Stock Risk Rating Worksheets for October 2024 Snapper Grouper Advisory Panel Meeting

		Risk of Overexploitation			Red Snapper		
Biological Attributes	**Description**	**High (1)**	**Medium (2)**	**Low (3)**	**Preliminary Scores**	**AP Recommendation**	**Notes**
Estimated natural mortality (M)	Higher M is associated with a more productive stock and allows for more risk tolerance.	<0.20	0.20-0.40 (mid-point 0.30)	>0.40	1		SEDAR 73 (2021): Constant value was 0.11 (age-dependent estimates were scaled to this value)
Age at maturity	Higher age at maturity is associated with lower productivity and results in greater risk of overexploitation. Rating criteria are based on age at 50% maturity.	>4 yrs	2-4 yrs (mid-point 3.0)	<2 yrs	3		SEDAR 73 (2021), >50% maturity between 1 and 2 years
Bio Weight					1	1	
Final Biological Score	**Each attribute is scored either a 1 (High), a 2 (Medium), or a 3 (Low). The category score is the average of all scored attributes. If no attributes are scored, the category score is 2 (Medium).**				**2**		
Human Dimension Attributes	**Description**	**High (1)**	**Medium (2)**	**Low (3)**			

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 occurring and the stock status declining. 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 compatability and consistency with federal regs, if there are significant landings in state waters, and 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).	fishery consistently exceeds Total ACL (ex. 3+ out of 5 years) and/or exceeds Total ACL by more than 15%	fishery mostly kept below Total ACL (ex. Exceeds ACL 1-2 out of 5 years) and/or does not exceed ACL by more than 15%	fishery consistently kept below Total ACL	1		**Total ACL (2018-2022) exceeded by >15% in 2018, 2019, 2020, 2021** Commercial ACL (2018-2022) exceeded by <15% in 2018, 2019, 2020, 2021 Recreational ACL (2018-2022) exceeded by >15% in 2018, 2019, 2020, 2021
Potential for discard losses	If a species is prone to discard losses, either from large amounts of discarding, a high discard M, 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. In considering proportions of dead discard removals, this attribute accounts for both proportions of caught fish that are released and discard mortality.	Dead discards are a significant proportion of the total catch (over 40%)	Dead discards are a moderate proportion of the total catch (20%-40%)	Dead discards very small component of total catch (<15%-20%)	1		Evaluate in assessment SEDAR 73 landings indicated dead discards in last 3 years of the assessment (2017-2019) were >90% of removals (# fish)
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 and considers the long-	> 10% total annual revenue	Between 1% and 10% of total annual revenue	< 1% total annual revenue	3		**Between 1% and 10% of total annual revenue for all years 2018-2022** Average 5.8%

	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.	> 40% of total trip revenue, on average	Between 10% and 40% of total trip revenue, on average	< 10% total trip revenue, on average			**Between 10% and 40% of total trip revenue for all years 2018-2022** Average 29.7%
Recreational desirability	This attribute also evaluates the importance of a species, but to the recreational fishery. This is determined by estimating the proportion of trips reported targeting this 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. 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. DW was compared to the total targeted trips of SG.	> 5% trips report targeting this species	Between 1% and 5% of trips report targeting this species	< 1% trips report targeting this species	2		2018-2022, annual recreational targeted trips range from 5% to 36% of recreational trips in the region; average of 19%
Social concerns	This attribute examines concerns from a species related 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.	>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
Hum Dim Weight					1	1	

Final Human Dimension Score	**Each attribute is scored either a 1 (High), a 2 (Medium), or a 3 (Low). The category score is the average of all scored attributes. If no attributes are scored, the category score is 2 (Medium).**			**1.75**		
Environmental Attributes	**Description**		**High (1)**			
Ecosystem importance	This attribute evaluates a species' importance to the ecosystem in the South Atlantic. The more important it is to the ecosystem, the less risk tolerant the Council should be when setting catch limits.	These 3 attributes are set up differently from all the rest in that they do not have 3 categories for scoring (Low, Medium, and High). Instead, these attributes function more like an on/off switch. The reasoning is two-fold. First, it is difficult to develop criteria for categorizing a situation as having a Low, Medium, or High effect. Second, there are very few species for which we have enough knowledge and/or data to even attempt to categorize them as being an important ecosystem species or having been affected by climate change.	Important ecosystem species: ex. Predator/prey sp, reef maintenance/building			
Climate change	This attribute evaluates 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 impacted by climate change should be managed with less risk tolerance.		Affected by climate change: ex. Range expansion or collapse, Interaction with new sp, change in habitat availability/suitability			
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.		Regime shifts, environmentally driven recruitment collapse, etc.			
Env Weight				1	1	
Final Environmental Score	**This score is either blank (meaning these attributes have no bearing on the Final Risk Score) or is a 1 if one or more attributes have been scored.**			**0**	**0**	
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.			1.875		
				High		

		Risk of Overexploitation			Golden Tilefish		
Biological Attributes	**Description**	**High (1)**	**Medium (2)**	**Low (3)**	**Preliminary Scores**	**AP Recommendation**	**Notes**
Estimated natural mortality (M)	Higher M is associated with a more productive stock and allows for more risk tolerance.	<0.20	0.20-0.40 (mid-point 0.30)	>0.40	1		SEDAR 66 (2021): constant natural mortality averaging 0.1038 based on a max age of 40 years
Age at maturity	Higher age at maturity is associated with lower productivity and results in greater risk of overexploitation. Rating criteria are based on age at 50% maturity.	>4 yrs	2-4 yrs (mid-point 3.0)	<2 yrs	2		Age at 50% maturity from SEDAR 66 (2021): 3 years
Bio Weight					1	1	
Final Biological Score	**Each attribute is scored either a 1 (High), a 2 (Medium), or a 3 (Low). The category score is the average of all scored attributes. If no attributes are scored, the category score is 2 (Medium).**				**1.5**		
Human Dimension Attributes	**Description**	**High (1)**	**Medium (2)**	**Low (3)**			

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 occurring and the stock status declining. 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 compatability and consistency with federal regs, if there are significant landings in state waters, and 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).	fishery consistently exceeds Total ACL (ex. 3+ out of 5 years) and/or exceeds Total ACL by more than 15%	fishery mostly kept below Total ACL (ex. Exceeds ACL 1-2 out of 5 years) and/or does not exceed ACL by more than 15%	fishery consistently kept below Total ACL	2		**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
Potential for discard losses	If a species is prone to discard losses, either from large amounts of discarding, a high discard M, 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. In considering proportions of dead discard removals, this attribute accounts for both proportions of caught fish that are released and discard mortality.	Dead discards are a significant proportion of the total catch (over 40%)	Dead discards are a moderate proportion of the total catch (20%-40%)	Dead discards very small component of total catch (<15%-20%)	3		Previous assessments have characterized discards as negligible
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 and considers the long-	> 10% total annual revenue	Between 1% and 10% of total annual revenue	< 1% total annual revenue	1		**>10% of total annual revenue for all years 2018-2022** Average 20.3%

	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.	> 40% of total trip revenue, on average	Between 10% and 40% of total trip revenue, on average	< 10% total trip revenue, on average			**>40% of total trip revenue for all years 2018-2022** Average 69.9%
Recreational desirability	This attribute also evaluates the importance of a species, but to the recreational fishery. This is determined by estimating the proportion of trips reported targeting this 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. 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. DW was compared to the total targeted trips of SG.	> 5% trips report targeting this species	Between 1% and 5% of trips report targeting this species	< 1% trips report targeting this species	3		2018-2022, annual recreational targeted trips range from 0% to 2% of recreational trips in the region; average of 1%
Social concerns	This attribute examines concerns from a species related 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.	>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)
Hum Dim Weight					1	1	

Final Human Dimension Score	**Each attribute is scored either a 1 (High), a 2 (Medium), or a 3 (Low). The category score is the average of all scored attributes. If no attributes are scored, the category score is 2 (Medium).**			**2.25**		
Environmental Attributes	**Description**		**High (1)**			
Ecosystem importance	This attribute evaluates a species' importance to the ecosystem in the South Atlantic. The more important it is to the ecosystem, the less risk tolerant the Council should be when setting catch limits.	These 3 attributes are set up differently from all the rest in that they do not have 3 categories for scoring (Low, Medium, and High). Instead, these attributes function more like an on/off switch. The reasoning is two-fold. First, it is difficult to develop criteria for categorizing a situation as having a Low, Medium, or High effect. Second, there are very few species for which we have enough knowledge and/or data to even attempt to categorize them as being an important ecosystem species or having been affected by climate change.	Important ecosystem species: ex. Predator/prey sp, reef maintenance/building			Affect habitat through burrowing behavior
Climate change	This attribute evaluates 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 impacted by climate change should be managed with less risk tolerance.		Affected by climate change: ex. Range expansion or collapse, Interaction with new sp, change in habitat availability/suitability			
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.		Regime shifts, environmentally driven recruitment collapse, etc.			
Env Weight				1	1	
Final Environmental Score	**This score is either blank (meaning these attributes have no bearing on the Final Risk Score) or is a 1 if one or more attributes have been scored.**			**0**	**0**	
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.			1.875		
				High		

		Risk of Overexploitation			Blueline Tilefish		
Biological Attributes	**Description**	**High (1)**	**Medium (2)**	**Low (3)**	**Preliminary Scores**	**AP Recommendation**	**Notes**
Estimated natural mortality (M)	Higher M is associated with a more productive stock and allows for more risk tolerance.	<0.20	0.20-0.40 (mid-point 0.30)	>0.40	1		SEDAR 50 (2017): 0.13 based on meta-analysis growth parameters
Age at maturity	Higher age at maturity is associated with lower productivity and results in greater risk of overexploitation. Rating criteria are based on age at 50% maturity.	>4 yrs	2-4 yrs (mid-point 3.0)	<2 yrs	2		No age information used in SEDAR 50 (2017) assessment. Length at maturity estimated as 305 mm. Linf from meta-analysis estimated as 690 mm.
Bio Weight					1	1	
Final Biological Score	**Each attribute is scored either a 1 (High), a 2 (Medium), or a 3 (Low). The category score is the average of all scored attributes. If no attributes are scored, the category score is 2 (Medium).**				**1.5**		
Human Dimension Attributes	**Description**	**High (1)**	**Medium (2)**	**Low (3)**			

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 occurring and the stock status declining. 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 compatability and consistency with federal regs, if there are significant landings in state waters, and 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).	fishery consistently exceeds Total ACL (ex. 3+ out of 5 years) and/or exceeds Total ACL by more than 15%	fishery mostly kept below Total ACL (ex. Exceeds ACL 1-2 out of 5 years) and/or does not exceed ACL by more than 15%	fishery consistently kept below Total ACL	1		**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
Potential for discard losses	If a species is prone to discard losses, either from large amounts of discarding, a high discard M, 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. In considering proportions of dead discard removals, this attribute accounts for both proportions of caught fish that are released and discard mortality.	Dead discards are a significant proportion of the total catch (over 40%)	Dead discards are a moderate proportion of the total catch (20%-40%)	Dead discards very small component of total catch (<15%-20%)	3		SEDAR 50 (2017) characterized dead discards as 3% of total removals (both sectors) for the southern portion of the stock
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 and considers the long-	> 10% total annual revenue	Between 1% and 10% of total annual revenue	< 1% total annual revenue	2		**Between 1% and 10% of total annual revenue for all years 2018-2022** Average 3.3%

	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.	> 40% of total trip revenue, on average	Between 10% and 40% of total trip revenue, on average	< 10% total trip revenue, on average			**Between 10% and 40% of total trip revenue for all years 2018-2022** Average 15.1%
Recreational desirability	This attribute also evaluates the importance of a species, but to the recreational fishery. This is determined by estimating the proportion of trips reported targeting this 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. 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. DW was compared to the total targeted trips of SG.	> 5% trips report targeting this species	Between 1% and 5% of trips report targeting this species	< 1% trips report targeting this species	3		2018-2022, annual recreational targeted trips range from 0% to 2% of recreational trips in the region; average of <1%
Social concerns	This attribute examines concerns from a species related 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.	>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)
Hum Dim Weight					1	1	

Final Human Dimension Score	**Each attribute is scored either a 1 (High), a 2 (Medium), or a 3 (Low). The category score is the average of all scored attributes. If no attributes are scored, the category score is 2 (Medium).**			**2.25**		
Environmental Attributes	**Description**		**High (1)**			
Ecosystem importance	This attribute evaluates a species' importance to the ecosystem in the South Atlantic. The more important it is to the ecosystem, the less risk tolerant the Council should be when setting catch limits.	These 3 attributes are set up differently from all the rest in that they do not have 3 categories for scoring (Low, Medium, and High). Instead, these attributes function more like an on/off switch. The reasoning is two-fold. First, it is difficult to develop criteria for categorizing a situation as having a Low, Medium, or High effect. Second, there are very few species for which we have enough knowledge and/or data to even attempt to categorize them as being an important ecosystem species or having been affected by climate change.	Important ecosystem species: ex. Predator/prey sp, reef maintenance/building			
Climate change	This attribute evaluates 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 impacted by climate change should be managed with less risk tolerance.		Affected by climate change: ex. Range expansion or collapse, Interaction with new sp, change in habitat availability/suitability	1		
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.		Regime shifts, environmentally driven recruitment collapse, etc.			
Env Weight				1	1	
Final Environmental Score	**This score is either blank (meaning these attributes have no bearing on the Final Risk Score) or is a 1 if one or more attributes have been scored.**			**1**	**0**	
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.			1.583		
				High		

		Risk of Overexploitation			Mutton Snapper		
Biological Attributes	**Description**	**High (1)**	**Medium (2)**	**Low (3)**	**Preliminary Scores**	**AP Recommendation**	**Notes**
Estimated natural mortality (M)	Higher M is associated with a more productive stock and allows for more risk tolerance.	<0.20	0.20-0.40 (mid-point 0.30)	>0.40	1		SEDAR 15A (2015): constant natural mortality averaging 0.11 based on a max age of 40 years
Age at maturity	Higher age at maturity is associated with lower productivity and results in greater risk of overexploitation. Rating criteria are based on age at 50% maturity.	>4 yrs	2-4 yrs (mid-point 3.0)	<2 yrs	2		SEDAR 15A (2015): 50% mature at 3.7 years
Bio Weight					1	1	
Final Biological Score	**Each attribute is scored either a 1 (High), a 2 (Medium), or a 3 (Low). The category score is the average of all scored attributes. If no attributes are scored, the category score is 2 (Medium).**				**1.5**		
Human Dimension Attributes	**Description**	**High (1)**	**Medium (2)**	**Low (3)**			

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 occurring and the stock status declining. 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 compatability and consistency with federal regs, if there are significant landings in state waters, and 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).	fishery consistently exceeds Total ACL (ex. 3+ out of 5 years) and/or exceeds Total ACL by more than 15%	fishery mostly kept below Total ACL (ex. Exceeds ACL 1-2 out of 5 years) and/or does not exceed ACL by more than 15%	fishery consistently kept below Total ACL	3		**No overages from either sector from 2018-2022**
Potential for discard losses	If a species is prone to discard losses, either from large amounts of discarding, a high discard M, 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. In considering proportions of dead discard removals, this attribute accounts for both proportions of caught fish that are released and discard mortality.	Dead discards are a significant proportion of the total catch (over 40%)	Dead discards are a moderate proportion of the total catch (20%-40%)	Dead discards very small component of total catch (<15%-20%)	3		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 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 and considers the long-	> 10% total annual revenue	Between 1% and 10% of total annual revenue	< 1% total annual revenue	2		**Between 1% and 10% of total annual revenue for all years 2018-2022** Average 1.8%

	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.	> 40% of total trip revenue, on average	Between 10% and 40% of total trip revenue, on average	< 10% total trip revenue, on average			**<10% of total trip revenue for all years 2018-2022** Average 6.7%
Recreational desirability	This attribute also evaluates the importance of a species, but to the recreational fishery. This is determined by estimating the proportion of trips reported targeting this 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. 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. DW was compared to the total targeted trips of SG.	> 5% trips report targeting this species	Between 1% and 5% of trips report targeting this species	< 1% trips report targeting this species	1		2018-2022, annual recreational targeted trips range from 10% to 29% of recreational trips in the region; average of 20%
Social concerns	This attribute examines concerns from a species related 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.	>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)
Hum Dim Weight					1	1	

Final Human Dimension Score	**Each attribute is scored either a 1 (High), a 2 (Medium), or a 3 (Low). The category score is the average of all scored attributes. If no attributes are scored, the category score is 2 (Medium).**			**2.25**		
Environmental Attributes	**Description**		**High (1)**			
Ecosystem importance	This attribute evaluates a species' importance to the ecosystem in the South Atlantic. The more important it is to the ecosystem, the less risk tolerant the Council should be when setting catch limits.	These 3 attributes are set up differently from all the rest in that they do not have 3 categories for scoring (Low, Medium, and High). Instead, these attributes function more like an on/off switch. The reasoning is two-fold. First, it is difficult to develop criteria for categorizing a situation as having a Low, Medium, or High effect. Second, there are very few species for which we have enough knowledge and/or data to even attempt to categorize them as being an important ecosystem species or having been affected by climate change.	Important ecosystem species: ex. Predator/prey sp, reef maintenance/building			
Climate change	This attribute evaluates 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 impacted by climate change should be managed with less risk tolerance.		Affected by climate change: ex. Range expansion or collapse, Interaction with new sp, change in habitat availability/suitability			
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.		Regime shifts, environmentally driven recruitment collapse, etc.			
Env Weight				1	1	
Final Environmental Score	**This score is either blank (meaning these attributes have no bearing on the Final Risk Score) or is a 1 if one or more attributes have been scored.**			**0**	**0**	
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.			1.875		
				High		

		Risk of Overexploitation			Yellowtail Snapper		
Biological Attributes	**Description**	**High (1)**	**Medium (2)**	**Low (3)**	**Preliminary Scores**	**AP Recommendation**	**Notes**
Estimated natural mortality (M)	Higher M is associated with a more productive stock and allows for more risk tolerance.	<0.20	0.20-0.40 (mid-point 0.30)	>0.40	1		SEDAR 64 (2019): constant mortality-at-age = 0.160 using a max age of 28 years natural mortality at age ($M_{at\text{-}age}$ ranged from 0.385-0.147
Age at maturity	Higher age at maturity is associated with lower productivity and results in greater risk of overexploitation. Rating criteria are based on age at 50% maturity.	>4 yrs	2-4 yrs (mid-point 3.0)	<2 yrs	3		SEDAR 64 (2019): in FL waters, 50% of females were sexually mature at 1.7 years
Bio Weight					1	1	
Final Biological Score	**Each attribute is scored either a 1 (High), a 2 (Medium), or a 3 (Low). The category score is the average of all scored attributes. If no attributes are scored, the category score is 2 (Medium).**				**2**		
Human Dimension Attributes	**Description**	**High (1)**	**Medium (2)**	**Low (3)**			

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 occurring and the stock status declining. 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 compatability and consistency with federal regs, if there are significant landings in state waters, and 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).	fishery consistently exceeds Total ACL (ex. 3+ out of 5 years) and/or exceeds Total ACL by more than 15%	fishery mostly kept below Total ACL (ex. Exceeds ACL 1-2 out of 5 years) and/or does not exceed ACL by more than 15%	fishery consistently kept below Total ACL	3		No rec overages from 2018-2022 Com closures in 2018 and 2019
Potential for discard losses	If a species is prone to discard losses, either from large amounts of discarding, a high discard M, 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. In considering proportions of dead discard removals, this attribute accounts for both proportions of caught fish that are released and discard mortality.	Dead discards are a significant proportion of the total catch (over 40%)	Dead discards are a moderate proportion of the total catch (20%-40%)	Dead discards very small component of total catch (<15%-20%)	3		Evaluate in assessment 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)
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 and considers the long-	> 10% total annual revenue	Between 1% and 10% of total annual revenue	< 1% total annual revenue	1		**>10% of total annual revenue for all years 2018-2022** Average 36.2%

	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.	> 40% of total trip revenue, on average	Between 10% and 40% of total trip revenue, on average	< 10% total trip revenue, on average			**>40% of total trip revenue for all years 2018-2022** Average 83.0%
Recreational desirability	This attribute also evaluates the importance of a species, but to the recreational fishery. This is determined by estimating the proportion of trips reported targeting this 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. 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. DW was compared to the total targeted trips of SG.	> 5% trips report targeting this species	Between 1% and 5% of trips report targeting this species	< 1% trips report targeting this species	1		2018-2022, annual recreational targeted trips range from 18% to 29% of recreational trips in the region; average of 25%
Social concerns	This attribute examines concerns from a species related 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.	>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)
Hum Dim Weight					1	1	

Final Human Dimension Score	**Each attribute is scored either a 1 (High), a 2 (Medium), or a 3 (Low). The category score is the average of all scored attributes. If no attributes are scored, the category score is 2 (Medium).**			**2.00**		
Environmental Attributes	**Description**		**High (1)**			
Ecosystem importance	This attribute evaluates a species' importance to the ecosystem in the South Atlantic. The more important it is to the ecosystem, the less risk tolerant the Council should be when setting catch limits.	These 3 attributes are set up differently from all the rest in that they do not have 3 categories for scoring (Low, Medium, and High). Instead, these attributes function more like an on/off switch. The reasoning is two-fold. First, it is difficult to develop criteria for categorizing a situation as having a Low, Medium, or High effect. Second, there are very few species for which we have enough knowledge and/or data to even attempt to categorize them as being an important ecosystem species or having been affected by climate change.	Important ecosystem species: ex. Predator/prey sp, reef maintenance/building			
Climate change	This attribute evaluates 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 impacted by climate change should be managed with less risk tolerance.		Affected by climate change: ex. Range expansion or collapse, Interaction with new sp, change in habitat availability/suitability			
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.		Regime shifts, environmentally driven recruitment collapse, etc.			Infrastructure impacts on shallow water fish; dependent on coral habitat
Env Weight				1	1	
Final Environmental Score	**This score is either blank (meaning these attributes have no bearing on the Final Risk Score) or is a 1 if one or more attributes have been scored.**			**0**	**0**	
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.			2.000		
				High		