



THE SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

Acceptable Biological Catch Control Rule

Stock Risk Rating

Decision Document, December 2024

Background

Under the Acceptable Biological Catch (ABC) Control Rule, as revised in 2024, the Council incorporates an evaluation of how much risk of overfishing to accept for each stock based on biological, fishery (human interaction), and environmental attributes affecting the stock. Input on these attributes will be provided ahead of each assessment by the appropriate advisory panel and Scientific and Statistical Committee, and the Council will consider this input in determining the appropriate risk level (conveyed as a Stock Risk Rating of High, Medium, or Low) to apply in the ABC Control Rule. Risk Ratings will be used with relative biomass levels estimated through a stock assessment to determine the probability of overfishing that would be acceptable for that stock (P*).

Final Risk Scores (numeric) for South Atlantic snapper grouper species, dolphin, and wahoo are ranked and apportioned into thirds to determine the final Stock Risk Ratings (categorical). Based on current scores, stocks are considered:

High Risk: Final Risk Score is less than 2.03,

Medium Risk: Final Risk Score is between 2.03 and 2.35

Low Risk: Final Risk Score is greater than 2.35

(NOTE: These thresholds may change as scores are updated).

Stock Risk Rating	High Biomass Biomass exceeds B_{MSY}	Moderate Biomass Biomass is ABOVE the midpoint between B_{MSY} and MSST	Low Biomass Biomass is below the midpoint between B_{MSY} and MSST
Low	45%	45%	40%
Medium	45%	40%	30%
High	40%	30%	20%

Description of Attributes

Attributes are divided into 3 categories: biological, human dimension, and environmental. Attributes are scored as having a High (1), Medium (2), or Low (3) risk of overfishing. Attribute scores within each category are averaged. Then category averages are averaged to calculate the Risk Score.

Default criteria for scoring each attribute have been developed by the SSC, and staff have provided associated data. However, the Council can divert from the default criteria and scoring method if it decides the default method does not adequately convey the current state of that attribute of the fishery. A decision to divert from default scoring should be supported through Council discussions.

Biological Attributes

Species biology can affect the stock's resistance to overfishing or the ability to rebuild quickly if it becomes overfished. If overfishing (fish being removed from the population too fast) occurs, stocks with a high risk of overfishing are more likely to become overfished (too little biomass in the population to produce maximum sustainable yield). Additionally, overfished stocks with a high biological risk of overfishing are likely to be subject to longer rebuilding timeframes.

Estimated Natural Mortality

The natural mortality rate (M) is associated with stock productivity. Species with high M typically need to grow and reproduce quickly for natural species persistence. Additionally, at a given total mortality rate ($M +$ fishing mortality rate [F]), a metric often estimated in stock assessments by tracking age classes through time, a higher M would correspond with a lower F . Populations with higher M are less dependent on the survival of each individual fish than those with lower M . Therefore, stocks with high M have a lower risk of overfishing than those with low M .

Default Criteria:

High Risk (1): $M \leq 0.20$

Medium Risk (2): $0.20 < M < 0.40$

Low Risk (3): $M \geq 0.4$

Age at Maturity

Older age at maturity is associated with lower stock productivity and greater risk of overfishing. Species with an older age at maturity that become overfished would likely take longer to rebuild due to a longer time between the larval and sexually productive life stages. This metric is evaluated according to the estimated age at which 50% of females are sexually mature ($Age_{50\%}$).

Default Criteria:

High Risk (1): $Age_{50\%} \geq 4$ years

Medium Risk (2): $2 \text{ years} < Age_{50\%} < 4$ years

Low Risk (3): $Age_{50\%} \leq 2$ years

Human Dimension Attributes

Fishery dynamics can also affect the risk of overfishing. Greater risk of overfishing is associated with landings regularly exceeding the total annual catch limit (ACL), relatively high proportions of removals as dead discards, high commercial value, high recreational desirability, and social concerns.

Ability to regulate fishery

If management is unable to control harvest and large overages occur on a regular basis, this presents a higher risk of overfishing leading to stock decline. Therefore, the more effective regulations are at limiting harvest to the ACL, the more risk tolerant regulations can be. There are many factors to keep in mind, such as variability and trends in landings, state compatibility and consistency with federal regulations, whether there are significant landings in state waters, and whether to apply a discount for regulatory overages due to changing the ACL mid-season (shouldn't get a poor score because an ACL was suddenly cut in half mid-way through the season).

Default Criteria:

High Risk (1): Total ACL exceeded 3 or more of the last 5 years and/or the Total ACL exceeded by more than 15%

Medium Risk (2): Total ACL exceeded 1-2 of the last 5 years and/or the Total ACL exceeded by less than 15%

Low Risk (3): Landings consistently below the Total ACL

Potential for discard losses

If a species is prone to discard losses, either from large amounts of discarding, a high discard mortality rate, or both, then being too risk tolerant when setting catch limits can more easily lead to overfishing. In these situations, the Council should be less risk tolerant when setting catch limits for the stock. The use of dead discard removals to evaluate this attribute accounts for both proportions of caught fish that are released and the discard mortality rate.

Default Criteria:

High Risk (1): Dead discards $\geq 40\%$ of removals

Medium Risk (2): 20% of removals $<$ dead discards $< 40\%$ of removals

Low Risk (3): Dead discards $\leq 20\%$ of removals

Annual commercial value

This attribute evaluates the importance (value) of a species to either the total annual revenue of all the species in the FMP or the relative importance of a species on trips that catch that species. It also considers the long-term implications of risk on that stock. Therefore, the higher the proportion of the value of the stock in question to the total annual value or total trip value, the less risk tolerant the Council should be when setting catch limits. Species with a high commercial value can be susceptible to overfishing because fishermen would be expected to spend extra time, if necessary, to reach trip and annual limits for these species. This could lead to persistence of high catches even if stock abundance declines.

Two sets of criteria are evaluated for this attribute: annual and per trip revenue.

Default Criteria:

High Risk (1): >10% of total annual revenue or >40% of average revenue per trip

Medium Risk (2): 1-10% of total annual revenue or 10-40% of average revenue per trip

Low Risk (3): <1% of total annual revenue or <10% of average revenue per trip

Recreational desirability

This attribute also evaluates the importance of a species, but for the recreational fishery. This is determined by estimating the proportion of trips reported targeting this species (landing or declaring as the primary or secondary target species) within an FMP. The assumption is the higher the proportion of trips reported targeting a species, the more important the species is to the recreational fishery overall. Similar to the commercial value, recreational fishermen would be expected to expend more effort for more desirable species, potentially allowing high catches to persist even if abundance declines. This attribute also considers long-term implications of risk on the stock, meaning the more important it is to the fishery, the less risk tolerant the Council should be when setting catch limits.

Default Criteria:

High Risk (1): >5% of trips report targeting this species

Medium Risk (2): 1-5% of trips report targeting this species

Low Risk (3): <1% of trips report targeting this species

Social concerns

This attribute examines the social importance of a species to communities in the South Atlantic. The categories are determined using the Social Quotient, which is calculated using data such as revenue, landings, and directed trips for a particular species in relation to all other species affecting communities in the South Atlantic. This attribute considers long-term costs and benefits over short-term effects. If a stock is of high social concern, then the Council should be less risk tolerant when setting catch limits. This is because if a biomass decline occurs for a stock with high social concern, it will have a stronger negative effect on fishing communities than stocks of less social concern.

Information used to evaluate this attribute for red snapper, golden tilefish, blueline tilefish, mutton snapper, and yellowtail snapper in fall of 2024 was developed at the county level, each of which can include several communities. Therefore, the risk evaluation deviated from the default criteria originally defined at the community level. If some counties were identified as highly reliant on the species, additional risk was estimated.

Default Criteria:

High Risk (1): >13 communities highly reliant on this species

Medium Risk (2): 7-13 communities highly reliant on this species

Low Risk (3): <7 communities highly reliant on this species

Environmental Attributes

While environmental factors can play a significant role in stock susceptibility to overfishing, we have little species-specific information for most species on these attributes. Therefore, these attributes work as switches. They are either off (no score is present), or on (they are given a score of 1, indicating high risk of overfishing). They act to alert the Council to a stock that is of particular importance to the ecosystem, is becoming more vulnerable to overfishing potentially due to effects of climate change, or is becoming more vulnerable to overfishing due to some other environmental variable. Therefore, these attributes would signal the Council to consider being less risk tolerant with these species.

If any of the following attributes are scored as High Risk (1), the score for the entire category is High Risk (1).

Ecosystem importance

This attribute evaluates a species' importance to the ecosystem in the South Atlantic. The more important it is to the ecosystem (e.g., as a keystone predator or prey, as a habitat builder for other species, etc.), the less risk tolerant the Council should be when setting catch limits.

Climate change

This attribute evaluates negative effects on a stock due to climate change. These changes would likely affect stock productivity or the ability of the Council to successfully manage the stock. Stocks that are more likely to be negatively impacted by climate change should be managed with less risk tolerance.

Other environmental variables

This attribute includes variables that aren't covered in either of the other two attributes, such as regime shifts, conditions unfavorable to recruitment, recruitment failure due to some unknown environmental variable, etc.

Red Snapper

Biological Attributes	High (1)	Medium (2)	Low (3)	Notes	Default Score	AP Score	SSC Score	Council Score
Estimated natural mortality (M)	$M \leq 0.20$	0.20-0.40	$M \geq 0.4$	<p>SEDAR 73 (2021): Constant value was 0.11 (age-dependent estimates were scaled to this value)</p> <p>AP: Red snapper are fast-growing and long-lived, may be less susceptible than most species to overfishing</p>	1	2	1	
Age at maturity	≥ 4 years	2-4 years	≤ 2 years	SEDAR 73 (2021), >50% maturity between 1 and 2 years	3	3	3	
Biological Score					2	2.5	2	
Human Dimension Attributes				Notes	Default Score	AP Score	SSC Score	Council Score
Ability to regulate fishery	Total ACL exceeded 3 or more of the last 5 years and/or the Total ACL exceeded by more than 15%	Total ACL exceeded 1-2 of the last 5 years and/or the Total ACL exceeded by less than 15%	Landings consistently below the Total ACL	<p>Total ACL (2018-2022) exceeded by >15% in 2018, 2019, 2020, 2021</p> <p>Commercial ACL (2018-2022) exceeded by <15% in 2018, 2019, 2020, 2021</p> <p>Recreational ACL (2018-2022) exceeded by >15% in 2018, 2019, 2020, 2021</p> <p>AP: The short recreational season limit and low ACL affect how well management can control landings</p> <p>- 75 lb trip limit contains the</p>	1	2	1	

				variability of commercial harvests, allowing closer adherence to the commercial ACL - Commercial exceedance is not as large as recreational, so recommend 2				
Potential for discard losses	Dead discards ≥ 40% of removals	Dead discards 20%-40% of removals	Dead discards ≤ 20% of removals	SEDAR 73 landings indicated dead discards in last 3 years of the assessment (2017-2019) were >90% of removals (# fish)	1	1	1	
Annual Commercial value	>10% of total annual revenue	1-10% of total annual revenue	<1% of total annual revenue	Between 1% and 10% of total annual revenue for all years 2018-2022 Average 5.8%	3	3	3	
	>40% of average revenue per trip	10-40% of average revenue per trip	<10% of average revenue per trip	Between 10% and 40% of total trip revenue for all years 2018-2022 Average 29.7% AP: Exceeding the ACL was due to timing of management				
Recreational desirability	>5% of trips report targeting this species	1-5% of trips report targeting this species	<1% of trips report targeting this species	2018-2022, annual recreational targeted trips range from 5% to 36% of recreational trips in the region; average of 19%	1	1	1	
Social concerns	>13 communities highly reliant on this species	7-13 communities highly reliant on this species	<7 communities highly reliant on this species	Estimated at the county level, most communities have low reliance on this species	3	3	3	
Human Dimension Score					1.80	2.00	1.80	
Environmental Attributes				Notes	Default Score	AP Score	SSC Score	Council Score

Ecosystem importance	Does this species significantly affect other species, e.g. as a keystone predator, primary prey, habitat builder etc.?					
Climate change	Is this species likely to experience/be experiencing negative stock impacts due to climate change?					
Other Environmental Variables	Are other environmental variables causing negative effects on this stock, e.g. in the form of regime shifts, recruitment failure, etc.?					
Environmental Score			NA	NA	NA	
Final Risk Score		Average of category scores. If Environmental Score is 0 (no scored attributes), that category is not included in the Final Risk Score.	1.90	2.25	1.90	
Stock Risk Rating			High	Medium	High	

Golden Tilefish

Biological Attributes	High (1)	Medium (2)	Low (3)	Notes	Default Score	AP Score	SSC Score	Council Score
Estimated natural mortality (M)	$M \leq 0.20$	0.20-0.40	$M \geq 0.4$	SEDAR 66 (2021): constant natural mortality averaging 0.1038 based on a max age of 40 years	1	1	1	
Age at maturity	≥ 4 years	2-4 years	≤ 2 years	Age at 50% maturity from SEDAR 66 (2021): 3 years	2	2	2	
Biological Score					1.5	1.5	1.5	
Human Dimension Attributes				Notes	Default Score	AP Score	SSC Score	Council Score
Ability to regulate fishery	Total ACL exceeded 3 or more of the last 5 years and/or the Total ACL exceeded by more than 15%	Total ACL exceeded 1-2 of the last 5 years and/or the Total ACL exceeded by less than 15%	Landings consistently below the Total ACL	Total ACL (2018-2022) exceeded by <15% in 2019, 2020 (<1%), 2022 (<1%) Commercial ACL (2018-2022) exceeded by <15% in 2019, 2020, 2021 Recreational ACL (2018-2022) exceeded by >15% in 2018, 2019, 2020, 2021	2	3	2	
Potential for discard losses	Dead discards \geq 40% of removals	Dead discards 20%-40% of removals	Dead discards \leq 20% of removals	Previous assessments have characterized discards as negligible AP: Some caution due to the lack of recreational intercepts and wide variability in recreational catch estimates	3	3	3	
Annual Commercial value	>10% of total annual revenue	1-10% of total annual revenue	<1% of total annual revenue	>10% of total annual revenue for all years 2018-2022 Average 20.3%	1	1	1	

	>40% of average revenue per trip	10-40% of average revenue per trip	<10% of average revenue per trip	>40% of total trip revenue for all years 2018-2022 Average 69.9%				
Recreational desirability	>5% of trips report targeting this species	1-5% of trips report targeting this species	<1% of trips report targeting this species	2018-2022, annual recreational targeted trips range from 0% to 2% of recreational trips in the region; average of 1% AP: Desirability can vary in different parts of the region	3	3	3	
Social concerns	>13 communities highly reliant on this species	7-13 communities highly reliant on this species	<7 communities highly reliant on this species	Estimated at the county level, most communities have low reliance on this species One community is Medium (Dare, NC, commercial) and one is Medium-High (Monroe, FL, recreational) AP: As fishing for other species has become more restrictive and access via boating technology has increased, more interest in this species	2	2	2	
Human Dimension Score					2.20	2.40	2.20	
Environmental Attributes				Notes	Default Score	AP Score	SSC Score	Council Score
Ecosystem importance	Does this species significantly affect other species, e.g. as a keystone predator, primary prey, habitat builder etc.?			Affect habitat through burrowing behavior		1		
Climate change	Is this species likely to experience/be experiencing negative stock impacts due to climate change?							
Other Environmental Variables	Are other environmental variables causing negative effects on this stock, e.g. in the form of regime shifts, recruitment failure, etc.?							
Environmental Score					NA	1.00	NA	

Final Risk Score	Average of category scores. If Environmental Score is 0 (no scored attributes), that category is not included in the Final Risk Score.	1.85	1.63	1.85	
Stock Risk Rating		High	High	High	

Blueline Tilefish

Biological Attributes	High (1)	Medium (2)	Low (3)	Notes	Default Score	AP Score	SSC Score	Council Score
Estimated natural mortality (M)	$M \leq 0.20$	0.20-0.40	$M \geq 0.4$	SEDAR 50 (2017): 0.13 based on meta-analysis growth parameters	1	1	1	
Age at maturity	≥ 4 years	2-4 years	≤ 2 years	No age information used in SEDAR 50 (2017) assessment. Length at maturity estimated as 305 mm. Linf from meta-analysis estimated as 690 mm.				
Biological Score					1.0	1.0	1.0	
Human Dimension Attributes				Notes	Default Score	AP Score	SSC Score	Council Score
Ability to regulate fishery	Total ACL exceeded 3 or more of the last 5 years and/or the Total ACL exceeded by more than 15%	Total ACL exceeded 1-2 of the last 5 years and/or the Total ACL exceeded by less than 15%	Landings consistently below the Total ACL	Total ACL (2018-2022) exceeded by >15% in 2018, 2019, 2020, 2021 Commercial ACL (2018-2022) exceeded by <15% in 2018, 2019, 2021, 2022 Recreational ACL (2018-2022) exceeded by >15% in 2018, 2019, 2020, 2021	1	1	1	
Potential for discard losses	Dead discards $\geq 40\%$ of removals	Dead discards 20%-40% of removals	Dead discards $\leq 20\%$ of removals	SEDAR 50 (2017) characterized dead discards as 3% of total removals (both sectors) for the southern portion of the stock	3	3	3	
Annual Commercial value	>10% of total annual revenue	1-10% of total annual revenue	<1% of total annual revenue	Between 1% and 10% of total annual revenue for all years 2018-2022 Average 3.3%	2	2	2	

	>40% of average revenue per trip	10-40% of average revenue per trip	<10% of average revenue per trip	Between 10% and 40% of total trip revenue for all years 2018-2022 Average 15.1%				
Recreational desirability	>5% of trips report targeting this species	1-5% of trips report targeting this species	<1% of trips report targeting this species	2018-2022, annual recreational targeted trips range from 0% to 2% of recreational trips in the region; average of <1%	3	3	3	
Social concerns	>13 communities highly reliant on this species	7-13 communities highly reliant on this species	<7 communities highly reliant on this species	Estimated at the county level, most communities have low reliance on this species One community is Medium (Dare, NC, commercial) and two are Medium-High (Dare, NC, recreational and Monroe, FL, recreational)	2	2	2	
Human Dimension Score					2.20	2.20	2.20	
Environmental Attributes				Notes	Default Score	AP Score	SSC Score	Council Score
Ecosystem importance	Does this species significantly affect other species, e.g. as a keystone predator, primary prey, habitat builder etc.?			Affect habitat through burrowing behavior				
Climate change	Is this species likely to experience/be experiencing negative stock impacts due to climate change?				1	1	1	
Other Environmental Variables	Are other environmental variables causing negative effects on this stock, e.g. in the form of regime shifts, recruitment failure, etc.?							
Environmental Score					NA	1.00	NA	
Final Risk Score					1.40	1.40	1.40	
Stock Risk Rating					High	High	High	

Mutton Snapper

Biological Attributes	High (1)	Medium (2)	Low (3)	Notes	Default Score	AP Score	SSC Score	Council Score
Estimated natural mortality (M)	$M \leq 0.20$	0.20-0.40	$M \geq 0.4$	SEDAR 15A (2015): constant natural mortality averaging 0.11 based on a max age of 40 years	1	1	1	
Age at maturity	≥ 4 years	2-4 years	≤ 2 years	SEDAR 15A (2015): 50% mature at 3.7 years AP: Size limit change was a significant measure	2	2	2	
Biological Score					1.5	1.5	1.5	
Human Dimension Attributes				Notes	Default Score	AP Score	SSC Score	Council Score
Ability to regulate fishery	Total ACL exceeded 3 or more of the last 5 years and/or the Total ACL exceeded by more than 15%	Total ACL exceeded 1-2 of the last 5 years and/or the Total ACL exceeded by less than 15%	Landings consistently below the Total ACL	No overages from either sector from 2018-2022 AP: Not meeting ACL in recent years; closed areas where mutton are found in south FL	3	3	3	
Potential for discard losses	Dead discards \geq 40% of removals	Dead discards 20%-40% of removals	Dead discards \leq 20% of removals	SEDAR 79 (2024) using commercial average weight for 2018-2022 of 5.80 lbs: Dead Discards were >40% of removals for all years 2018-2022 Rec dead discards were >51% of recreational removals and commercial dead discards were between 5% and 8% of commercial	3	3	3	

				removals AP: Typically shallow water releases, noting problems with shark depredation				
Annual Commercial value	>10% of total annual revenue	1-10% of total annual revenue	<1% of total annual revenue	Between 1% and 10% of total annual revenue for all years 2018-2022 Average 1.8%	2	3	2	
	>40% of average revenue per trip	10-40% of average revenue per trip	<10% of average revenue per trip	<10% of total trip revenue for all years 2018-2022 Average 6.7% AP: More valuable in lower quantities				
Recreational desirability	>5% of trips report targeting this species	1-5% of trips report targeting this species	<1% of trips report targeting this species	2018-2022, annual recreational targeted trips range from 10% to 29% of recreational trips in the region; average of 20% AP: Valued in headboat/charter fishery, effort may taper off due to shark depredation frustration	1	1	1	
Social concerns	>13 communities highly reliant on this species	7-13 communities highly reliant on this species	<7 communities highly reliant on this species	Estimated at the county level, most communities have low reliance on this species One community is Medium (St. John, FL, recreational) and one is Medium-High (Monroe, FL, recreational)	3	3	3	
Human Dimension Score					2.40	2.60	2.40	
Environmental Attributes				Notes	Default Score	AP Score	SSC Score	Council Score

Ecosystem importance	Does this species significantly affect other species, e.g. as a keystone predator, primary prey, habitat builder etc.?					
Climate change	Is this species likely to experience/be experiencing negative stock impacts due to climate change?					
Other Environmental Variables	Are other environmental variables causing negative effects on this stock, e.g. in the form of regime shifts, recruitment failure, etc.?	AP: Targeting further north in recent years (Jacksonville)				
Environmental Score			NA	1.00	NA	
Final Risk Score		Average of category scores. If Environmental Score is 0 (no scored attributes), that category is not included in the Final Risk Score.	1.95	2.05	1.95	
Stock Risk Rating			High	Medium	High	

Yellowtail Snapper

Biological Attributes	High (1)	Medium (2)	Low (3)	Notes	Default Score	AP Score	SSC Score	Council Score
Estimated natural mortality (M)	$M \leq 0.20$	0.20-0.40	$M \geq 0.4$	SEDAR 64 (2019): constant mortality-at-age = 0.160 using a max age of 28 years; natural mortality at age (M_{at-age}) ranged from 0.385-0.147	1	1	1	
Age at maturity	≥ 4 years	2-4 years	≤ 2 years	SEDAR 64 (2019): in FL waters, 50% of females were sexually mature at 1.7 years	3	3	3	
Biological Score					2.0	2.0	2.0	
Human Dimension Attributes				Notes	Default Score	AP Score	SSC Score	Council Score
Ability to regulate fishery	Total ACL exceeded 3 or more of the last 5 years and/or the Total ACL exceeded by more than 15%	Total ACL exceeded 1-2 of the last 5 years and/or the Total ACL exceeded by less than 15%	Landings consistently below the Total ACL	No rec overages from 2018-2022 Com closures in 2018 and 2019 AP: Commercial overages could be a lag in tracking landings	3	3	3	
Potential for discard losses	Dead discards $\geq 40\%$ of removals	Dead discards 20%-40% of removals	Dead discards $\leq 20\%$ of removals	Releases are often in shallow water, so probably high survival for hook and line Notable recreational fishing observed in SEDAR 64, but different recreational data being used in SEDAR 96 (FL State Reef Fish Survey)	3	3	3	
Annual Commercial value	$>10\%$ of total annual revenue	1-10% of total annual revenue	$<1\%$ of total annual revenue	$>10\%$ of total annual revenue for all years 2018-2022 Average 36.2%	1	1	1	

	>40% of average revenue per trip	10-40% of average revenue per trip	<10% of average revenue per trip	>40% of total trip revenue for all years 2018-2022 Average 83.0%				
Recreational desirability	>5% of trips report targeting this species	1-5% of trips report targeting this species	<1% of trips report targeting this species	2018-2022, annual recreational targeted trips range from 18% to 29% of recreational trips in the region; average of 25% AP: Highly targeted especially with high fuel cost and ability to catch	1	1	1	
Social concerns	>13 communities highly reliant on this species	7-13 communities highly reliant on this species	<7 communities highly reliant on this species	Estimated at the county level; 13 communities analyzed due to species range Most communities have low reliance on this species, but one community is Medium (St. John, FL, recreational) and one is Medium-High (Monroe, FL, recreational) AP: Because of the high importance to the South FL communities, should be high risk. People may be shifting more to YTS with other species becoming more highly regulated.	2	1	2	
Human Dimension Score					2.00	1.80	2.00	
Environmental Attributes				Notes	Default Score	AP Score	SSC Score	Council Score
Ecosystem importance	Does this species significantly affect other species, e.g. as a keystone predator, primary prey, habitat builder etc.?							
Climate change	Is this species likely to experience/be experiencing negative stock impacts due to climate change?							

Other Environmental Variables	Are other environmental variables causing negative effects on this stock, e.g. in the form of regime shifts, recruitment failure, etc.?	Infrastructure impacts on shallow water fish; dependent on coral habitat		1		
Environmental Score			NA	1.00	NA	
Final Risk Score		Average of category scores. If Environmental Score is 0 (no scored attributes), that category is not included in the Final Risk Score.	2.00	1.60	2.00	
Stock Risk Rating			High	High	High	