Albacore tuna - North Pacific	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
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National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Bigeye thresher - North Pacific	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
Pacific bluefin tuna - Pacific	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.	61,907.25 mt	82,543 mt
Pelagic thresher - North Pacific	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 - North Pacific	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
Thresher shark - North Pacific	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

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
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PACIFIC COAST GROUND FISH

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
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.	11,267 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
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
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 $F_{50\%}$ rockfish (including thornyheads).	490 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
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 $F_{50\%}$ rockfish (including thornyheads).	1,469 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

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
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
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 larvae
Bocaccio	Overfishing occurs when the catch exceeds the fishing mortality rate needed to produce the maximum sustainable yield (F <sub>MSY</sub> ) on a continual basis. The default F <sub>MSY</sub> proxy used for setting acceptable biological catches (ABCs) is for F <sub>50%</sub> rockfish (including thornyheads).	793 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).	3.144 trillion eggs	1.965 trillion eggs
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.	106 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).	536.4 mt	335.25 mt
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.	175 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

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
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).	937 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).	10,397 mt	6,498 mt
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).	3,037 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
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 $F_{50\%}$ rockfish (including thornyheads).	13 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).	873 mt	545 mt
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 $F_{50\%}$ rockfish (including thornyheads).	437 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).	1.153 trillion eggs	0.721 trillion eggs
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.	29,453 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

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
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.	14,326 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
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 $F_{50\%}$ 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
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 $F_{45\%}$ 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
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.	5,278 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).	23,354 mt	14,597 mt
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 $F_{45\%}$ 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



National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
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).	3,766 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).	42,063 mt	26,289 mt
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 $F_{45\%}$ for other groundfish.	3,200 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
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).	1,160 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
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.	187,346 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).	672,400 mt	420,250 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.	2,811 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).	6333.5 mt	3166.75 mt

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
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.	9,914 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).	97,918.8 mt	61,199.25 mt
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).	6,950 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
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).	2,437 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
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 $F_{50\%}$ 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
Splitnose 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 $F_{50\%}$ rockfish (including thornyheads).	615 mt in the Monterey/Concept ion area	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

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
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 $F_{40\%}$ for flatfish and whiting.	1,509 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
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 $F_{50\%}$ rockfish (including thornyheads).	6,950 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).	16,218 million eggs	10,136 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).	31 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).	397.6 million eggs	248.5 million eggs
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).	4,562 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

**PELAGIC FISHERIES OF THE WESTERN PACIFIC REGION**

Albacore - South Pacific	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
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National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Indo-Pacific Blue Marlin - Pacific	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
Skipjack Tuna - Central Western Pacific	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. ( $M > 0.5$ )	0.93	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. ( $M > 0.5$ )	1,480,000 mt	740,000 mt
Striped Marlin - Central Western Pacific	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
Yellowfin Tuna - Central Western Pacific	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

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
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 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**

Bigeye Tuna - Central Western Pacific	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. ( $M = 0.4$ )	0.2	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. ( $M = 0.4$ )	377,200 mt	226,320 mt
Blue Shark - North Pacific	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

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Swordfish - North Pacific	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
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 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

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
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**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 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
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**PRECIOUS CORAL FISHERIES OF THE WESTERN PACIFIC REGION**

Precious Corals Multi-Species Complex - Makapu'u Bed Precious Corals Multi-Species Complex - Conditional Beds Black Coral - Au'au Bed [Black Corals	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, <i>Corallium secundum</i> .	not estimated	not estimated
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**BOTTOMFISH AND SEAMOUNT GROUND FISH FISHERIES OF THE WESTERN PACIFIC REGION**

Bottomfish Multi-Species Complex - Hawaiian Archipelago	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 - Guam	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.

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Bottomfish Multi-Species Complex - Northern Mariana Islands Bottomfish Multi-Species Complex - American Samoa Seamount Groundfish Complex - Hancock Seamount	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.

**CORAL REEF ECOSYSTEMS OF THE WESTERN PACIFIC REGION**

Coral Reef Ecosystem Multi-Species Complex - Hawaiian Archipelago, Bigeye Scad - Hawaiian Archipelago, Mackerel Scad - Hawaiian Archipelago, Coral Reef Ecosystem Multi-Species Complex - American Samoa, Coral Reef Ecosystem Multi-Species Complex - Northern Mariana Islands, Coral Reef Ecosystem Multi-Species Complex - Guam, Coral Reef Ecosystem Multi-Species Complex - Pacific remote island areas	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
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National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
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GROUND FISH OF THE GULF OF ALASKA

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Arrowtooth flounder - Gulf of Alaska	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).	261,022 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.	418,969 mt	not available
Atka mackerel - Gulf of Alaska	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 <sub>MSY</sub> estimate exists. Therefore, no MSST is defined.	undefined	undefined
Big skate - Gulf of Alaska	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 <sub>MSY</sub> estimate exists. Therefore, no MSST is defined.	undefined	undefined
Dover Sole (indicator species for Deepwater Flatfish Complex)	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).	11,758 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.	12,468 mt	not available

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Dusky Rockfish (indicator species for Pelagic Shelf Rockfish Complex)	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).	5803 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: 1/2 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: 1/2 BMSY is one of 2 reference points used in defining MSST.	16,764 mt	not available
Flathead sole - Gulf of Alaska	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).	57,911 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: 1/2 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: 1/2 BMSY is one of 2 reference points used in defining MSST.	39,160 mt	not available
Gulf of Alaska Blackspotted and Rougheye Rockfish Complex	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).	1545 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: 1/2 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: 1/2 BMSY is one of 2 reference points used in defining MSST.	8912 mt	not available
Gulf of Alaska Other Skates Complex	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 <sub>MSY</sub> estimate exists. Therefore, no MSST is defined.	undefined	undefined

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Gulf of Alaska Other Slope Rockfish Complex	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).	6821 mt	No $B_{MSY}$ estimate exists. Therefore, no MSST is defined.	undefined	undefined
Gulf of Alaska Shallow Water Flatfish Complex	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
Gulf of Alaska Skate Complex	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).	11,904 mt	No $B_{MSY}$ estimate exists. Therefore, no MSST is defined.	undefined	undefined
Longnose skate - Gulf of Alaska	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
Northern rockfish - Western / Central Gulf of Alaska	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: $\frac{1}{2}$ 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: $\frac{1}{2}$ BMSY is one of 2 reference points used in defining MSST.	21,481 mt	not available

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Pacific cod - Gulf of Alaska	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).	66,600 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.	89,688 mt	not available
Pacific ocean perch - Gulf of Alaska	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).	17,940 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.	79,664 mt	not available
Rex sole - Gulf of Alaska	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).	11,756 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.	19,421 mt	not available
Shortraker rockfish - Gulf of Alaska	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 <sub>MSY</sub> estimate exists. Therefore, no MSST is defined.	undefined	undefined
Shortspine Thornyhead (indicator species for Thornyhead Rockfish Complex)	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 <sub>MSY</sub> estimate exists. Therefore, no MSST is defined.	undefined	undefined
Walleye pollock - Eastern Gulf of Alaska	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 <sub>MSY</sub> estimate exists. Therefore, no MSST is defined.	undefined	undefined

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Walleye pollock - Western / Central Gulf of Alaska	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).	58,590 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: 1/2 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: 1/2 BMSY is one of 2 reference points used in defining MSST.	241,500 mt	not available
Yelloweye Rockfish (indicator species for Demersal Shelf Rockfish Complex)	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).	580 mt	No B <sub>MSY</sub> estimate exists. Therefore, no MSST is defined.	undefined	undefined

**GROUND FISH OF THE BERING SEA AND ALEUTIAN ISLANDS MANAGEMENT AREA**

Alaska plaice - Bering Sea / Aleutian Islands	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).	298,000 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: 1/2 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: 1/2 BMSY is one of 2 reference points used in defining MSST.	155,925 mt	not available
Arrowtooth Flounder (indicator stock for Bering Sea / Aleutian Islands Arrowtooth Flounder Complex)	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).	190,000 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: 1/2 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: 1/2 BMSY is one of 2 reference points used in defining MSST.	244,650 mt	not available

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Atka mackerel - Aleutian Islands	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).	99,400 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.	91,350 mt	not available
Bering Sea / Aleutian Islands Blackspotted and Rougheye Rockfish Complex	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).	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.	6,034 mt	not available
Bering Sea / Aleutian Islands Other Flatfish Complex	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).	23,100 mt	No B <sub>MSY</sub> estimate exists. Therefore, no MSST is defined.	undefined	undefined
Bering Sea / Aleutian Islands Other Rockfish Complex	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).	1,380 mt	No B <sub>MSY</sub> estimate exists. Therefore, no MSST is defined.	undefined	undefined

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Bering Sea / Aleutian Islands Other Species Complex	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).	80,800 mt	No $B_{MSY}$ estimate exists. Therefore, no MSST is defined.	undefined	undefined
Bering Sea / Aleutian Islands Squid Complex	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
Flathead Sole (indicator stock for Bering Sea / Aleutian Islands Flathead Sole Complex)	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).	83,800 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: $\frac{1}{2}$ 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: $\frac{1}{2}$ BMSY is one of 2 reference points used in defining MSST.	117,610 mt	not available
Greenland halibut - Bering Sea / Aleutian Islands	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).	14,800 mt	A stock is overfished when it falls below its MSST, defined as whichever of the following is greater: $\frac{1}{2}$ 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: $\frac{1}{2}$ BMSY is one of 2 reference points used in defining MSST.	21,759 mt	not available

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Northern Rock Sole (indicator stock for Bering Sea / Aleutian Islands Rock Sole Complex)	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).	301,000 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.	259,000 mt	not available
Northern rockfish - Bering Sea / Aleutian Islands	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).	8,540 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.	44,285 mt	not available
Pacific cod - Bering Sea / Aleutian Islands	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).	212,000 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.	336,000 mt	not available
Pacific ocean perch - Bering Sea / Aleutian Islands	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).	22,300 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.	137,849 mt	not available
Shortraker rockfish - Bering Sea / Aleutian Islands	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).	516 mt	No $B_{MSY}$ estimate exists. Therefore, no MSST is defined.	undefined	undefined



National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Walleye Pollock - Aleutian Islands	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).	32,600 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.	94,771 mt	not available
Walleye Pollock - Bogoslof	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 <sub>MSY</sub> estimate exists. Therefore, no MSST is defined.	undefined	undefined
Walleye Pollock - Eastern Bering Sea	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).	977,000 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.	1,948,000 mt	not available
Yellowfin sole - Bering Sea / Aleutian Islands	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).	224,000 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.	374,000 mt	not available

**GROUND FISH OF THE GULF OF ALASKA / GROUND FISH OF THE BERING SEA AND ALEUTIAN ISLANDS MANAGEMENT AREA**

Sablefish	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).	20,850 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.	96,345 mt	not available
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National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
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BERING SEA / ALEUTIAN ISLANDS KING AND TANNER CRABS

Blue King Crab - Pribilof Islands	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).	1.81 mt	A stock is overfished when it falls below MSST, which is equal to ½ the MSY stock size	4,209.34 mt	2,104.67 mt
Blue King Crab - Saint Matthews Island	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).	780.18 mt	A stock is overfished when it falls below MSST, which is equal to ½ the MSY stock size	3,112.1 mt	1,556.18 mt
Golden King Crab - Aleutian Islands	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).	4,163.97 mt	Overfished is not defined	undefined	undefined
Golden King Crab - Pribilof Islands	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).	77.11 mt	Overfished is not defined	undefined	undefined
Red King Crab - Bristol Bay	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).	10,251.19 mt	A stock is overfished when it falls below MSST, which is equal to ½ the MSY stock size	28,440.24 mt	14,220.12 mt
Red King Crab - Western Aleutian Islands	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).	226.8 mt	Overfished is not defined	undefined	undefined
Red King Crab - Norton Sound	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).	322.05 mt	A stock is overfished when it falls below MSST, which is equal to ½ the MSY stock size	1,415.21 mt	707.6 mt

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Red King Crab - Pribilof Islands	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).	226.8 mt	A stock is overfished when it falls below MSST, which is equal to $\frac{1}{2}$ the MSY stock size	3,828.32 mt	1,914.16 mt
Snow Crab - Bering Sea	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).	33,098.64 mt	A stock is overfished when it falls below MSST, which is equal to $\frac{1}{2}$ the MSY stock size	133,220.08 mt	66,610.04 mt
Southern Tanner Crab - Bering Sea	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).	2,267.96 mt	A stock is overfished when it falls below MSST, which is equal to $\frac{1}{2}$ the MSY stock size	83,279.56 mt	41,639.78 mt

SCALLOP FISHERY OFF ALASKA

Weathervane Scallop - Alaska	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
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SALMON FISHERIES IN THE EEZ OFF THE COAST OF ALASKA

Alaska Coho Salmon Assemblage	The Alaska coho salmon assemblage is subject to overfishing when the exploitation rate of any of the 4 indicator stocks is exceeded.		The Alaska coho salmon assemblage is overfished when adult spawner escapement (natural only) of any of the 4 indicator stocks is below the 50% MSY escapement goal from the most recent $T_{\text{coho}}$ years.		
	Indicator stock: Coho salmon - Auke Creeke	0.732	Indicator stock: Coho salmon - Auke Creeke	1360	680
	Indicator stock: Coho salmon - Berners River	0.668	Indicator stock: Coho salmon - Berners River	25,200	12,600
	Indicator stock: Coho salmon - Ford Arm Lake	0.858	Indicator stock: Coho salmon - Ford Arm Lake	8,200	4,100
	Indicator stock: Coho salmon - Hugh Smith Lake	0.85	Indicator stock: Coho salmon - Hugh Smith Lake	3,400	1,700
Chinook salmon - Eastern North Pacific Far North Migrating	The stock is subject to overfishing when catch of adult spawners (hatchery + natural) exceeds the level associated with the 50% escapement goal.	1,505,215	The stock is overfished when adult spawner escapement (hatchery + natural) is below the 50% escapement goal from the most recent $T_{\text{chin}}$ years.	1,291,350	645,675

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
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FISH RESOURCES OF THE ARCTIC MANAGEMENT AREA

Arctic Cod - Arctic management area	Overfishing is defined as an annual catch in excess of the OFL, where the OFL is based on fishing at the arithmetic mean estimate of FMSY.	0.7	A stock is overfished if it falls below Bmsy.	8,298 mt	8,298 mt
Saffron Cod - Arctic management area	Overfishing is defined as an annual catch in excess of the OFL, where the OFL is based on fishing at the arithmetic mean estimate of FMSY.	0.62	A stock is overfished if it falls below Bmsy.	953 mt	953 mt
Snow Crab - Arctic management area	Overfishing is defined as an annual catch in excess of the OFL, where the OFL is based on fishing at the arithmetic mean estimate of FMSY.	0.36	A stock is overfished if it falls below ½ Bmsy.	1,268 mt	634 mt

CONSOLIDATED ATLANTIC HIGHLY MIGRATORY SPECIES

Albacore - North Atlantic	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 $M > 0.5$ . $MSST=0.7B_{msy}$	53,660 mt	37,562 mt
Atlantic Large Coastal Shark Complex	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 $MSST = BLIMIT = (1-M)B_{MSY}$ when $M < 0.5$ ; $MSST = BLIMIT = 0.5B_{MSY}$ when $M > 0.5$ .	not estimated	not estimated
Atlantic Pelagic Shark Complex	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
Atlantic Sharpnose Shark - Atlantic	Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$ .	0.19	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 $M > 0.5$ .	4,620,000 fish	3,234,000 fish

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Atlantic Small Coastal Shark Complex	Overfishing occurs when the MFMT is exceeded, which is set at $F_{\text{limit}} = F_{\text{MSY}}$ .	0.091	A stock is overfished when the stock level biomass falls below MSST, which is set at $MSST = B_{\text{LIMIT}} = (1-M)B_{\text{MSY}}$ when $M < 0.5$ ; $MSST = B_{\text{LIMIT}} = 0.5B_{\text{MSY}}$ when $M > 0.5$ .	29,783,000 fish	21,979,854 fish
Bigeye Tuna - Atlantic	Overfishing occurs when the MFMT is exceeded, which is set at $F_{\text{limit}} = F_{\text{MSY}}$ .	0.201	A stock is overfished when the stock level biomass falls below MSST, which is set at $MSST = B_{\text{LIMIT}} = (1-M)B_{\text{MSY}}$ when $M < 0.5$ ; $MSST = B_{\text{LIMIT}} = 0.5B_{\text{MSY}}$ when $M > 0.5$ . $MSST=0.6B_{\text{msy}}$	451,800 mt	271,080 mt
Blacknose Shark - Atlantic	Overfishing occurs when the MFMT is exceeded, which is set at $F_{\text{limit}} = F_{\text{MSY}}$ .	0.07	A stock is overfished when the stock level biomass falls below MSST, which is set at $MSST = B_{\text{LIMIT}} = (1-M)B_{\text{MSY}}$ when $M < 0.5$ ; $MSST = B_{\text{LIMIT}} = 0.5B_{\text{MSY}}$ when $M > 0.5$ . From 2002 stock assessment and 2003 Amendment 1.	570,753 fish	427,209 fish
Blacktip Shark - Gulf of Mexico	Overfishing occurs when the MFMT is exceeded, which is set at $F_{\text{limit}} = F_{\text{MSY}}$ .	0.2	A stock is overfished when the stock level biomass falls below MSST, which is set at $MSST = B_{\text{LIMIT}} = (1-M)B_{\text{MSY}}$ when $M < 0.5$ ; $MSST = B_{\text{LIMIT}} = 0.5B_{\text{MSY}}$ when $M > 0.5$ .	17,773 mt	15,161 mt
Blacktip Shark - South Atlantic	Overfishing occurs when the MFMT is exceeded, which is set at $F_{\text{limit}} = F_{\text{MSY}}$ .	0.2	A stock is overfished when the stock level biomass falls below MSST, which is set at $MSST = B_{\text{LIMIT}} = (1-M)B_{\text{MSY}}$ when $M < 0.5$ ; $MSST = B_{\text{LIMIT}} = 0.5B_{\text{MSY}}$ when $M > 0.5$ .	8,667 mt	7,453 mt
Blue Marlin - North Atlantic	Overfishing occurs when the MFMT is exceeded, which is set at $F_{\text{limit}} = F_{\text{MSY}}$ .	not available	A stock is overfished when the stock level biomass falls below MSST, which is set at $MSST = B_{\text{LIMIT}} = (1-M)B_{\text{MSY}}$ when $M < 0.5$ ; $MSST = B_{\text{LIMIT}} = 0.5B_{\text{MSY}}$ when $M > 0.5$ .	not available	not available
Blue Shark - Atlantic	Overfishing occurs when the MFMT is exceeded, which is set at $F_{\text{limit}} = F_{\text{MSY}}$ .	not estimated	A stock is overfished when the stock level biomass falls below MSST, which is set at $MSST = B_{\text{LIMIT}} = (1-M)B_{\text{MSY}}$ when $M < 0.5$ ; $MSST = B_{\text{LIMIT}} = 0.5B_{\text{MSY}}$ when $M > 0.5$ .	not estimated	not estimated

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Bluefin Tuna - Western Atlantic	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 $M > 0.5$ . $MSST=0.86SSB_{msy}$	not available	not available
Bonnethead - Atlantic	Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$ .	0.31	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 $M > 0.5$ .	1,920,000 fish	1,336,320 fish
Dusky Shark - Atlantic	Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$ .	0.006	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.	5,320 mt	4,740 mt
Finetooth Shark - Atlantic	Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$ .	0.03	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 $M > 0.5$ .	3,199,000 fish	2,444,036 fish
Longbill Spearfish - Western Atlantic	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
Porbeagle - Atlantic	Overfishing occurs when the MFMT is exceeded, which is set at $F_{limit} = F_{MSY}$ .	0.025-0.075	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 $M > 0.5$ .	23,825 mt ww	20,251.3 mt ww
Sailfish - Western Atlantic	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

National Marine Fisheries Service - 2010 Status of U.S. Fisheries

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Sandbar Shark - Atlantic	Overfishing occurs when the MFMT is exceeded, which is set at $F_{\text{limit}} = F_{\text{MSY}}$ .	0.015	A stock is overfished when the stock level biomass falls below MSST, which is set at $MSST = B_{\text{LIMIT}} = (1-M)B_{\text{MSY}}$ when $M < 0.5$ ; $MSST = B_{\text{LIMIT}} = 0.5B_{\text{MSY}}$ when $M > 0.5$ . $M = 0.1$ to $0.2$ , depending on age	594 mt	475-535 mt
Shortfin Mako - Atlantic	Overfishing occurs when the MFMT is exceeded, which is set at $F_{\text{limit}} = F_{\text{MSY}}$ .	not estimated	A stock is overfished when the stock level biomass falls below MSST, which is set at $MSST = B_{\text{LIMIT}} = (1-M)B_{\text{MSY}}$ when $M < 0.5$ ; $MSST = B_{\text{LIMIT}} = 0.5B_{\text{MSY}}$ when $M > 0.5$ .	not estimated	not estimated
Skipjack Tuna - Western Atlantic	Overfishing occurs when the MFMT is exceeded, which is set at $F_{\text{limit}} = F_{\text{MSY}}$ .	not estimated	A stock is overfished when the stock level biomass falls below MSST, which is set at $MSST = B_{\text{LIMIT}} = (1-M)B_{\text{MSY}}$ when $M < 0.5$ ; $MSST = B_{\text{LIMIT}} = 0.5B_{\text{MSY}}$ when $M > 0.5$ .	not estimated	not estimated
Swordfish - North Atlantic	Overfishing occurs when the MFMT is exceeded, which is set at $F_{\text{limit}} = F_{\text{MSY}}$ .	0.222	A stock is overfished when the stock level biomass falls below MSST, which is set at $MSST = B_{\text{LIMIT}} = (1-M)B_{\text{MSY}}$ when $M < 0.5$ ; $MSST = B_{\text{LIMIT}} = 0.5B_{\text{MSY}}$ when $M > 0.5$ .	61,861 mt	not available
White Marlin - North Atlantic	Overfishing occurs when the MFMT is exceeded, which is set at $F_{\text{limit}} = F_{\text{MSY}}$ .	not available	A stock is overfished when the stock level biomass falls below MSST, which is set at $MSST = B_{\text{LIMIT}} = (1-M)B_{\text{MSY}}$ when $M < 0.5$ ; $MSST = B_{\text{LIMIT}} = 0.5B_{\text{MSY}}$ when $M > 0.5$ .	not available	not available
Yellowfin Tuna - Western Atlantic	Overfishing occurs when the MFMT is exceeded, which is set at $F_{\text{limit}} = F_{\text{MSY}}$ .	not available	A stock is overfished when the stock level biomass falls below MSST, which is set at $MSST = B_{\text{LIMIT}} = (1-M)B_{\text{MSY}}$ when $M < 0.5$ ; $MSST = B_{\text{LIMIT}} = 0.5B_{\text{MSY}}$ when $M > 0.5$ . For Yellowfin Tuna, $MSST = 0.5B_{\text{MSY}}$ .	not available	not available

**STOCKS MANAGED UNDER AN INTERNATIONAL AGREEMENT**

**PACIFIC HALIBUT**

Stock	Overfishing Definition	Estimate of Overfishing	Overfished Definition	Estimate of Bmsy or Proxy	Estimate of Overfished
Pacific Halibut - Pacific Coast / Alaska	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.