Brazil lane snapper (*Lutjanus synagris*) and yellowtail snapper (*Ocyurus chrysurus*) – handline & trap

Pre-Assessment Report

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Fishery client	Beaver Street
Assessment type	Pre-assessment
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2. Glossary

CITES	Convention on International Trade in Endangered Species
CPG	Committee for the Management and Sustainable Use of North and Northeast Demersal Resources
CMS	Convention on Migratory Species
CSA	Consequence Spatial Analysis
CONAPE	National Council of Aquaculture and Fisheries
ETP/OOS	Endangered, Threatened or protected species
FAO	Food and Agriculture Organization of the United Nations
HCR	Harvest Control Rule
IBAMA	Brazilian Institute of Environment and Natural Resources
MAPA	Ministry of Agriculture, Livestock and Supply
ICMBio	Chico Mendes Institute for Biodiversity Conservation
MMA	Ministry of Environment and Climate Change
MPA	Ministry of Fisheries and Aquaculture
MSC	Marine Stewardship Council
MSY	Maximum Sustainable Yield
NFA	National Fisheries Authority
NGO	Non-Governmental Organization
PI	Performance Indicator
PRI	Point of recruitment impairment
RBF	Risk Based Framework
SEAP	Special Secretariat for Aquaculture and Fisheries
SG	Scoring Guidepost
UNCLOS	United Nations Convention on the Law of the Sea
UoA	Unit of Assessment

3. Executive summary

This report presents a pre-assessment of the Brazilian ariacó (*Lutjanus synagris*) and guaiúba (*Ocyurys chrysurus*) fishery off the coast of the Northeast with bottom lines and traps in accordance with the Marine Stewardship Council (MSC) Standard, using the Fishery Certification Requirements, version 3.01.

The assessment team conducted a thorough review of relevant documentation to evaluate its performance against the standard. Based on the available information the team concludes that the lane snapper (*Lutjanus synagris*) and yellowtail snapper (*Ocyurys chrysurus*) fishery does not currently meet the MSC standard and recommends the implementation of a fishery improvement project to address the sustainability challenges.

4. Report details

4.1. Aims and constraints of the pre-assessment

This is a pre-assessment of the Brazilian ariacó (*Lutjanus synagris*) and guaiúba (*Ocyurys chrysurus*) fishery in accordance with the Marine Stewardship Council (MSC) Standard, version 3.01.

This pre-assessment is based on limited information gathered from the documents reviewed conducted by the assessment team at the time of its writing. The document seeks to provide practical information on the status of the fishery relative to the standard and to identify sustainability issues in the fishery that may be required for certification to the MSC Standard.

4.2. Version details

Table 1: Fisheries program documents versions

Document/Assessment Tree	Version number/Type
MSC Fisheries Certification Process	Version 3.0
MSC Fisheries Standard	Version 3.0
Assessment tree	*Default / Enhanced Bivalve / Salmon / Introduced species / Other*
MSC General Certification Requirements	Version 2.5
MSC Reporting Template	Version 2.0
MSC Pre-Assessment Reporting Template	Version 4.1

5. Unit(s) of Assessment and Unit(s) of Certification

5.1. Unit(s) of Assessment

Table 2: Unit(s) of Assessment (UoA)

UoA X	Description
Target Stock	*Lutjanus synagris*- ariacó, lane snapper
Geographical area	Brazilian ZEE (Statistical Area 41 da FAO).
Stock	Northeast Brazil
Fishing gear type(s) and, if relevant, vessel type(s)	Handline and trap

Client group	Beaver Street
Other eligible fishers	
Justification for choosing the Unit of Assessment	
UoA X	**Description**
Target Stock	*Ocyurus chrysurus*- guaiúba, yellowtail snapper
Geographical area	Brazilian ZEE (Statistical Area 41 da FAO)
Stock	Northeast Brazil
Fishing gear type(s) and, if relevant, vessel type(s)	Handline and trap
Client group	Beaver Street
Other eligible fishers	
Justification for choosing the Unit of Assessment	

6. Pre-assessment results

6.1. Pre-assessment results overview

The lack of information on the composition of species interacting with the fisheries under assessment was one of the major limitations of the pre-assessment. For Principle 1, three stocks of lane snapper (*Lutjanus synaris*) and yellowtail snapper (*Ocyurus chrysurus*) were identified, but only the Northeast stock (LM 16, Olavo et al 2022) was evaluated in this pre-assessment. For Principle 2, the Northeast region was analyzed, and for Principle 3, as management is directed toward the North and Northeast, both regions were analyzed together.

6.2. Summary of potential conditions by Principle

Table 3: Summary of Principle level scores

Principle of the Fisheries Standard	Number of PIs with draft scoring ranges <60
Principle 1 – Stock status	4
Principle 2 – Minimising environmental impacts	12
Principle 3 – Effective management	4

6.3. Summary of Performance Indicator level scores

Table 4: Summary of Performance Indicator level scores

Performance Indicator	Draft scoring range	Data deficient?
1.1.1 – Stock status	60 – 79	No
Rationale or key points		
Landing and fishing effort data must be collected to conduct biometric sampling.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
1.1.2 – Stock rebuilding	<60	No
Rationale or key points		

A reconstruction strategy must be designed and the effectiveness of the measures must be evaluated.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
1.2.1 – Harvest Strategy	<60	No
Rationale or key points		
An exploitation strategy for *L. synagris* and *O. chrysurus* that considers the current state of stocks must be established.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
1.2.2 – Harvest control rules and tools	<60	No
Rationale or key points		
Control rules must be adopted for both species to ensure that the exploitation rate is reduced until stocks reach the objective level.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
1.2.3 – Information and monitoring	<60	No
Rationale or key points		
Information related to fleet composition, abundance, structure, stock productivity and fishery harvests must be obtained.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
1.2.4 – Assessment of stock status	60 – 79	No
Rationale or key points		
Stock assessments should be conducted regularly and subject to peer review.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
2.1.1 – In-scope species outcome	<60	Yes
Rationale or key points		
Information collection required to apply RBF.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
2.1.2 – In-scope species management strategy	<60	Yes
Rationale or key points		
It is necessary to define the species that are captured with ariacó and guaiúba and assess whether management measures are necessary to keep them above a critical biological point.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
2.1.3R – In-scope species information if RBF is used to score PI 2.1.3 – delete if not applicable	<60	Yes
Rationale or key points		
Idem 2.1.1		
Performance Indicator	**Draft scoring range**	**Data deficient?**
2.2.1 – ETP/OOS species outcome	<60	Yes
Rationale or key points		
It is necessary to obtain information and apply RBF.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
2.2.2 – ETP/OOS species management strategy	<60	Yes
Rationale or key points		
With the definition of ETP/OOS species, existing measures must be evaluated.		
Performance Indicator	**Draft scoring range**	**Data deficient?**

2.2.3R – ETP/OOS species information if RBF is used to score PI 2.2.3 – delete if not applicable	<60	Yes
Rationale or key points		
Idem 2.2.1		
Performance Indicator	**Draft scoring range**	**Data deficient?**
2.3.1 – Habitats outcome	<60	Yes
Rationale or key points		
Information on the interaction of fisheries with habitats must be collected to conduct a CSA.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
2.3.2 – Habitats management strategy	<60	Yes
Rationale or key points		
Management measures should be evaluated once the risks have been understood.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
2.3.3R – Habitats information if RBF is used to score PI 2.3.3 – delete if not applicable	<60	Yes
Rationale or key points		
Idem 2.3.1		
Performance Indicator	**Draft scoring range**	**Data deficient?**
2.4.1 – Ecosystem outcome	<60	Yes
Rationale or key points		
Information must be collected to perform a SICA.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
2.4.2 – Ecosystem management strategy	<60	Yes
Rationale or key points		
Management measures should be evaluated once the risks have been understood.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
2.4.3 – Ecosystem information	<60	Yes
Rationale or key points		
Idem 2.4.1		
Performance Indicator	**Draft scoring range**	**Data deficient?**
3.1.1 – Legal and/or customary framework	<60	No
Rationale or key points		
It is necessary that a statistics and monitoring system be implemented.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
3.1.2 – Consultation, roles, and responsibilities	≥80	No
Rationale or key points		
Organizations participating in the management process were identified and the Management Committee re-established.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
3.1.3 – Long term objectives	≥80	No
Rationale or key points		
In the fisheries law, long-term objectives are implicit.		
Performance Indicator	**Draft scoring range**	**Data deficient?**

3.2.1 – Fishery-specific objectives	<60	No
Rationale or key points		
Specific objectives need to be established for fisheries.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
3.2.2 – Decision-making processes	<60	No
Rationale or key points		
Management plan required for fisheries.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
3.2.3 – Compliance and enforcement	<60	No
Rationale or key points		
Monitoring Plan needs to be implemented.		
Performance Indicator	**Draft scoring range**	**Data deficient?**
3.2.4 – Monitoring and management performance evaluation	60 – 79	No
Rationale or key points		
With the control rules adopted for the lane snapper and yellowtail snapper fisheries, mechanisms must be put in place to evaluate the rules.		

6.4. Principle 1

6.4.1. Principle 1 background

1. Introduction

1.1. Description of Fisheries

In Brazil, snappers (Lutjanidae) are considered the main resource exploited by artisanal handline fishing, standing out among the fish of greatest economic value. Their meat is widely appreciated in the domestic market and classified as a first-quality product in all coastal states, which, combined with intense demand, increases the vulnerability of these species to overfishing (Freitas, 2009).

Among the species belonging to the Lutjanidae family, Lutjanus synagris (Linnaeus, 1758), popularly known as ariacó (Figure 1), and Ocyurus chrysurus (Bloch, 1791), known as guaiúba (Figure 1) (Andreoli et al., 2014), stand out. Due to their reddish coloration, they are commonly called “reds” (Verba, et al., 2025). These snappers represent fishery resources of significant relevance in tropical and subtropical waters, being essential for Brazilian artisanal fishing (Schwamborn et al., 2023).

On a global scale, snapper populations have shown signs of decline, serving both as target species and as bycatch in commercial catches. This scenario has consolidated the group as a focus of studies aimed at the conservation and sustainable management of fish stocks (Babcock et al., 2013; Castro-Pérez et al., 2018; Molina-Hernández et al., 2018).

In the context of Brazilian multispecies demersal fisheries (Begossi; Silvano, 2012), red snapper species account for approximately 40% of landings, involving around 187 species. Ariacó and guaiúba stand out among the main resources captured by handline fishing, especially in artisanal fisheries along the Brazilian coast, from the North to the Southeast Region (Klippel; Peres, 2002; Rezende et al., 2003).

Figure 1- Lane snapper (*Lutajnus synagris*). **Source:** CeDePesca archive. Yellowtail snapper (*Ocyurus chrysurus*). **Source:** Garcia Junior et al., 2010.

In the Northeast, these species play a central role as a target for both artisanal and commercial fisheries (Frédou; Ferreira, 2005), being recognized among the main resources in terms of abundance and socioeconomic importance for fishing communities (Santos, 2001). In the state of Ceará, the so-called “snapper fishery,” which originally included five snapper species (L. purpureus, L. vivanus, L. bucanella, Etelis oculatus, and Rhomboplites aurorubens), showed continuous growth until 1981. From that period on, there was a change in the composition of landings, with a significant increase in catches of other red snapper species, such as ariacó (Lutjanus synagris), cioba (Lutjanus analis), and guaiúba (Ocyurus chrysurus) (Rezende; Ferreira; Frédou, 2003). Currently, these species remain among the main resources landed in Ceará and are considered of great commercial relevance for extractive fishing in the state.

Some genetic studies indicate that red snapper stocks in Northeastern Brazil are unique for the entire region (Veneza et al., 2023). However, more recent research has identified relevant differences. Olavo et al. (2022) verified that it is possible to distinguish stocks from Bahia and Ceará for *O. chrysurus* and *L. synagris*, showing population differentiation along the Brazilian coast.

The fisheries for these species are essentially artisanal, the according to IBAMA/MMA bulletins between 2001 and 2007, highlighting Ceará as the main producer, followed by Bahia. For the period between 2008 and 2011, however, bulletins from the Ministry of Fisheries and Aquaculture stopped discriminating landings by state and stopped separating industrial and artisanal production making more detailed analyses unfeasible.

In the context of the Northeastern artisanal fleet, small vessels predominate, powered by oars, sails, or engines. These vessels operate at depths not exceeding 250 meters, focusing on the capture of demersal species such as L. synagris and O. chrysurus, using handlines as the main fishing gear responsible for the largest landings (Brazil, 2006).

Despite the fishing relevance of these species, no catch limits have been established in Brazil. Since 2008, the country has lacked a continuous data collection program. The Ministry of Fisheries and Aquaculture published statistics until 2011, but since then, only sporadic initiatives exist, without being consolidated into effective policies. This absence of official information hinders reliable stock assessment. The last available bulletin, referring to 2011, did not provide specific data on landings (Brazil, 2011).

The general scenario of snapper fisheries points to a declining trend, although analyses are compromised by the quality and reliability of the available statistics (Rezende et al., 2003). In this context, ariacó (lane snapper) and guaiúba (yellowtail snapper) fall into the category of “data-poor” fisheries, typical of multispecies artisanal fisheries in Brazil (Schwamborn et al., 2023). Often, the lack of data is mistakenly interpreted as an absence of problems (Coleman et al., 2000b).

2. Stock status and assessments

2.1. Lane snapper (*Lutjanus synagris*)

A demersal species, lane snapper (*L. synagris*) is distributed from North Carolina, USA, to Southeastern Brazil and inhabits various types of seabeds, being most frequently found around coral reefs and algal banks (Garcia Júnior et al., 2010). Is distributed in fishing grounds known as costa (about 3 nautical miles from shore, depth 10–12 m), risca (15 miles, 26–36 m), and alto (45 miles, ≥46 m); it inhabits the bottom, preferably gravel and rocky substrates; it shows no migratory habits; it forms schools; it is captured both during the day and at night and is mainly fished with handlines, according to Castro and Silva (2004).

Feeding on crustaceans, mollusks, and small fish, lane snapper can reach up to 70 cm in length and weigh 5 kg, being found at depths of up to 400 meters. With fractional spawning that occurs throughout the year, it can live about 22 years and forms large schools during reproduction (Garcia Júnior et al., 2010). According to Passos Neto (2010), the species reaches sexual maturity within the first three years of life, with length ranging from 13 to 23 cm, depending on the region. Viana et al. (2015) verified that the lowest values for length at first gonadal maturity (L50) were recorded in Pernambuco (16.4 cm total length (TL) for males and 17.1 cm TL for females). The highest values of L50 were recorded in Maranhão (28.2 cm TL for males and 27.4 cm TL for females).

Contributing significantly to artisanal fishery production in Brazil, lane snapper stocks have been threatened by intensive fishing, as it is a preferred target in various regions (Cavalcante et al., 2012). The species has high commercial value and represents one of the main reef fishery resources (Freitas et al., 2014). However, its more coastal distribution makes it susceptible to different fleets and fishing techniques, and the intensification of fishing effort has already caused noticeable impacts (Coleman et al., 2000).

Klippel et al. (2005a), evaluating the exploitation status of snappers, concluded that the species shows moderate overexploitation along the central coast of the country (Salvador–Cabo de São Tomé). Recent IUCN assessments classify ariacó as Near Threatened (NT), considering both the overfishing status and the lack of fishery management (Lindeman et al., 2016).

Olavo et al. (2022) evaluated stocks of 16 species of social, economic, ecological, and conservation importance, using historical catch series (1950–2022). Given the limitation of data and the absence of conclusive studies to differentiate populations or stocks in Northern and Northeastern Brazil, the authors considered an ecosystemic geographic division, with lane snapper and yellowtail snapper analyzed in the Amazon Marine Ecoregion (ME Amazon) and the Large Marine Ecosystem of the Eastern Brazilian Shelf (LME 16). The ME Amazon comprises the states of Amapá, Pará, and Maranhão, while LME 16 includes the states of Piauí, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Sergipe, Bahia, Espírito Santo, and Rio de Janeiro (Cabo de São Tomé).

Olavo et al. (2022) classified lane snapper stock in LME 16 as underexploited (B2021/BMSY = 1.28) and without signs of overfishing (F2021/FMSY = 0.88) in the last year of the analyzed period (2021). Biomass showed a slight decline

from 1970 until the late 1990s, followed by a steeper drop between 2000 and the mid-2010s, and then a trend toward stability until 2021, remaining above the level required to produce maximum sustainable yield. Throughout the period, estimated fishing mortality (F) values remained below the limit associated with maximum sustainable yield, as shown in Figures 2 and 3.

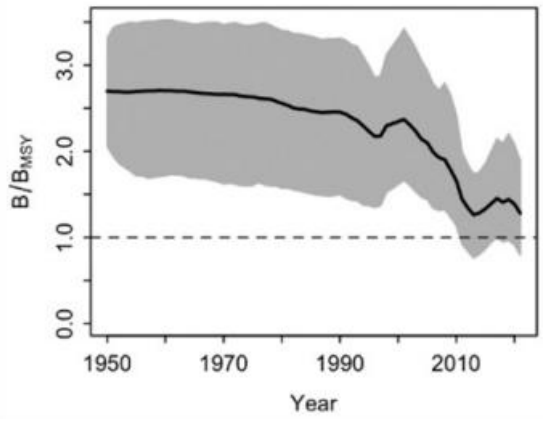

Figure 2 - B/BMSY ratio for the LME 16 lane snapper stock. Period 1950 to 2021. **Source**: Olavo et al., 2022.

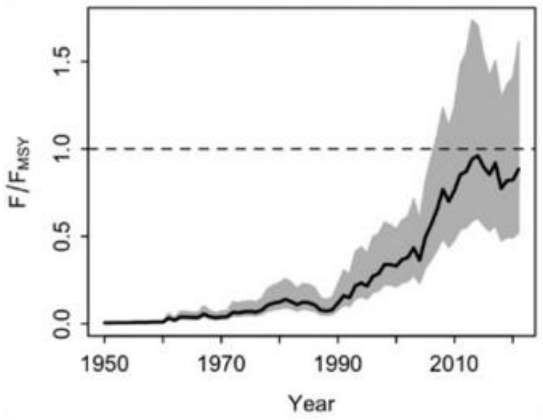

Figure 3 - F/FMSY ratio for the LME 16 lane snapper stock. Period 1950 to 2021. **Source:** Olavo et al., 2022.

2.2. Yellowtail snapper (*Ocyurus chrysurus*)

With the same distribution as lane snapper, ranging from North Carolina (USA) to Southeastern Brazil, yellowtail snapper forms large schools and, in the Northeastern EEZ, is found at depths up to 100 m (Ferreira et al., 2004), near rocky bottoms, sandy areas, or reefs (Garcia Júnior et al., 2010).

According to Castro and Silva (2004), yellowtail snapper is distributed in the fishing ground known as alto, about 45 nautical miles from the coast, at depths starting at 46 m; it inhabits rocky bottoms; shows no migratory habits; forms schools; occurs both during the day and at night; and is mainly captured with handlines.

Studies on its population aspects reveal important indicators. Ferreira et al. (2004) found that individuals with 22.5 cm had already reproduced at least once. Franco et al. (2005) found that females reach sexual maturity at an average of 22.4 cm, while males mature at smaller lengths, around 18.8 cm. Ferreira et al. (2004) also highlight that the species is relatively long-lived, reaching about 17 years of age, and makes up a significant part of commercial landings throughout its distribution, mainly through bottom handlines, nets, and traps. However, it has shown signs of overfishing, such as reduced size at maturity. Characteristics such as a long life cycle and association with fragmented habitats make yellowtail snapper particularly vulnerable to fishing pressure.

With fractional spawning and reproducing throughout the year, yellowtail snapper can reach 100 cm in length and weigh up to 4 kg (Garcia Júnior et al., 2010). Despite the importance of stock assessment for sustainable management, in many regions data are still lacking on the population structure of exploited species. In the case of yellowtail snapper, Klippel et al. (2005a) indicated that the handline fleet along the central coast of Brazil was already exploiting the species at unsustainable fishing mortality levels. The IUCN, however, classified the species as Data Deficient (DD), due to the lack of adequate information on its distribution and population status (Lindeman et al., 2016).

More recently, Olavo et al. (2022) evaluated guaiúba in the Amazon Marine Ecoregion (ME Amazon) and the Large Marine Ecosystem of the Eastern Brazilian Shelf (LME 16). For yellowtail snapper in LME 16, the stock was classified as overexploited (B2021/BMSY = 0.60) and subjected to overfishing (F2021/FMSY = 1.37). Since 1970, biomass has shown a sharp decline, remaining, after 2010, below the level required to generate maximum sustainable yield (MSY). At the same time, fishing mortality gradually increased until reaching a peak in 2010, surpassing the FMSY limit, and remained above this threshold at the end of the analyzed time series (Figures 4 and 5).

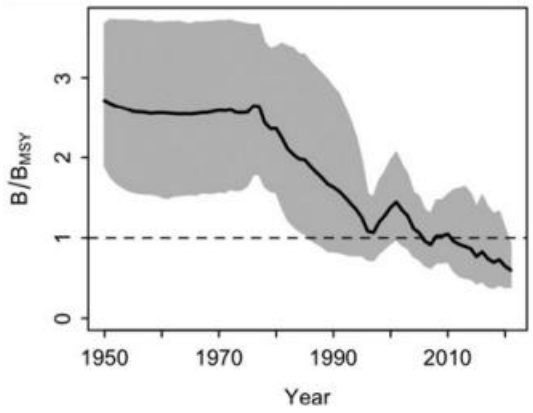

Figure 4 - B/BMSY ratio for LME 16 yellowtail snapper stocks. Period 1950 to 2021. **Source:** Olavo et al., 2022.

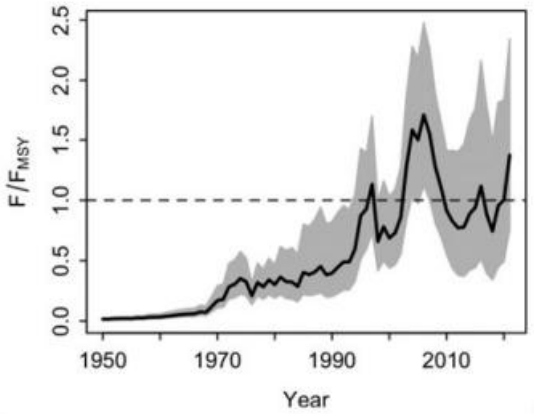

Figure 5 - F/FMSY ratio for the LME 16 yellowtail snapper stock. Period from 1950 to 2021. Source: Olavo et al., 2022.

6.4.2. Principle 1 Performance Indicator scores and rationales

PI 1.1.1 – Stock status *Lutjanus synagris*

PI 1.1.1		The stock is at a level that maintains high productivity and has a low probability of recruitment overfishing		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Stock status relative to recruitment impairment**			
	Guidepost	It is **likely** that the stock is above the point of recruitment impairment (PRI).	It is **highly likely** that the stock is above the PRI.	There is a **high degree** of certainty that the stock is above the PRI.
	Met?	**Yes**	**Yes**	**No**
Rationale		Stock: LM16 (Northeast) The LME 16 stock was classified as underexploited (B2021/BMSY = 1.28) and not overfished (F2021/FMSY = 0.88). Biomass remained above the level that produces RMS, meeting SG60 and SG80.		
b	**Stock status in relation to achievement of maximum sustainable yield (MSY)**			
	Guidepost		The stock is at or fluctuating around a level consistent with MSY.	There is a high degree of certainty that the stock has been fluctuating around a level consistent with MSY or has been above this level over recent years.
	Met?		**Yes**	**No**
Rationale		The stock LM16 complies with SG80.		

Draft scoring range	**≥ 80**
Information gap indicator	**Information sufficient to score PI**
Data-deficient? (Risk-Based Framework needed)	**No**

PI 1.1.2 – Stock rebuilding *Lutjanus synagris*

PI 1.1.2		Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Rebuilding timeframes**			
	Guide post	A rebuilding timeframe is specified for the stock that is the **shorter of 20 years or 2 times its generation time**. For cases where 2 generations is less than 5 years, the rebuilding timeframe is up to 5 years.		The shortest practicable rebuilding timeframe is specified that does not exceed **1 generation time** for the stock.
	Met?	**NA**		
Rationale				
b	**Rebuilding evaluation**			
	Guide post	Monitoring is in place to determine whether the rebuilding strategies are effective in rebuilding the stock within the specified timeframe.	There is **evidence** that the rebuilding strategies are rebuilding stocks, or it is **likely** based on simulation modelling, exploitation rates, or previous performance that they will be able to rebuild the stock within the **specified timeframe**.	There is **strong evidence** that the rebuilding strategies are rebuilding stocks, or it is highly likely based on simulation modelling, exploitation rates, or previous performance that they will be able to rebuild the stock within the **specified timeframe**.
	Met?	**NA**		
Rationale				

Draft scoring range	**NA**
Information gap indicator	**Information sufficient to score PI**

PI 1.1.1 – Stock status Ocyurus chrysurus

PI 1.1.1		The stock is at a level that maintains high productivity and has a low probability of recruitment overfishing		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Stock status relative to recruitment impairment**			
	Guidepost	It is **likely** that the stock is above the point of recruitment impairment (PRI).	It is **highly likely** that the stock is above the PRI.	There is a **high degree** of certainty that the stock is above the PRI.
	Met?	**Yes**	**No**	
Rationale		Stock: LM16 (Northeast) In LM16 (Northeast), the guaiúba stock was classified as overexploited (B2021/BMSY = 0.60) in 2021 and subject to overfishing (F2021/FMSY = 1.37). However, there is a probability that yellowtail snapper recruitment has not been affected **in LM16.** Thus, meeting SG60.		
b	**Stock status in relation to achievement of maximum sustainable yield (MSY)**			
	Guidepost		The stock is at or fluctuating around a level consistent with MSY.	There is a high degree of certainty that the stock has been fluctuating around a level consistent with MSY or has been above this level over recent years.
	Met?		**NO**	
Rationale		See scoring aspect a.		

Draft scoring range	**60-79**
Information gap indicator	**Information sufficient to score PI**
Data-deficient? (Risk-Based Framework needed)	**No**

PI 1.1.2 – Stock rebuilding Ocyurus chrysurus

PI 1.1.2		**Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe**		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Rebuilding timeframes**			
	Guide post	A rebuilding timeframe is specified for the stock that is the **shorter of 20 years or 2 times its generation time**. For cases where 2 generations is less than 5 years, the rebuilding timeframe is up to 5 years.		The shortest practicable rebuilding timeframe is specified that does not exceed **1 generation time** for the stock.
	Met?	**No**		**No**
Rationale		No measures for the rebuilding of Ocyurus chrysurus have been identified. SG60 is not achieved.		
b	**Rebuilding evaluation**			
	Guide post	Monitoring is in place to determine whether the rebuilding strategies are effective in rebuilding the stock within the specified timeframe.	There is **evidence** that the rebuilding strategies are rebuilding stocks, or it is **likely** based on simulation modelling, exploitation rates, or previous performance that they will be able to rebuild the stock within the **specified timeframe**.	There is **strong evidence** that the rebuilding strategies are rebuilding stocks, or it is highly likely based on simulation modelling, exploitation rates, or previous performance that they will be able to rebuild the stock within the **specified timeframe**.
	Met?	**No**		
Rationale		Since there is no monitoring, it is not possible to determine whether any rebuilding strategy is working. SG60 is not achieved.		

Draft scoring range	**<60**
Information gap indicator	**Information sufficient to score PI**

PI 1.2.1 – Harvest strategy Lutjanus synagris and Ocyurus chrysurus

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Harvest strategy design**			
	Guide post	The harvest strategy is **expected** to achieve stock management objectives reflected in PI 1.1.1/PI 1.1.1A SG80.	The harvest strategy is **responsive** to the state of the stock and the elements of the harvest strategy **work together** towards achieving stock management objectives reflected in PI 1.1.1/PI 1.1.1A SG80.	The harvest strategy is **responsive** to the state of the stock and is **designed** to achieve stock management objectives reflected in PI 1.1.1/PI 1.1.1A SG80.
	Met?	**No**	**No**	**No**
Rationale		The regulations are general for bottom line and trap fisheries, with no harvest strategies for lane snapper and yellowtail snapper that take stock status into account. SG60 is not achieved.		
b	**Harvest strategy evaluation**			
	Guide post	The harvest strategy is **likely** to work based on prior experience or plausible argument.	The harvest strategy has been **tested** and is expected to meet the objectives reflected in PI 1.1.1/ PI 1.1.1A SG80 or there is evidence that the harvest strategy is achieving its objectives reflected in PI 1.1.1/ PI 1.1.1A SG80.	The performance of the harvest strategy has been **evaluated** and evidence exists to show that it is achieving the objectives reflected in PI 1.1.1/ PI 1.1.1A SG80, including being clearly able to maintain stocks at target levels.
	Met?	**No**	**No**	**No**
Rationale		Idem Scoring issue a. SG60 is not achieved.		
c	**Harvest strategy monitoring**			
	Guide post	Monitoring is in place that is expected to determine whether the harvest strategy is working.		
	Met?	**No**		
Rationale		There is no monitoring system. SG60 is not achieved.		
d	**Harvest strategy review**			
	Guide post			The harvest strategy is periodically reviewed and improved as necessary.
	Met?			**No**
Rationale		Idem Scoring issue a.		
e	**Shark finning**			
	Guide post	There is a **high degree of certainty** that shark finning is not taking place.		
	Met?	**NA**		
Rationale		As the target species is not a shark, this issue is not scored.		
f	**Review of alternative measures**			
	Guide post	There has been a review of **alternative measures** to minimise UoA-related	There is a **review** every 5 years of **alternative measures** to minimise UoA-related mortality of **unwanted**	There is a **review** that happens every 2 years of **alternative measures** to minimise UoA-related

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
		mortality of unwanted catch of the target stock.	**catch** of the target stock and they are implemented as appropriate.	mortality of **unwanted catch** of the target stock, and they are implemented, as appropriate.
	Met?	**No**	**No**	**No**
Rationale		No measures to minimize unwanted catch have been identified. SG60 is not achieved.		

Draft scoring range	**<60**
Information gap indicator	**Information sufficient to score PI**

PI 1.2.2 – Harvest control rules and tools Lutjanus synagris and Ocyurus chrysurus

PI 1.2.2		There are well-defined and effective HCRs in place		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**HCRs design and application**			
	Guide post	**Generally understood** HCRs are **in place** that are **expected to reduce the exploitation rate as the PRI is approached.**	**Well-defined** HCRs **are in place** that **ensure** the exploitation rate is reduced as the PRI is approached, and are expected to keep the stock **fluctuating around** a target level consistent with (or above) MSY, or for key LTL species at levels consistent with ecosystem needs.	The HCRs are expected to keep the stock **fluctuating at or above** a target level consistent with MSY, or another more appropriate level **most** of the time, taking into account the ecological role of the stock.
	Met?	**No**	**No**	**No**
Rationale		There are not harvest control rules in place to reduce the exploitation rate as the PRI is approached. SG60 is not achieved.		
b	**The robustness of HCRs to uncertainty**			
	Guide post		The HCRs are likely to be robust to the main uncertainties.	The HCRs take account of a **wide** range of uncertainties including the ecological role of the stock, and there is **evidence** that the HCRs are robust to the main uncertainties.
	Met?		**No**	**No**
Rationale		Idem Scoring issue a.		
c	**Evaluation of HCRs**			
	Guide post	There is **some evidence** that tools used or **available** to implement HCRs are appropriate and effective in controlling exploitation.	**Available evidence indicates** that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.	**Evidence clearly shows** that the tools in use are effective in achieving the exploitation levels required under the HCRs.
	Met?	**No**	**No**	**No**
Rationale		Idem Scoring issue a.		

Draft scoring range	**<60**
Information gap indicator	**Information sufficient to score PI**

PI 1.2.3 – Information and monitoring Lutjanus synagris e Ocyurus chrysurus

PI 1.2.3		Relevant information is collected to support the harvest strategy		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Range of information**			
	Guide post	**Some** relevant information related to stock structure, stock productivity, and fleet composition is available to support the harvest strategy.	**Sufficient** relevant information related to stock structure, stock productivity, fleet composition, and other data are available to support the harvest strategy.	A **comprehensive range** of information (on stock structure, stock productivity, fleet composition, stock abundance, UoA removals, and other information such as environmental information), including some that may not be directly related to the current harvest strategy, is available.
	Met?	**No**	**No**	**No**
Rationale		There is some information available, but it is outdated and lacks continuity. SG60 is not achieved.		
b	**Monitoring**			
	Guide post	Stock abundance and UoA removals are monitored and **at least 1 indicator** is available and monitored with sufficient frequency to support the harvest strategy.	Stock abundance and UoA removals are **regularly monitored at a level of accuracy and coverage consistent with the harvest strategy**, and **1 or more indicators** are available and monitored with sufficient frequency to support the harvest strategy.	**All information** required by the harvest strategy is monitored with high frequency and a high degree of certainty, and there is a good understanding of the inherent **uncertainties** in the information (data) and the robustness of assessment and management in dealing with this uncertainty.
	Met?	**No**	**No**	**No**
Rationale		Since 2012, there has been no official fisheries statistics program, and no indicators or monitoring are available to support the establishment of a harvest control rule as defined by the MSC. SG60 is not achieved.		
c	**Comprehensiveness of information**			
	Guide post		There is good information on all other fishery removals from the stock.	
	Met?		**No**	
Rationale		Idem Scoring issue b. Therefore, SG80 is not achieved.		

Draft scoring range	**<60**
Information gap indicator	**Information sufficient to score PI**

PI 1.2.4 – Assessment of stock status Lutjanus synagris and Ocyurus chrysurus

PI 1.2.4		There is an assessment of the stock status		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Appropriateness of assessment to stock under consideration**			
	Guide post		The assessment is appropriate for the stock and for the harvest strategy.	The assessment takes into account the major features relevant to the biology of the species and the nature of the UoA.
	Met?		**Yes**	**No**
Rationale		Although stock assessments are carried out with models based on the absence of data and lack continuity, they could in principle be used to define capture control rules. But as indicated in PI 1.2.1 and 1.2.2, there is no catch control rule for this fishery. Only SG80 is complied with.		
b	**Assessment approach**			
	Guide post	The assessment estimates stock status relative to generic reference points appropriate to the species category.	The assessment estimates stock status relative to reference points that are appropriate to the stock and can be estimated.	
	Met?	**Yes**	**No**	
Rationale		Stock statuses are estimated based on generic reference points. Therefore, SG80 is not achieved.		
c	**Uncertainty in the assessment**			
	Guide post	The assessment **identifies major sources** of uncertainty.	The assessment **takes uncertainty into account**.	The assessment evaluates stock status relative to reference points in a **probabilistic** way.
	Met?	**Yes**	**No**	**No**
Rationale		Stock assessments do not consider all sources of uncertainty. Therefore, SG80 is not achieved.		
d	**Evaluation of assessment**			
	Guide post			The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.
	Met?			**No**
Rationale		The assessments have not been subjected to reviews or robustness testing. SG100 is not achieved.		
e	**Peer review of assessment**			
	Guide post		The assessment of stock status is subject to peer review.	The assessment has been **internally and externally peer** reviewed.
	Met?		**No**	**No**
Rationale		The available stock assessment has not been peer reviewed yet. SG80 is not met.		

Draft scoring range	**60-79**
Information gap indicator	**Information sufficient to score PI**

6.5 Principle 2

6.5.1. Principle 2 background

1. Introduction

The fishery for lane snapper (*Lutjanus synagris*) and yellowtail snapper (*Ocyurus chrysurus*) in Northeastern Brazil is multispecific in nature, reflecting the simultaneous capture of several demersal species by different fleets. Studies show that this type of fishery is particularly complex, as official statistics rarely discriminate bycatch or include estimates of unreported fishing (Souza et al., 2019; Fonteles-Filho, 2011).

In this context, two traditional fishing methods stand out: traps and bottom handlines. According to Jennings et al. (2001), both fishing gears are considered passive, as they do not need to be dragged or towed to capture fish.

2. Traps

Trap are passive fishing gears, made with wooden or metal frames, usually covered with galvanized wire mesh or synthetic fibers with variable mesh sizes, and are portable. They are used to catch reef fish, crustaceans, and mollusks, operating in shallow and mid-coastal areas in Northeastern Brazil, and are considered a very diversified fishery (Moura et al., 2021).

Studies conducted along the coasts of Alagoas and Pernambuco identified that fish traps capture a wide variety of species, including cioba (*Lutjanus analis*), ariacó (*Lutjanus synagris*), and guaiúba (*Ocyurus chrysurus*), in addition to accompanying species such as Haemulon spp., Sparisoma spp., and cephalopods (Vasconcelos et al., 2020).

According to Carvalho et al. (2022), the advantages of using this gear include low operational cost, partial selectivity, and the possibility of releasing live fish back into the environment. However, the technique also presents relevant disadvantages, such as ghost fishing resulting from lost traps, frequent theft, and low durability of materials.

The number of traps (Figure 6) per vessel varies according to the type and size of the boat, ranging from 35 to 150 units. The target species of this type of fishing gear are fish, but accidentally other species are also caught, such as mollusks and crustaceans (Batista, 2018). Sanches and Sebastian (2009) define the trap as a passive fishing gear that captures various species of fish and crustaceans through the attraction of a specific bait, with the catch retained inside.

Ribeiro (2004), studying the composition of fish communities captured with traps in the states of Rio Grande do Norte and Pernambuco, identified the capture of reef fish distributed across 5 families and a total of 11 species. Meanwhile, Batista (2018), analyzing trap fisheries in a fishing community in Ceará, recorded the landing of 30 fish species belonging to 14 families. Lane snapper (*Lutjanus synagris*), yellowtail snapper (*Ocyurus chrysurus*) and cioba (*Lutjanus analis*) were the most common species and the ones with the highest commercial value. Cambuba (*Haemulon parra*) and biquara (Haemulon plumierii) were also frequent in catches (Table 5).

Figure 6 - Traps used on the coast of Ceará. Source: Batista (2018).

Table 5 - Reef fish species caught in trap fishing in the states of Ceará, Rio Grande do Norte and Pernambuco.

Familly	**Scientific Name**	**Popular Name**	**Source**
Acanthuridae	*Acanthurus baiano*	Caraúna	Ribeiro (2004)
	Acanthurus chirurgus	Caraúna	
	Acanthurus coerulus	Caraúna	
Lutjanidae	*Lutjanus analis*	Cioba	
	Ocyurus chrysurus	Guaiúba	
	Lutjanus jocu	Dendão	
	Lutjanus synagris	Ariacó	
Mulidae	*Pseudupeneus maculatus*	Saramute	
Sacaridae	*Sparisoma Axilare*	Budão	
	Sparisoma frandosum	Budão	
Serranidae	*Cephalopholis fulva*	pirauna	
Acanthuridae	*Acanthurus bahianus (Castelnau, 1855)*	Caratina	Batista (2018)
Acanthuridae	*Acanthurus chirurgus (Bloch, 1787)*	Caratina	
Balistidae	*Balistes carolinensis (Gmelin, 1789)*	Cangulo Branco	
Carangidae	*Carangoides bartholomaei (Cuvier, 1833)*	Guarajuba Amarela	
Carangidae	*Caranx latus (Agassiz, 1831)*	Guarajuba Preta	
Carangidae	*Caranx hippos (Linnaeus, 1776)*	Xaréu	
Diodontidae	*Diodon holocanthus (Linnaeus, 1758)*	Baiacu de espinho	
Ephippidae	*Chaetodipterus faber (Broussonet, 1782)*	Enxada	
Lutjanidae	*Lutjanus analis (Cuvier, 1828)*	Cioba	
Lutjanidae	*Lutjanus jocu (Bloch & Schneier, 1801)*	Dendão	
Lutjanidae	*Lutjanus synagris (Linnaeus, 1758)*	Ariacó	
Lutjanidae	*Ocyurus chrysurus (Bloch, 1791)*	Guaiúba	
Haemulidae	*Anisotremus virginicus (Linnaeus, 1758)*	Mercador Amarelo	
Haemulidae	*Haemulon parra (Desmarest, 1823)*	Cambuba	
Haemulidae	*Haemulon plumieri (Lacepède, 1801)*	Biquara	
Haemulidae	*Haemulon steindachneri (Jordan & Gilbert, 1882)*	Sapuruna	
Muraenidae	*Gymnothorax funebris (Ranzani, 1840)*	Moréia Verde	
Monacanthidae	*Aluterus heudelotii (Hollard, 1855)*	Cangulo	
Monacanthidae	*Aluterus scriptus (Osbeck, 1765)*	Cangulo	
Monacanthidae	*Stephanolepis hispidus (Linnaeus, 1766)*	Peixe Porco	
Ostraciidae	*Acanthostracion polygonius (Poey, 1876)*	Cofre	

Ostraciidae	*Acanthostracion quadricornis (Linnaeus, 1758)*	Cofre	
Pomacanthidae	*Holacanthus ciliaris (Linnaeus, 1758)*	Paru Verde	
Pomacanthidae	*Pomacanthus paru (Bloch, 1787)*	Paru Frade	
Sparidae	*Calamus calamus (Valenciennes, 1830)*	Peixe Pena	
Sparidae	*Calamus penna (Valenciennes, 1830)*	Peixe Pena	
Sparidae	*Calamus pennatula (Guichenot, 1868)*	Peixe Pena	
Serranidae	*Mycteroperca bonaci (Poey, 1860)*	Sirigado	
Scaridae	*Sparisoma frondosum (Agassiz, 1831)*	Budião Batata	
Scaridae	*Sparisoma radians (Valenciennes, 1840)*	Budião de Alga	

Analyzing the composition of landings in northern Bahia, Alagoas, Rio Grande do Norte, Ceará, and Piauí, Nóbrega and Lessa (2007) found that in trap catches, Pseudupeneus maculatus (goatfish) accounted for 45.6% of the total weight. This was followed by Lutjanus synagris (14.5%), Haemulon plumieri (7.4%), Haemulon aurolineatum (6.9%), Haemulon chrysargyreum (3.9%), and Cephalopholis fulva (2.5%).

Marques and Ferreira (2010), analyzing trap fisheries along the northern coast of Pernambuco, identified 41 reef fish species belonging to 18 families exploited in trap fishing. The most common species were goatfish (*Pseudupeneus maculatus*), xira (*Haemulon squamipinna*), caraúna (*Acanthurus chirurgus*), parrotfishes (*Sparisoma axillare, Sparisoma frondosum*), and lane snapper (*Lutjanus synagris*). The authors state that for sustainable exploitation, it is essential to develop proposals for the protection and regulation of reef fish trap fisheries in Northeastern Brazil.

3. Handline

The handline is a widely used modality in artisanal fisheries in Northeastern Brazil. It consists of a main polyamide line and secondary lines, each equipped with hooks of different sizes. This gear allows flexibility in capturing multiple demersal species and is considered a low-impact method on reef habitats (Dias Neto; Dornelles, 2017).

The selectivity of handlines, although relatively higher than that of traps, depends on the size of the hooks and the type of bait used. Among its disadvantages are the difficulty of distinguishing fishing effort in commercial landings and the challenges in applying regulatory measures based on catch data (Silva et al., 2018).

Recent surveys in Ceará and Bahia have shown that the main species caught include lane snapper (Lutjanus synagris), yellowtail snapper (Ocyurus chrysurus), cioba (Lutjanus analis), Spanish mackerel (Scomberomorus brasiliensis), and jack crevalle (Caranx hippos), along with a wide diversity of reef fish (Pinheiro et al., 2020; Martins et al., 2023).

According to Olavo et al. (2005), the Bahia handline fleet uses different types of handlines during fishing operations to catch different baits and specific target resources, enabling the exploitation of various environments and the optimization of fishing effort during each trip. This allows for the utilization of species diversity and the continuous redirection of fishing effort toward the available resources during each fishery. The authors report that, for the fishery of Lutjanus synagris and Ocyurus chrysurus—target species along with Lutjanus vivanus, Rhomboplites aurorubens, Lutjanus griseus, Lutjanus cyanopterus, Etelis oculatus, Lutjanus analis, and Lutjanus jocu—a type of handline known as parada is used. This gear operates close to the seabed, at depths up to 200 m, with hooks ranging from size no. 5 to no. 14.

The low impact on reef formations and the relative selectivity compared to traps are advantages of using handlines. However, the fact that hook sizes and line types can be frequently changed—while an advantage—also hinders studies on selectivity based on commercial landing data, since it is difficult to identify catches obtained separately for each hook size and type of line (Olavo et al., 2005).

Castro and Silva (2004) listed more than 70 species caught with handlines in the state of Ceará by vessels such as paquetes, canoes, rowboats, jangadas, and sailing boats. However, the study did not specify which species were caught with bottom handlines or alongside ariacó and guaiúba. Later, Nóbrega and Lessa (2007), describing the composition of catches from the artisanal fishing fleet in Northeastern Brazil, identified that the most representative species by weight captured by the bottom handline fleet were: Seriola dumerili (12.9%); Mycteroperca bonaci (11.6%); Lutjanus jocu (7.4%); Lutjanus chrysurus (5.6%); Lutjanus analis (5%); Caranx latus (4.1%); Carangoides bartholomaei (1.4%); Lutjanus synagris (1.3%); Carangoides crysos (1.3%); and Lutjanus vivanus (0.9%). The study provides a list of 196 species identified in catches from bottom and surface handlines, gillnets, flying fish nets, purse seines, and fish traps. However, species were not listed by fishing method, nor did the authors specify which were caught with lane snapper and yellowtail snapper.

6.5.2. Principle 2 Performance Indicator scores and rationales

PI 2.1.1 – In-scope species outcome

PI 2.1.1		**The UoA aims to maintain in-scope species above the PRI and does not hinder recovery of in-scope species if they are below the PRI**		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Main in-scope species stock status**			
	Guide post	**Main** in-scope species are **likely** to be above the PRI. or If the species is below the PRI, it is **likely** that the UoA does not hinder recovery and rebuilding.	**Main** in-scope species are **highly likely** to be above the PRI. or If the species is below the PRI, there is evidence of recovery, or it is **highly likely** that the UoA does not hinder recovery and rebuilding.	There is a **high degree of certainty** that **main** in-scope species **are** fluctuating around a level consistent with MSY.
	Met?	**NO**		
Rationale		A complete list of species within the scope captured together with the ariacó and guaiúba in bottom line and creel fisheries was not obtained. There is a diversity of specific species such as accompanying fauna, however, the total and which species are being captured by each fishery are not certain. It is necessary to obtain information for the modalities separately and determine which species are major and minor. To score this PI, more information would be needed and an RBF would be applied. SG 60 is not met.		
b	**Minor in-scope species stock status**			
	Guide post			**Minor** in-scope species are **highly likely** to be above the PRI. or If below the PRI, there is evidence that the UoA does not hinder the recovery and rebuilding of **minor** in-scope species.
	Met?			**NO**
Rationale		Idem Scoring issue a.		

Draft scoring range	***<60***
Information gap indicator	*More information sought*
Data-deficient? (Risk-Based Framework needed)	**YES**

PI 2.1.2 – In-scope species management strategy

PI 2.1.2		**There is a strategy in place that is designed to maintain or to not hinder rebuilding of in-scope species**		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Management strategy in place**			
	Guide post	There are **measures** in place for the UoA, **if necessary**, that are expected to maintain or to not hinder rebuilding of the **main** in-scope species at/to the in-scope species outcome SG60 level.	There is a **partial strategy** in place for the UoA, **if necessary**, that is expected to maintain or to not hinder rebuilding of the main in-scope species at/to the in-scope species outcome SG80 level. or Where in-scope species outcome fails to meet the SG80, a demonstrably effective strategy is in place between all MSC UoAs that categorise this species as **main** in-scope to ensure that they collectively do not hinder recovery and rebuilding.	There is a **strategy** in place for the UoA for managing **main** and **minor** in-scope species at the in-scope species outcome SG80 level.
	Met?	**No**	**No**	**No**
Rationale		The assessment team did not obtain accurate information on which species are actually involved in the Lutjanus synagris and Ocyurus chrysurus fisheries. SG60 was not achieved.		
b	**Management strategy effectiveness**			
	Guide post	The measures, **if necessary**, are considered **likely** to work for the **main** in-scope species, based on plausible argument.	There is some **evidence** that the measures/partial strategy, **if necessary**, is achieving the objectives for **main** in-scope species set out in scoring issue (a), based on some information directly about the UoA and/or species involved.	**There is evidence** that the partial strategy/strategy is achieving the objectives set out in scoring issue (a), based on information directly about the UoA and/or species involved.
	Met?	**No**	**No**	**No**
Rationale		Idem Scoring issue a.		
c	**Review of alternative measures**			
	Guide post	There is a **review** of **alternative measures** to minimise UoA-related mortality of **unwanted catch** of **main** in-scope species	There is a **review** at least once every 5 years of **alternative measures** to minimise UoA-related mortality of **unwanted catch** of **main** in-scope species and	There is a **review** that happens every 2 years of **alternative measures** to minimise UoA-related mortality of **unwanted catch** of all in-scope species, and

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of in-scope species		
			they are **implemented, as appropriate**.	they are **implemented, as appropriate**.
	Met?	**No**	**No**	**No**
Rationale		Idem Scoring issue a.		
d	**Shark finning**			
	Guide post	There is a **high degree of certainty** that shark finning is not taking place.		
	Met?	**No**		
Rationale		No information available. SG60 is not served.		
e	**Ghost gear management strategy**			
	Guide post	There are measures in place for the UoA, **if necessary**, that are expected to minimise ghost gear and its impact on all in-scope species.	There is a partial strategy in place for the UoA, **if necessary**, that is expected to minimise ghost gear and its impact on all in-scope species.	There is a strategy in place for the UoA, **if necessary**, that is expected to minimise ghost gear and its impact on all in-scope species.
	Met?	**No**	**No**	**No**
Rationale		As there is no information, SG60 is not served.		

Draft scoring range	**<60**
Information gap indicator	**More information sought** It is necessary to identify which species are captured together with ariacó and guaiúba.

PI 2.1.3R – In-scope species information if RBF is used to score PI 2.1.1

PI 2.1.3R		Information on the nature and amount of in-scope species taken is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage in-scope species		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Information adequacy for assessment of impact on main in-scope species**			
	Guide post	Qualitative information is adequate to estimate productivity and susceptibility attributes for main in-scope species.	Some quantitative information is adequate to assess productivity and susceptibility attributes for main in-scope species.	
	Met?	**No**	**No**	
Rationale		The information is not sufficient to identify whether the species caught that are within the scope are major or minor, thus SG60 is not achieved.		
b	**Information adequacy for assessment of impact on minor in-scope species**			
	Guide post			Some quantitative information is adequate to **estimate** the impact of the UoA on minor in-scope species with respect to status.
	Met?			**No**
Rationale		Idem Scoring issue a.		
c	**Information adequacy for management strategy**			
	Guide post	Information is adequate to support **measures** to manage **main** in-scope species.	Information is adequate to support a **partial strategy** to manage **main** in-scope species.	Information is adequate to support **a strategy** to manage **all** in-scope species and evaluate with a **high degree of certainty** whether the strategy is achieving its objective.
	Met?	**No**	**No**	**No**
Rationale		Idem Scoring issue a.		

Draft scoring range	**<60**
Information gap indicator	**More information sought** *It is necessary to identify which species within the scope are captured and whether they are major or minor.*

PI 2.2.1 – ETP/OOS species outcome

PI 2.2.1		The direct effects of the UoA do not hinder recovery of the ETP/OOS unit to favourable conservation status		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Direct effects**			
	Guide post	The direct effects of the UoA are **unlikely** to hinder recovery of the ETP/OOS unit to favourable conservation status.	The direct effects of the UoA are **highly unlikely** to hinder recovery of the ETP/OOS unit to favourable conservation status.	There is a **high degree of certainty** that the direct effects of the UoA do not hinder recovery of the ETP/OOS unit to favourable conservation status.
	Met?	**No**	**No**	**No**
Rationale		The assessment team did not obtain with greater precision the ETP species that interact with the ariacó and guaiúba fisheries. Therefore, at the moment, it is not possible to state that the direct effects of the UoA do not hinder the recovery of ETP/OOS species. To score this PI, more information is required and an RBF is applied. It does not comply with SG60.		

Draft scoring range	**<60**
Information gap indicator	**More information sought** *It is necessary to identify which ETP/OOS species interact with the fishery.*
Data-deficient? (Risk-Based Framework needed)	**Yes**

PI 2.2.2 – ETP/OOS species management strategy

PI 2.2.2		The UoA has precautionary management strategies in place designed to: • **Ensure that incidental catches of the ETP/OOS unit are minimised and where possible eliminated** • **Ensure that the UoA does not hinder recovery to Favourable Conservation Status.**		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Management strategy in place**			
	Guide post	There are **measures** in place, **if necessary**, that are expected to **minimise** the UoA-related mortality of the ETP/OOS unit and achieve the ETP/OOS outcome SG80 level of performance.	There is a **strategy** in place, **if necessary**, that is expected to minimise the UoA-related mortality of the ETP/OOS unit and achieve the ETP/OOS outcome SG80 level of performance.	There is a **comprehensive strategy** in place that is expected to **minimise** the UoA-related mortality of the ETP/OOS unit and achieve the ETP outcome SG80 level of performance.
	Met?	**No**	**No**	**No**
Rationale		There are measures to reduce the interaction of ETP/OOS species with fisheries, such as the National Plans (PAN) for the conservation of sea turtles, porpoises, small cetaceans, endangered sharks and rays, and seabirds. Furthermore, Brazil is a signatory to the Inter-American Convention for the Protection and Conservation of Sea Turtles and the Convention on International Trade in Endangered Species of Wild Fauna and Flora-CITES. However, to confirm that these strategies can minimize mortality for these species, it is necessary to confirm which species interact with the fisheries being evaluated. SG60 is not met.		
b	**Management strategy effectiveness**			
	Guide post		Evidence indicates that the **measures, strategy or comprehensive strategy** have reduced or **minimised** the mortality of the ETP/OOS unit.	
	Met?		**No**	
Rationale		It is unknown which ETP species interact with the fishery, and although measures are in place, there is no evidence that they are effective. It does not comply with SG60.		
c	**Review of alternative measures to minimise mortality of the ETP/OOS unit**			
	Guide post		There is a **review** at least once every 5 years of the **alternative measures** to **minimise** UoA-related mortality of the ETP/OOS unit and they are implemented as appropriate for the ETP/OOS unit.	There is a **review** that happens every 2 years of **alternative measures** to **minimise** UoA- related mortality of the ETP/OOS unit, and they are implemented, as appropriate for the ETP/OOS unit.
	Met?		**No**	**No**
Rationale		During this assessment, it was not possible to determine which ETP species are interacting with the ariacó and guaiúba fishery. Therefore, it does not comply with SG60.		
d	**Shark finning**			
	Guide post	There is a **high degree of certainty** that shark finning is not taking place.		
	Met?	**No**		
Rationale		No information available. SG60 is not served.		
e	**Ghost gear management strategy**			
	Guide post	There are **measures** in place, **if necessary**, for the UoA that are expected to **minimise**	There is a **partial strategy** in place for the UoA, **if necessary**, that is expected to	There is a **strategy** in place for the UoA, **if necessary**, that is expected to **minimise**

PI 2.2.2		The UoA has precautionary management strategies in place designed to: • Ensure that incidental catches of the ETP/OOS unit are minimised and where possible eliminated • Ensure that the UoA does not hinder recovery to Favourable Conservation Status.		
		ghost gear and its impact on the ETP/OOS unit.	**minimise** ghost gear and its impact on the ETP/OOS unit.	ghost gear and its impact on the ETP/OOS unit.
	Met?	**No**	**No**	**No**
Rationale		*As there is no information, it does not comply with SG60.*		

Draft scoring range	**<60**
Information gap indicator	**More information sought** *It is necessary to identify which ETP/OOS species interact with the fishery.*

PI 2.2.3R – ETP/OOS species information if RBF is used to score PI 2.2.1

PI 2.2.3R		Relevant information is collected to support the management of UoA impacts on the ETP/OOS unit, including: • Information for the development of the management strategy. • Information to assess the effectiveness of the management strategy. • Information to determine the outcome status of the ETP/OOS unit.		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Information adequacy for assessment of impacts**			
	Guide post	Qualitative information is adequate to estimate productivity and susceptibility attributes for the ETP/OOS unit.	Some quantitative information is adequate to assess productivity and susceptibility attributes for the ETP/OOS unit.	
	Met?	**No**	**No**	**No**
Rationale		No information was obtained to define the composition of catches during the ariacó and guaiúba fishing. Therefore, it is not possible to state that the information is adequate to estimate productivity and susceptibility attributes for the ETP/OOS unit. SG60 is not complied with.		
b	**Information adequacy for management strategy**			
	Guide post	Information is adequate to support **measures** to manage impacts on the ETP/OOS unit.	**Information is adequate** to support a strategy to manage impacts on the ETP/OOS unit, and to measure trends to evaluate the effectiveness of the **measures** to minimise mortality.	Information is adequate to support a **comprehensive strategy** to manage impacts on the ETP/OOS unit, and to evaluate the effectiveness of the **measures** to minimise mortality with a **high degree of certainty**.
	Met?	**No**	**No**	**No**
Rationale		The information is limited and therefore not suitable for supporting impact management measures in the ETP/OOS unit. Does not comply with SG60.		

Draft scoring range	**<60**
Information gap indicator	**More information sought / Information sufficient to score PI** *It is necessary to identify which ETP/OOS species interact with the fishery.*

PI 2.3.1 – Habitats outcome

PI 2.3.1		The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(ies) responsible for fisheries management in the area(s) where the UoA operates		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Less sensitive habitats**			
	Guide post	The UoA is **unlikely** to reduce structure and function of **less** sensitive habitats to a point where there would be **serious or irreversible harm**.	The UoA is **highly unlikely** to reduce structure and function of **less** sensitive habitats to a point where there would be **serious or irreversible harm**.	There is **evidence** that the UoA is **highly unlikely** to reduce structure and function of **less** sensitive habitats to a point where there would be **serious or irreversible harm**.
	Met?	**No**	**No**	**No**
Rationale		Although pots and bottom lines are considered passive fishing gear, the species evaluated are reef species, found in highly vulnerable ecosystems. Therefore, the assessment team recommends that more information be collected and an RBF be conducted. Therefore, SG60 is not met.		
b	**More sensitive habitats**			
	Guide post	The UoA is **unlikely** to reduce structure and function of **more** sensitive habitats to a point where there would be **serious or irreversible harm**.	The UoA is **highly unlikely** to reduce structure and function of **more** sensitive habitats to a point where there would be **serious or irreversible harm**.	There is **evidence** that the UoA is **highly unlikely** to reduce structure and function of **more** sensitive habitats to a point where there would be **serious or irreversible harm**.
	Met?	**No**	**No**	**No**
Rationale		More information is needed to confirm the absence of impact, even though there is no mention of more sensitive habitat in the bottom line and pot fishing area in the work analyzed during this assessment. SG is not fulfilled.		

Draft scoring range	**<60**
Information gap indicator	**More information sought** *Obtain information on habitat types in bottom line and creel fishing areas.*
Data-deficient? (Risk-Based Framework needed)	**Yes**

PI 2.3.2 – Habitats management strategy

PI 2.3.2		There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Management strategy in place**			
	Guide post	There are **measures** in place, **if necessary**, that are expected to achieve the habitat outcome SG80 level.	There is a **partial strategy** in place, **if necessary**, that is expected to achieve the habitat outcome SG80 level or above.	There is a **strategy** in place for managing the impact of all MSC UoAs/non-MSC fisheries on habitats.
	Met?	**No**	**No**	**No**
Rationale		In the North East, there are some measures to minimize impacts on reefs, such as the creation of Marine Conservation Units (UCMs) and the Coral Coast Environmental Protection Area (APACC). However, available information shows that reefs are being affected in this region, and the cause is unclear. Therefore, it is necessary to assess the impact of fishing on habitats to score this IP. SG60 is not met.		
b	**Management strategy effectiveness**			
	Guide post	The **measures**, **if necessary**, are considered **likely** to work, based on **plausible argument**.	There is some **evidence** that the measures/partial strategy, **if necessary**, is achieving the objectives set out in SI (a), based on **information directly about the UoA and/or habitats** involved.	There is evidence that the **partial strategy/strategy** is achieving the objectives set out in SI (a), based on **information directly about the UoA and/or habitats** involved.
	Met?	**No**	**No**	**No**
Rationale		The lack of more detailed information makes it impossible to state that the measures are considered likely to work, based on plausible arguments. Therefore, SG60 is not achieved.		
c	**Compliance with management requirements and other MSC UoAs'/non-MSC fisheries' measures to protect more sensitive habitats**			
	Guide post	Information is adequate to **broadly understand** compliance in the UoA with management requirements to protect **more** sensitive habitats.	Information is adequate to **determine**, with a **high degree of accuracy**, compliance in the UoA with both its management requirements and protection measures afforded to **more** sensitive habitats by other MSC UoAs/non-MSC fisheries, **where relevant**.	Information is adequate to **determine**, with a **very high degree of accuracy**, compliance in the UoA with both its management requirements and with protection measures afforded to more sensitive habitats by other MSC UoAs/ non-MSC fisheries, **where relevant**.
	Met?	**NA**	**NA**	**NA**
Rationale		There are no reports of more sensitive habitats in the area of pot and bottom line fishing.		
d	**Ghost gear management strategy**			
	Guide post	There are **measures** in place, **if necessary**, for the UoA that are expected to **minimise** ghost gear and its impact on all habitats.	There is a **partial strategy** in place for the UoA**, if necessary**, that is expected to **minimise** ghost gear and its impact on all habitats.	There is a **strategy** in place for the UoA, **if necessary**, that is expected to **minimise** ghost gear and its impact on all habitats.
	Met?	**No**	**No**	**No**
Rationale		No information was obtained. Therefore, SG60 is not achieved.		

Draft scoring range	**<60**
Information gap indicator	**More information sought**

	It is necessary to obtain information about habitats and existing measures to minimize impacts.

PI 2.3.3R – Habitats information if CSA is used to score PI 2.3.1

PI 2.3.3R		**Information is adequate to determine the risk posed to habitats by the UoA and the effectiveness of the strategy to manage impacts on the habitats**		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Information quality**			
	Guide post	Qualitative information is adequate to estimate the types and distribution of habitats.	Some quantitative information is available and is adequate to estimate the types and distribution of habitats.	The distribution of habitats is known over their range, with particular attention to the occurrence of vulnerable habitats.
	Met?	**Yes**	**No**	**No**
Rationale		There is some information on habitat types and their distribution, thus complying with SG60. To achieve SG80 it would be necessary to obtain more information.		
b	**Information adequacy for assessment of impacts**			
	Guide post	Qualitative information is adequate to estimate the consequence and spatial attributes of habitats.	Some quantitative information is available and is adequate to estimate the consequence and spatial attributes of habitats.	
	Met?	**No**	**No**	**No**
Rationale		During the assessment, the team did not obtain information to determine the spatial overlap of habitat with fishing gear. SG60 is not achieved.		
c	**Monitoring**			
	Guide post		Adequate information continues to be collected to detect any increase in risk to habitats.	Changes in habitat distributions over time are measured.
	Met?		**No**	**No**
Rationale		Research projects have been identified that monitor some habitats that could be impacted by fishing. But there is no data collection to detect any increased risk in habitats. SG80 is not met.		

Draft scoring range	**<60**
Information gap indicator	**More information sought / Information sufficient to score PI** *More information about habitats is needed.*

PI 2.4.1 – Ecosystem outcome

PI 2.4.1		The UoA does not cause serious or irreversible harm to the key elements underlying ecosystem structure and function		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Ecosystem status**			
	Guide post	The UoA is **unlikely** to disrupt the **key** elements underlying ecosystem structure and function to a point where there would be serious or irreversible harm.	The UoA is **highly unlikely** to disrupt the **key** elements underlying ecosystem structure and function to a point where there would be serious or irreversible harm.	There is **evidence** that the UoA is **highly unlikely** to disrupt the **key** elements underlying ecosystem structure and function to a point where there would be serious or irreversible harm.
	Met?	**No**	**No**	**No**
Rationale		It is not possible to assess the impact of fishing on the ecosystem. The difficulty in scoring components 2.1, 2.2 and 2.3, due to the lack of information, shows the need to understand more precisely the impacts of each of the fishing modalities. Therefore, an RBF must be applied and SG60 is not met.		

Draft scoring range	**<60**
Information gap indicator	**More information sought** *Information on the impacts of each fishing modality must be obtained.*
Data-deficient? (Risk-Based Framework needed)	**Yes**

PI 2.4.2 – Ecosystem management strategy

PI 2.4.2		There are measures in place to ensure the UoA does not pose a risk of serious or irreversible harm to ecosystem structure and function		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Management strategy in place**			
	Guide post	There are **measures** in place, **if necessary**, which considers the potential impacts of the UoA on the **key** elements underlying ecosystem structure and function.	There is a **partial strategy** in place, **if necessary**, that is expected to achieve the Ecosystem outcome SG80 level.	There is a **strategy** in place for managing the impact of the UoA on the **key** elements underlying ecosystem structure and function.
	Met?	**No**	**No**	**No**
Rationale		With the information obtained during the analysis, it is not possible to state whether measures are necessary and whether they exist. SG60 is not complied with.		
b	**Management strategy effectiveness**			
	Guide post	The **measures, if necessary**, are considered **likely** to work, based on plausible argument.	There is **some evidence** that the **measures/partial strategy, if necessary**, is achieving the objectives set out in scoring issue (a), based on some information directly about the UoA and/or the ecosystem involved.	There is **evidence** that the **partial strategy/strategy** is achieving the objectives set out in scoring issue (a) based on information directly about the UoA and/or ecosystem involved.
	Met?	**No**	**No**	**No**
Rationale		Idem Scoring issue a.		

Draft scoring range	**<60**
Information gap indicator	**More information sought /** *Obtain information on the impact of fisheries on the ecosystem.*

PI 2.4.3 – Ecosystem information

PI 2.4.3		There is adequate knowledge of the ecosystem and the main impacts of the UoA on key ecosystem elements		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Information quality**			
	Guide post	Information is adequate to identify the key elements of the ecosystem.	Information is adequate to broadly understand the key elements of the ecosystem.	
	Met?	**No**	**No**	
Rationale		It is not possible to identify the main elements of the ecosystem with the available information. Therefore, SG60 is not achieved.		
b	**Investigation of UoA impacts**			
	Guide post	Main impacts of the UoA on the **key** ecosystem elements **can be inferred** from existing information	Main impacts of the UoA on the **key** elements of the ecosystem **have been investigated in detail**.	Main interactions between the UoA and the **key** ecosystem elements **have been investigated in detail**.
	Met?	**No**	**No**	**No**
Rationale		The information is insufficient to infer the main elements of the ecosystem. It does not comply with SG60.		
c	**Understanding of component functions**			
	Guide post		The main functions of the components in the ecosystem are **known**.	The impacts of the UoA on the components are identified and the main functions of these components in the ecosystem are **understood**.
	Met?		**No**	**No**
Rationale		The lack of information makes it impossible to understand the main functions of the ecosystem's components. SG60 is not met.		
d	**Monitoring**			
	Guide post		Adequate data continue to be collected to detect any increase in risk level.	**Information is adequate** to support the development of strategies to manage ecosystem impacts.
	Met?		**No**	**No**
Rationale		There is no data collection. Therefore, SG60 is not met.		

Draft scoring range	**<60**
Information gap indicator	**More information sought** *It is necessary to seek information about the ecosystem.*

6.6. Principle 3

6.6.1. Principle 3 background

1. **Legal and policy framework**

Fishing activity in Brazil is governed by Law No. 11,959 of June 29, 2009, which establishes the National Policy for the Sustainable Development of Aquaculture and Fisheries (BRASIL, 2009). The Law was formulated with the objective of promoting: (a) The sustainable development of fisheries and aquaculture as a source of food, employment, income, and leisure, ensuring the sustainable use of fishery resources, as well as optimizing the resulting economic benefits, in harmony with the preservation and conservation of the environment and biodiversity; (b) The regulation, promotion, and inspection of fishing activities; (c) The preservation, conservation, and recovery of fishery resources and aquatic ecosystems; and (d) The socioeconomic, cultural, and professional development of those engaged in fishing activities, as well as their communities.

On June 30, 2021, Decree No. 10,736 of June 29, 2021 was published, establishing the National Collaborative Network for the Sustainable Management of Fishery Resources — Rede Pesca Brasil, with an advisory and consultative role, aiming to support management for the sustainable use of fishery resources. It is structured through a scientific-technical database and permanent management committees (CPGs). Among them, the Permanent Management Committee for the Fisheries and Sustainable Use of Demersal Fishery Resources of the North and Northeast Regions (CPG Demersais Norte/Nordeste), which oversees ariacó and guaiúba fisheries.

Article 9 of the Decree establishes that committees will meet at least once a year, and recommendations will preferably be approved by consensus. If consensus is not possible, recommendations will be submitted to a vote during the permanent committee meeting.

The Decree also defines the structure of the Committees, establishing procedures for the Executive Secretariat, the creation of specific working groups, and technical-scientific groups. Since then, four ordinary meetings of the CPG Demersais N/NE have been held (December 2022, November 2023, August 2024, and January 2025) and two extraordinary meetings (November 2024 and April 2025). All presentations and proceedings from the meetings are available on the Ministry of Fisheries website.

One year after the creation of Rede Pesca Brasil, Ordinance SAP/MAPA No. 1,267 of September 2022 was published, designating the members of the CPG Demersais Norte/Nordeste. The committee is composed of 15 representatives from government agencies and 15 representatives from civil society involved in fisheries, with CeDePesca among its members. Its responsibilities include advising the Secretariat of Aquaculture and Fisheries of the Ministry of Agriculture, Livestock, and Supply in adopting measures and carrying out actions for management, as well as assisting in their implementation and evaluation. On October 23, 2023, Ordinance No. 148/2023 updated the list of members.

Also in October 2023, through Ordinance No. 147 of October 23, 2023, the Technical-Scientific Advisory Group (GTC) of the CPG Demersais N/NE was established. The GTC is responsible for:

- Evaluating and making recommendations on issues forwarded by the CPG Demersais N/NE;
- Proposing and technically supporting studies and research for the management of fishery resources;
- Proposing strategies for monitoring, controlling, and evaluating fishery management;

- Providing and analyzing information on fishing activity, including biological, ecological, environmental, economic, and social data;
- Providing technical support for Brazil's participation in national and international fisheries forums;
- Preparing a final report on each reviewed matter to present at CPG Demersais N/NE meetings.

After several reorganizations, management is now under shared responsibility between the Ministry of Fisheries and Aquaculture (MPA) and the Ministry of the Environment and Climate Change (MMA), as established by Law No. 14,600/2023. According to the Law, the MPA is responsible for:

- Formulating and regulating the national aquaculture and fisheries policy, and promoting the sustainable development of the production chain and food production;
- Policies, initiatives, and strategies for participatory management of the sustainable use of fishery resources;
- Organization and maintenance of the General Registry of Fishing Activity;
- Establishment of standards, criteria, guidelines, and measures for regulating the sustainable use of fishery and aquaculture resources, in coordination with the MMA;
- Granting licenses, permits, and authorizations for aquaculture and fishing modalities in the national territory;
- Authorization for chartering and nationalizing fishing vessels and their operation, observing sustainability limits;
- Implementing the subsidy policy for diesel prices established by Law No. 9,445 of March 14, 1997;
- Providing the MMA with data from the General Registry of Fishing Activity concerning licenses, permits, and authorizations granted for fishing and aquaculture, for automatic registration in the Federal Technical Registry of Potentially Polluting Activities and Users of Environmental Resources;
- Drafting, executing, monitoring, and evaluating plans, programs, and actions within its responsibilities;
- Promoting the intra- and intersectoral coordination required for aquaculture and fishing activities;
- Drafting and executing, directly or through partnerships, aquaculture and fisheries research projects, as well as fish stock monitoring programs;
- Conducting fishery statistics, directly or through partnerships with institutions and organizations;
- Promoting modernization and infrastructure for fish production, processing, and commercialization, including technology dissemination, aquaculture and fishery extension, and training;
- Administering public fishery terminals, directly or indirectly;
- Establishing and auditing the sanitary control program for fishing vessels, except factory ships;
- Supporting and participating, in coordination with the Ministry of Foreign Affairs, in negotiations and events involving Brazil's rights and interests in fishing and aquaculture;
- Entering into administrative contracts, agreements, and cooperation instruments within its areas of competence.

Ordinance No. 58 of May 22, 2023, issued by the MPA, establishes procedures related to the shared management of the sustainable use of fishery resources within the Ministry. The ordinance states that the establishment of standards, criteria, guidelines, and measures for sustainable fisheries and aquaculture must be done in coordination with the MMA.

After five years of inactivity, the National Council of Aquaculture and Fisheries (CONAPE), an advisory body of the MPA, was reestablished by Decree No. 11,625 of August 2, 2023. Its mission is to propose the formulation of public policies, aiming to promote dialogue and debate between different levels of government and civil society, for the management of aquaculture and fisheries activities in Brazil.

The Federal Constitution defines marine fishery resources as property of the federal government, allowing users to appropriate them under established rules and management, which, as seen, still faces difficulties (IPEA, 2013). Despite progress, the literature highlights persistent challenges such as institutional fragility, lack of robust landing data, and the difficulty of implementing measures based on biological reference points (Castello, 2015; Dias Neto, 2022).

Bottom handlines and fish traps are regulated by a set of Normative Instructions and Ordinances, which establish criteria for:

- Registration of fishing activity;
- Rules for vessels and fishing effort;
- Restrictions on capture and commercialization;
- Mandatory use of digital logbooks (*Sistema PesqBrasil* since 2024).

Examples include:

- IN SEAP No. 03/2004 (General Fisheries Registry);
- ICMBio Ordinance No. 179/2013 (restrictions in conservation units);
- SAP/MAPA Ordinance No. 270/2021, updating criteria for registering fishers.

In general, the lack of effective enforcement and poor coordination between public policies still compromise the sustainability of multispecies fisheries in Northeastern Brazil, demanding greater integration between scientific research, artisanal fishers, and management bodies (Martins et al., 2023).

Starting from Law No. 11,959, fishing regulations in Brazil are articulated through different Decrees, Instructions, and Ordinances. The following section presents some of the laws applicable to bottom handline and trap fisheries in the Northeast region.

2. Specific Fishery Management

1. Normative Instruction SEAP/PR No. 03 of May 12, 2004. Establishes the criteria and procedures for the General Fisheries Registry. Applicable to individuals (fishers) and legal entities (fishing vessels, fishing companies).

2. Normative Instruction No. 18 of June 18, 2008. Establishes procedures for implementing administrative measures (warning, suspension, or cancellation of the fishing license and vessel registration) when noncompliance with rules applicable to fishing activities is verified.

3. Interministerial Normative Instruction SEAP/MMA/MD No. 02 of September 4, 2006. Establishes the National Program for Satellite Tracking of Fishing Vessels — PREPS, for the purposes of monitoring, fishery management, and control of authorized fishing fleet operations. Annex I of the IN establishes that all vessels with GT greater than or equal to 50 or total length greater than 15 m, intended for bottom longline and snapper handline fisheries in the North, Northeast, South, and Southeast regions, must be equipped with a tracking system established by PREPS.

4. ICMBio Ordinance No. 179 of April 12, 2013. Prohibits the capture, landing, transportation, storage, processing, and commercialization of ariacó and guaiúba caught through diving in the marine portion of the Cassurubá Extractive Reserve and its Buffer Zone, located in Southern Bahia, when their lengths are less than 19 cm and 22 cm, respectively..

5. Normative Instruction MPA No. 20 of September 10, 2014. Establishes the criteria and procedures for recording fishing data through the Logbook (Mapa de Bordo), which must be submitted to SEAP and/or IBAMA.

6. Interministerial Normative Instruction MPA/MMA No. 10 of June 10, 2011**,** amended by IN MPA No. 14/2014, INI MPA/MMA No. 01/2015, and INI MPA/MMA No. 46/2015. Approves the general rules and organization of the fishing vessel licensing system for access to and sustainable use of fishery resources, defining fishing modalities, species to be caught, and permitted areas of operation. Fishing for ariacó and guaiúba is authorized in the following modalities:

- **Target species:** Modality 1.12 Handline (bottom);
- **Foreseeable bycatch:** 1.6. Horizontal longline; 1.8. Vertical longline/traps; 1.9. Vertical longline/traps; 1.10. Vertical longline/traps; 5.9 Traps;
- **Complementary authorization:** 1.6. Horizontal longline (bottom handline); 5.2. Traps (bottom handline); 5.9. Traps (vertical longline and handline).

7. Ordinance SAP/MAPA No. 270 of June 29, 2021. Establishes, on an exceptional and temporary basis, the rules, criteria, and administrative procedures for the registration and re-registration of individuals in the General Registry of Fishing Activity, under the category of Professional Fishermen and Fisherwomen.

8. Decree No. 10,736 of June 29, 2021. Reestablishes the Permanent Management Committees, including the Permanent Management Committee for the Fisheries and Sustainable Use of Demersal Fishery Resources of the North and Northeast Regions.

9. Ordinance MPA No. 135 of September 27, 2023. Officializes the PesqBrasil Logbook System. It establishes that the completion and submission of the Logbook must be done exclusively through the PesqBrasil System.

6.6.2. Principle 3 Performance Indicator scores and rationales

PI 3.1.1 – Legal and/or customary framework

PI 3.1.1		**The management system exists within an appropriate and effective legal and/or customary framework which ensures that it:** • **Is capable of delivering sustainability in the UoA(s);** • **Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and** • **Incorporates an appropriate dispute resolution framework**		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Compatibility of laws or standards with effective management**			
	Guide post	There is an **effective national legal system** and a **framework for cooperation** with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2.	There is an **effective national legal system** and **organised and effective cooperation with other parties**, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2.	There is an **effective national legal system** and **binding procedures governing cooperation with other parties** that deliver management outcomes consistent with MSC Principles 1 and 2.
	Met?	**No**	**No**	**No**
Rationale		The legal system in Brazil cannot be considered effective in providing results consistent with principles 1 and 2 of the MSC. There is no official statistics program in Brazil, there are no regular stock assessments, and there are no management measures regarding target stocks or other species impacted by fisheries. SG60 is not met.		
b	**Resolution of disputes**			

PI 3.1.1		The management system exists within an appropriate and effective legal and/or customary framework which ensures that it: • **Is capable of delivering sustainability in the UoA(s);** • **Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and** • **Incorporates an appropriate dispute resolution framework**		
	Guide post	The management system incorporates or is subject by law to a **mechanism** for the resolution of legal disputes arising within the system.	The management system incorporates or is subject by law to a **transparent mechanism** for the resolution of legal disputes which is **considered to be effective** in dealing with most issues and that is appropriate to the context of the UoA.	The management system incorporates or is subject by law to a **transparent mechanism** for the resolution of legal disputes, which is appropriate to the context of the fishery and has been **tested and proven to be effective**.
	Met?	**Yes**	**No**	**No**
Rationale		The MPA provides an Ombudsman channel to receive, review, and process complaints from citizens regarding public services provided by the MPA (activities provided for in Article 13 of Law No. 13,460 of June 26, 2017, and in Article 10 of Decree No. 9,492 of September 5, 2018). Complaints may be of the type of complaint, suggestion, request, or compliment, in addition to reports of irregularities involving public officials of the MPA. The fishery complies with SG60. To obtain SG80, more information would be needed to assess the transparency of the mechanism and its effectiveness.		
c	**Respect for rights**			
	Guide post	The management system has a mechanism to **generally respect** the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to **observe** the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to **formally commit** to the legal rights created explicitly or established by custom of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.
	Met?	**Yes**	**Yes**	**No**
Rationale		Article 3 of Law 11959/2009 establishes that fishing regulations must consider the peculiarities and needs of artisanal, aiming to guarantee their permanence and continuity. The law defines, in Article 24that every individual or legal entity that carries out fishing activities, as well as the vessel, must be registered in the General Register of Fishing Activities (RGP) as a prerequisite for the granting of a license for the activity, which is granted to the registered vessel detailing the species, fishing gear and permitted areas. However, it cannot be considered as a mechanism that formally commits to the legal rights established for people who depend on fishing for food and as a means of livelihood. SG60 and SG80 are met.		

Draft scoring range	**<60**
Information gap indicator	**Information sufficient to score PI**

PI 3.1.2 – Consultation, roles, and responsibilities

PI 3.1.2		The management system has effective consultation processes that are open to interested and affected parties. The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Roles and responsibilities**			
	Guide post	Organisations and individuals involved in the management process have been identified. Functions, roles, and responsibilities are **generally understood**.	Organisations and individuals involved in the management process have been identified. Functions, roles, and responsibilities are **explicitly defined and well understood for key areas** of responsibility and interaction.	Organisations and individuals involved in the management process have been identified. Functions, roles, and responsibilities are **explicitly defined and well understood for all areas** of responsibility and interaction.
	Met?	**Yes**	**Yes**	**No**
Rationale		Organizations and individuals involved in the management process have been identified. Functions, roles, and responsibilities were previously described, thus achieving SG80. To achieve SG100, functions, roles, and responsibilities must be explicitly defined for all areas.		
b	**Consultation processes**			
	Guide post	The management system includes consultation processes that **obtain relevant information** from the main affected parties, including **local knowledge**, to inform the management system.	The management system includes consultation processes that **regularly seek and accep**t relevant information, **including local knowledge**. The management system demonstrates consideration of the information obtained.	The management system includes consultation processes that **regularly seek and accept** relevant information, including **local knowledge**. The management system demonstrates consideration of the information and **explains how it is used or not used**.
	Met?	**Yes**	**Yes**	**No**
Rationale		In Brazil, there is a consultation process through the Permanent Management Committees, and the MPA submits legislative revisions for public consultation, complying with SG80. However, to comply with SG100, national management authorities would need to demonstrate how the information is obtained and whether it is used.		
c	**Participation**			
	Guide post		The consultation process **provides opportunity** for all interested and affected parties to be involved.	The consultation process **provides opportunity and encouragement** for all interested and affected parties to be involved, and **facilitates** their effective engagement.
	Met?		**Yes**	**No**
Rationale		The Management Committees have been reestablished and offer the opportunity for all interested parties to participate. Therefore, **SG80** has been achieved.		

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

PI 3.1.3 – Long-term objectives

PI 3.1.3		The management policy has clear long-term objectives to guide decision-making that are consistent with the MSC Fisheries Standard, and incorporates the precautionary approach		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Objectives**			
	Guide post	Long-term objectives to guide decision-making, consistent with the MSC Fisheries Standard and the **precautionary approach,** are **implicit** within **management policy**.	**Clear** long-term objectives that guide decision-making, consistent with the MSC Fisheries Standard and the **precautionary approach**, are **explicit** within **management policy**.	**Clear** long-term objectives that guide decision-making, consistent with the MSC Fisheries Standard and the **precautionary approach**, are **explicit** within **and required by** management policy.
	Met?	**Yes**	**Yes**	**No**
Rationale		Law No. 11,959 of June 29, 2009, establishes that "fishing must be managed to ensure the sustainable use of fishery resources," and Interministerial Ordinance No. 2/2009 states that "the best available scientific data" will be used and that "in the absence or insufficiency of scientific data, the precautionary principle should be applied to define criteria and standards for sustainable use." Therefore, it complies with SG80. To comply with SG100, there must be evidence that the long-term objectives are required by the management system.		

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

PI 3.2.1 – Fishery-specific objectives

PI 3.2.1		The fishery-specific management system has clear, specific objectives designed to achieve the outcomes expressed by MSC Principles 1 and 2		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Objectives**			
	Guide post	**Objectives**, which are broadly consistent with achieving the outcomes expressed by MSC Principles 1 and 2, are **implicit** within the fishery-specific management system.	**Short and long-term objectives**, which are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, are **explicit** within the fishery-specific management system.	**Well-defined and measurable short- and long-term objectives**, which are demonstrably consistent with achieving the outcomes expressed by MSC Principles 1 and 2, are **explicit** within the fishery-specific management system.
	Met?	**No**	**No**	**No**
Rationale		There are no management plans for the ariacó and guaiúba fisheries. A minimum catch size for both species has been established only for diving. Therefore, there are no objectives that are broadly consistent with MSC Principles 1 and 2, implicit in the specific fishery management system.		

Draft scoring range	**<60**
Information gap indicator	**Information sufficient to score PI**

PI 3.2.2 – Decision-making processes

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Decision-making processes**			
	Guide post	There are **some** decision-making processes in place that result in **measures** and **strategies** to achieve the fishery-specific objectives.	There are **established** decision-making processes that result in **measures** and **strategies** to achieve the fishery-specific objectives.	
	Met?	**No**	**No**	
Rationale		Although decision-making processes are in place, such as the North and Northeast Demersal CPG, these have not yet resulted in measures and strategies to achieve management objectives. SG60 is not achieved.		
b	**Responsiveness of decision-making processes**			
	Guide post	Decision-making processes respond to **serious issues** identified in relevant research, monitoring, evaluation, and consultation, in a transparent, timely and adaptive manner, and take some account of the wider implications of decisions.	Decision-making processes respond to **serious and other important issues** identified in relevant research, monitoring, evaluation, and consultation, in a transparent, timely, and adaptive manner, and take account of the wider implications of decisions.	Decision-making processes respond to **all issues** identified in relevant research, monitoring, evaluation, and consultation, in a transparent, timely, and adaptive manner, and take account of the wider implications of decisions.
	Met?	**No**	**No**	**No**
Rationale		The assessment team found no evidence that the management system can respond to serious problems and that it does so in a transparent, timely, and adaptive manner, as required for this aspect of the scoring. SG60 is not achieved.		
c	**Use of precautionary approach**			
	Guide post		Decision-making processes use the **precautionary approach** and are based on best available information.	
	Met?		**No**	
Rationale		It is not possible to state that the decision-making processes for the fisheries evaluated are based on the precautionary approach and based on the best available information. SG60 is not achieved		
d	**Accountability and transparency of management system and decision-making process**			
	Guide post	Some information on the fishery's performance and management action is generally available on request to stakeholders.	**Information on the fishery's performance and management action is available on request**, and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation, and review activity.	Formal reporting to all interested stakeholders **provides comprehensive information on the fishery's performance and management actions** and describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation, and review activity.
	Met?	**Yes**	**No**	**No**
Rationale		CPGs ensure that stakeholders are involved in decision-making processes. Therefore, SG60 would be met.		

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery		
		However, it cannot be stated that official reports are provided to stakeholders with comprehensive information on fishery performance and management actions.		
e	**Approach to disputes**			
	Guide post	Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability of the fishery.	The management system or UoA is attempting to comply in a timely fashion with judicial decisions arising from any legal challenges.	The management system or UoA acts proactively to avoid legal disputes or rapidly implements judicial decisions arising from legal challenges.
	Met?	**Yes**	**No**	
Rationale		There was no evidence that the management authority or fishery is subject to ongoing legal challenges. SG60 would be met. To comply with SG80, evidence must be provided that the Management System or fishery attempts to comply in a timely manner with court decisions arising from any legal challenges.		

Draft scoring range	**<60**
Information gap indicator	**Information sufficient to score PI**

PI 3.2.3 – Compliance and enforcement

PI 3.2.3		Monitoring, control, and surveillance (MCS) mechanisms ensure the management measures in the UoA are enforced and complied with		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**MCS system**			
	Guide post	MCS **mechanisms** exist within the UoA.	An MCS **system** exists within the UoA.	A **comprehensive** MCS system is well-established within the UoA.
	Met?	**No**	**No**	**No**
Rationale		Although Article 31 of Law No. 11,959 establishes that inspection is the responsibility of the federal government, subject to state, district, and municipal jurisdictions. And Article 32 defines that "the competent authority may determine the use of an onboard chart and satellite tracking device, as well as any other device or procedure that enables remote monitoring and allows for the automatic and real-time tracking of the geographic position and depth of the vessel's fishing location, under specific regulations," no evidence was obtained that the mechanism is effective, and therefore SG 60 is not met.		
b	**Sanctions**			
	Guide post	Sanctions to address non-compliance exist within the UoA.	Sanctions to deal with non-compliance exist, that are appropriate to the UoA, and are applied.	Comprehensive sanctions to address non-compliance exist, that are appropriate to the UoA, and are consistently applied.
	Met?	**Yes**	**No**	**No**
Rationale		Normative Instruction No. 18, of June 18th, 2008, establishes the procedures for implementing administrative measures (warning, suspension or cancellation of the fishing license and vessel registration) if non-compliance with the rules applicable to fishing activities is found, related to the General Fishing Registry - RGP, National Satellite Vessel Tracking Program - PREPS, National Fishing Fleet Observer Program - PROBORDO and On-Board Maps. Therefore, SG60 is meet. But no evidence of sanctions being applied was found, so SG80 would not be met.		
c	**Compliance (information)**			
	Guide post	Information is adequate to **broadly understand** compliance in the UoA.	Information is adequate to **estimate** compliance in the UoA with a **high degree of accuracy**.	Information is adequate to **estimate** compliance in the UoA with a **very high degree of accuracy**.
	Met?	**No**	**No**	**No**
Rationale		The information not is adequate to understand the compliance of the rules within the Unit of Assessment so SG60 is not achieved.		
d	**Compliance (outcome)**			
	Guide post	**Systematic non-compliance** of regulations specific to governing sustainable fishing practices on the water is not evident within the UoA.	Majority of regulations, including all regulations specific to governing sustainable fishing practices on the water, are **likely** to be complied with.	Majority of regulations, including all regulations specific to governing sustainable fishing practices on the water, are **consistently** complied with.
	Met?	**No**	**No**	**No**
Rationale		There is no evidence of compliance with management measures and therefore does not comply with SG60.		

Draft scoring range	**<60**
Information gap indicator	**Information sufficient to score PI**

PI 3.2.4 – Monitoring and management performance evaluation

PI 3.2.4		There is a system for monitoring and evaluating the performance of the fishery-specific management system against its objectives. There is effective and timely review of the fishery-specific management system		
Scoring issue		**SG 60**	**SG 80**	**SG 100**
a	**Evaluation coverage**			
	Guide post	There are mechanisms in place to evaluate **some** parts of the fishery-specific management system.	There are mechanisms in place to evaluate **key** parts of the fishery-specific management system.	There are mechanisms in place to evaluate **all** parts of the fishery-specific management system.
	Met?	**Yes**	**No**	**No**
Rationale		Management Committees perform the function of evaluating some parts of the management system, complying with SG60 for this aspect of scoring. However, since there are no specific management plans for fisheries, it cannot be said that the mechanism evaluates the key parts of this system and therefore does not comply with SG80.		
b	**Internal and/or external review**			
	Guide post	The fishery-specific management system is subject to **occasional internal** review.	The fishery-specific management system is subject to **regular internal** and **occasional external review**.	The fishery-specific management system is subject to **regular** internal and external review.
	Met?	**Yes**	**No**	**No**
Rationale		Due to the functioning of the North and Northeast Demersal CPG, the fishery complies with SG60 for this aspect of the score, but not with SG80.		

Draft scoring range	**60-79**
Information gap indicator	**Information sufficient to score PI**

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8. Template information and copyright

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The CAB should delete the table below:

Table 6: Template version control

Version	Date of publication	Description of amendment
1.0	15 August 2011	Date of first release
1.1	31 October 2013	Updated in line with changes to CR v1.3
2.0	08 October 2014	Confirmed background sections (Section 3) as optional (use of 'may' statements) Modified Table 6.3 to create a simplified scoring sheet to be completed in place of full evaluation tables Made amendments to PIs based on Fishery Standard Review changes (e.g. removed original PIs 1.1.2, 3.1.4 and 3.2.4).
2.1	9 October 2017	Inclusion of optional full evaluation tables
3.0	17 December 2018	Release alongside Fisheries Certification Process v2.1
3.1	29 March 2019	Minor document changes for usability
3.2	25 March 2020	Release alongside Fisheries Certification Process v2.2
4.0	26 October 2022	Release alongside Fisheries Certification Process v3.0
4.1	01 May 2023	Added optional vessel lists section 5.2, minor correction to RBF PI 1.2.3
4.2	28 August 2024	Updated for use alongside Fisheries Certification Process v3.1 and Fisheries Standard v3.1.

A controlled document list of MSC program documents is available on the MSC website (https://www.msc.org/for-business/certification-bodies/supporting-documents).

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