

**MEMORANDUM OF UNDERSTANDING  
ON THE CONSERVATION OF  
MIGRATORY SHARKS**

CMS/Sharks/MOS3/Doc.9.1.3  
18 July 2018  
Original: English

3<sup>rd</sup> Meeting of the Signatories (Sharks MOS3)  
Monaco, 10 – 14 December 2018  
Agenda Item 9.1.3

**PROPOSAL FOR THE INCLUSION OF THE  
WHITE-SPOTTED/BOTTLENOSE WEDGEFISH (*Rhynchobatus australiae*),  
THE SMOOTHNOSE WEDGEFISH (*Rhynchobatus laevis*) AND THE  
WHITESPOTTED WEDGEFISH/GIANT GUITARFISH (*Rhynchobatus djiddensis*)  
IN ANNEX 1 OF THE CMS MEMORANDUM OF UNDERSTANDING  
ON THE CONSERVATION OF MIGRATORY SHARKS**

*(Presented by the Philippines)*

Summary:

The present proposal for the inclusion of the entire populations of the White-spotted/Bottlenose Wedgefish (*Rhynchobatus australiae*), the Smoothnose Wedgefish (*Rhynchobatus laevis*) and the Whitespotted Wedgefish/Giant Guitarfish (*Rhynchobatus djiddensis*) in Annex 1 to the Sharks MOU has been submitted by the government of the Philippines.

The proposal should be reviewed in consultation with the proposal for the inclusion of the White-spotted/Bottlenose Wedgefish (*Rhynchobatus australiae*), provided as [UNEP/CMS/COP12/Doc.25.1.25/Rev.2](#) .

At its 2<sup>nd</sup> meeting (Sharks AC2) which took place in Bonaire in November 2017, the Advisory Committee of the Sharks MOU, has recommended to include the species in Annex 1. Please refer to document [CMS/Sharks/AC2/Rec.2.1](#) for further details.

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**A. Proposal**

Common name: White-spotted Wedgefish/Bottlenose Wedgefish  
(see UNEP/CMS/COP12/Doc.25.1.25/Rev.2),  
White-spotted Wedgefish/Giant Sandshark; Smoothnose Wedgefish

Taxonomic name: *Rhynchobatus australiae*, *Rhynchobatus djiddensis*  
*Rhynchobatus laevis*

Inclusion of the entire species or only one or more populations? Entire

**B. Proponent**

Government of the Republic of the Philippines  
Shark MoU Focal Point of the Philippines: Francisco Torres, Jr.

**C. Supporting Statement**

**1. Taxon:**

1.1. Order Rhinopristiformes

1.2. Family Rhinidae

1.3. Genus/Species/Subspecies, including author and year:  
*Rhynchobatus australiae* Whitley, 1939  
*Rhynchobatus djiddensis* (Forsskål, 1775)  
*Rhynchobatus laevis* (Bloch & Schneider, 1801)

1.4. Population (s): Global populations

1.5. Common name(s), when applicable:  
English: White-spotted/Bottlenose Wedgefish,  
Whitespotted Wedgefish/Giant Sandshark,  
Smoothnose Wedgefish  
French: No common name found  
Spanish: No common name found

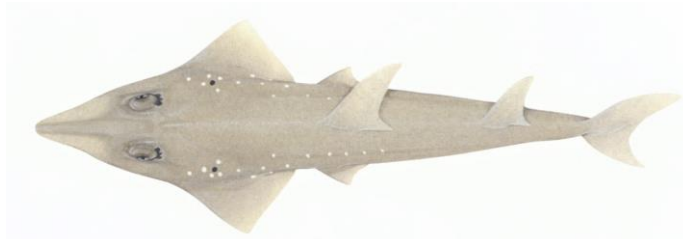


Figure 1. *Rhynchobatus australiae* (illustration from Last *et al.*, 2016).

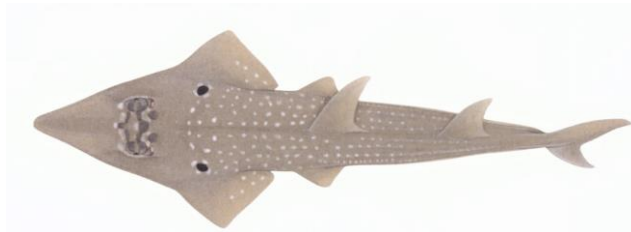


Figure 2. *Rhynchobatus djiddensis* (illustration from Last *et al.*, 2016).

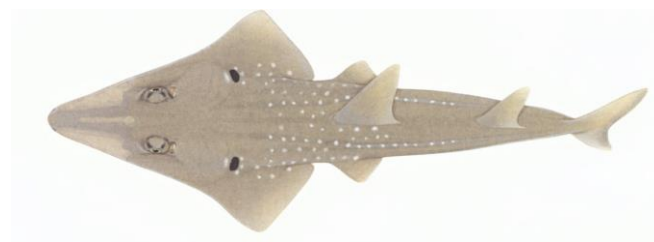


Figure 3. *Rhynchobatus laevis* (illustration from Last *et al.*, 2016).

## 2. Ecological data:

### 2.1. Distribution:

*Rhynchobatus australiae* occurs from Australia, across Southeast Asia and the Indian Ocean to northern Mozambique (Compagno and Last, 1999; Last *et al.*, 2016; see Figure 4. Also in UNEP/CMS/COP12/Doc.25.1.25/Rev.2). It is the most widespread *Rhynchobatus* species throughout the central Indo-West Pacific and occurs more widely than was previously recorded, with specimens recorded as far east as Fiji and as far west as the African continent in inshore and offshore waters (Giles *et al.*, 2016; Last *et al.* 2016; Jabado *et al.*, 2017).



Figure 4. Distributional map of *Rhynchobatus australiae* (based on Last *et al.*, 2016).

*Rhynchobatus djiddensis* is previously referred to as wide-ranging and a species complex of at least four species which includes *R. djiddensis* sensu stricto, *R. australiae*, *Rhynchobatus* sp. nov. B in Last & Stevens, 1994 and possibly *R. laevis* (L.J.V. Compagno pers. comm. in: Cavanagh *et al.*, 2003). The Broadnose Wedgefish *Rhynchobatus* sp. nov. B in Last & Stevens, 1994, a synonym of the *Rhynchobatus* sp. 2 in the Western Central Pacific (Compagno & Last, 1999) and in the Philippines (Compagno *et al.*, 2005), was recently described as a new species of wedgefish, *Rhynchobatus springeri* Compagno and Last, 2010 which is distinct from the other three species and found to occur in the Indo-Malay: from Java (Indonesia) to Thailand, including Borneo, Singapore and the Philippines. The current known range of *R. djiddensis* is in the Western Indian Ocean, from South Africa to Oman (Last *et al.*, 2016; see Figure 5).

Countries of occurrences for *Rhynchobatus djiddensis* include: Djibouti; Bahrain, Egypt; Eritrea; Iran, Iraq, Kenya; Kuwait, Mozambique; Oman; Qatar, Saudi Arabia; Somalia; South Africa; Sudan; Tanzania, United Republic of; United Arab Emirates, Yemen (Dudley and Cavanagh, 2006; Last *et al.*, 2016).



Figure 5. Distributional map of *Rhynchobatus djiddensis* (based on Last *et al.*, 2016).

The current known range of *Rhynchobatus laevis* is in the Indo-West Pacific, from Oman to Japan, primarily in the Indian Ocean (Last *et al.*, 2016; see Figure 6). First described from India, *R. laevis*, was widely confused with the Western Indian Ocean with *R. djiddensis* across its range from the Arabian Sea to the Western Pacific. Recent taxonomic studies on the *Rhynchobatus* genus have resulted in improved understanding of the distribution of this species and it is no longer considered to occur in East Africa and Australian waters (P. Last, CSIRO, pers. comm., 2015 in Compagno and McAuley, 2016).

Countries of occurrences for *R. laevis* include: Bangladesh; China; India; Iran, Islamic Republic of; Japan; Oman; Pakistan; Saudi Arabia; Sri Lanka; United Arab Emirates (Compagno and McAuley, 2016; Last *et al.* 2016).



Figure 6. Distributional map of *Rhynchobatus laevis* (based on Last *et al.*, 2016).

## 2.2. Population:

Population size data on all three species is not available and stock assessments have not been previously attempted. The similarity of the three species means that there is little reliable species-specific data available. However, all known populations of these three species overlap in their distribution and have severely declined based on limited fisheries catch and effort data and anecdotal evidence from fishers (see details for *R. australiae* in UNEP/CMS/COP12/Doc.25.1.25/Rev.2; Jabado *et al.*, 2017).

Information on the population of the White-spotted Wedgefish *Rhynchobatus australiae* (Whitley, 1939), which was included in CMS App II at CMS COP12, is provided in UNEP/CMS/COP12/Doc.25.1.25/Rev.2, the original proposal submitted by the Government of the Philippines for the inclusion of the species in Appendix II of the Convention.

Data on the biology and ecology of *R. australiae* remain limited, with little information on the extent of seasonal and predictable migratory patterns across international boundaries. Indirect evidence suggests that populations of some *Rhynchobatus* species likely undertake transboundary migrations in several regions (e.g., between Australia and Indonesia, Giles *et al.*, 2016; northern Australia, White *et al.*, 2014; Oman, Jabado, 2018).

*R. australiae* was previously considered to consist of a species complex; taxonomic confirmation has only been recently done. Globally, at least eight distinct *Rhynchobatus* species have been described, two of which considerably overlap in their geographic distribution with *R. australiae*, particularly, *R. djiddensis* (Forsskål, 1775) and *R. laevis* (Bloch & Schneider, 1801). These species have often been confused or mistaken as *R. australiae* or for each other.

*R. australiae* is heavily exploited throughout its range with evidence of significant population declines in some regions (e.g. southeast Asia, Arabian Seas region; White and McAuley, 2003; Dudley and Cavanagh, 2006; Compagno and McAuley, 2016; Jabado *et al.*, 2017). They are particularly susceptible to fishing because they occupy coastal habitats and are often caught as bycatch in multiple gear types (e.g., gillnets, trawls, and longlines) because of their large size. This species is also considered to have some of the most valuable fins in the international fin trade.

At a global level, *R. australiae* and its look-alikes, *R. djiddensis* and *R. laevis*, are listed by the IUCN as Vulnerable (noting that these assessments date back to 2003 and are currently being updated) (White and McAuley, 2003; Dudley and Cavanagh, 2006; Compagno and McAuley, 2016). A more recent IUCN regional assessment of these three species from the Arabian Seas Region listed them as Endangered, with a suspected population decline of between 50-80% over the past 39 years (three generations) (Jabado *et al.*, 2017).

At the 2nd Meeting of the Advisory Committee (AC) and the 2nd Workshop of the Conservation Working Group (CWG) in November 2017, the AC considered that *R. australiae* has an unfavorable conservation status and meets the criteria for inclusion in the MoU-Sharks Annex 1. Based on additional information, the AC recommended that *R. australiae* and the two “look alike” species be considered by the Signatories for listing on Annex 1 to strengthen international conservation action for the species and their populations. There are currently no management measures in place for their conservation and so *R. australiae* and the “look-alikes” would significantly benefit from international cooperation through the Sharks MoU.

### 2.3. Critical habitat(s):

Specific data on the habitat of *Rhynchobatus* species are limited. However, they generally occur in inshore, coastal habitats (including coral reefs, seagrass beds, and sandy bottoms) and in shallow water on the continental shelf at depths up to 70 m (Last *et al.*, 2016).

*Rhynchobatus australiae* is a large inshore wedgefish (reaching 300 cm total length (TL)) and inhabits inshore waters on the continental shelves, specifically enclosed bays, estuaries, and coral reefs (Compagno and Last, 1999). This species rarely occurs deeper than 60 m. As bottom-dwellers, they rest on mud, sandy, or rough bottoms and feed on benthic invertebrates, crustaceans and small bottom-dwelling fish (Last *et al.*, 2016).

*Rhynchobatus djiddensis*, a large inshore wedgefish (reaching 300 cm TL), occurs on the continental shelf to 70 m (generally shallower than 35 m). Relatively little information is available on this species across its range. Off KwaZulu-Natal (KZN), South Africa it occurs mainly off sandy beaches during summer where it is especially abundant in the surf zone but does occur along the edges of deeper reefs down to 30 m (van der Elst, 1993).

*Rhynchobatus laevis* has a coastal distribution throughout its range, generally occurring on or close to the seabed, inshore off river mouths, and in shallow bays. Very little is known about the life history characteristics of this species, however, they grow to at least 147 cm TL and possibly to 200 cm TL and reproduce by lecithotrophic viviparity (Compagno and Last, 1999).

### 2.4. Migration pattern (e.g. migration routes, distance, time, drivers for migration)

Data on the biology and ecology of *R. australiae* remain limited, with little information on the extent of seasonal and predictable migratory patterns across international boundaries. However, there is some indirect evidence suggesting populations undertake transboundary migrations in some regions:

A recent study investigating genetic differentiation in *R. australiae* in Australia, southeast Asia, and the Andaman Sea did not provide evidence for substantial demographic connectivity among regions (Giles *et al.*, 2016). However, the authors recommend separate conservation assessments and management of the species in each of the sampled sub-regions as separate stocks, suggesting individuals potentially range over several countries, particularly in southeast Asia. Furthermore, the genetic results indicated episodic migration between Australia and Indonesia.

Research in northern Australia, examining the spatial ecology, and particularly residency of *R. australiae*, provides evidence of individuals leaving specific areas for periods varying from days to weeks (White *et al.*, 2014). Furthermore, individuals were not observed to return to the study area once they had been absent for more than 200 days, possibly suggesting movement beyond the study region.

In Oman, landing site surveys (across the wider area and thus encompassing multiple fisheries and fishing grounds) revealed only large individuals (>200 cm total length, TL), comprised mostly males (Jabado, 2018). This is despite the wide range of gear used by local fishermen, including gillnets, longlines, and beach seines. In contrast, fishermen using the same gear in the UAE frequently land individuals ranging from 59-290 cm TL. This suggests that Omani populations are likely to be using waters of neighbouring countries at other life-history stages and events.

Tagged individuals of *R. djiddensis*, have been shown to travel a mean distance of only 49 km, reflecting local movement during the summer (Mann, 2003). It is unknown where the animals go in winter, but it is possible that they move north into the warmer waters of Mozambique (Dudley and Cavanagh, 2006). Little is known about the population status of *R. laevis*, because of its fragmented and poorly understood distribution.

### 3. Threat data:

#### 3.1. Direct threat(s) to the population

Details in UNEP/CMS/COP12/Doc.25.1.25/Rev.2). *R. australiae* is heavily exploited in Southeast Asia for its fins, which are considered some of the most valuable in trade (Giles *et al.*, 2016; Clarke *et al.*, 2006; White and McAuley, 2003; Vannuccini, 1999; Chen, 1996). Much of its range occurs in areas of high fishing pressure; individuals are thus susceptible to capture both as target and bycatch by trawl, net and longline gear (Giles *et al.*, 2016). Local population declines have been recorded; it is likely populations have been locally reduced throughout its range (White and McAuley, 2003).

As with *Rhynchobatus australiae*, *R. djiddensis* and *R. laevis* are taken by a number of artisanal and commercial fisheries throughout their range both as a target species and as bycatch.

*Rhynchobatus djiddensis* (probably *R. australiae*) was found to be one of the four most commonly caught elasmobranchs in the bycatch of the trawl fisheries (prawn and fish) in northern Australia, with approximately 10% of these dying in the trawl net (Stobutzki *et al.*, 2002; Stephenson and Chidlow in prep; in White and McAuley, 2003). Catches are reported to have been reduced with the introduction of the Turtle Exclusion Devices (TEDS) in some northern Australian trawl fisheries (Brewer *et al.*, 1998) and thus *R. australiae* are probably caught in lower numbers.

In general, the large size and nearshore habitat of *Rhynchobatus djiddensis* make it highly susceptible to artisanal fishing with gillnets and other gear, and to shallow water demersal trawling (Dudley and Cavanagh, 2006). They are susceptible to capture by multiple fishing gear types, including trawl nets, gillnets and hooks and its high value fins. Their numbers have been inferred as locally reduced by generally unregulated fishing throughout its range.

#### 3.2. Destruction of critical habitat(s) (quality of changes, quantity of loss)

Although fishing is the primary threat to these species, there is no information available on the impact of fishing operations to the habitats of these species groups. Species are generally found in nearshore habitats which are more accessible to various fishing operations, primarily local/artisanal, and are likely susceptible to habitat modifications from coastal development as well as to climate change impacts. Indeed, these shallow habitats are usually associated with elevated levels of human activity which may result in degradation or loss of habitat through coastal developments and pollution.

#### 3.3. Indirect threat(s) (e.g. reduction of reproduction success by climate change, pollutants)

There is no information on indirect threats to these species. Since species are generally found in nearshore habitats which are more susceptible to climate change impacts and pollutants; the species group is assumed to also be negatively impacted.



### 3.4. National and international utilization

Rhynchobatids are considered as fisheries resource, as such, are utilized for local consumption and/or trade. They are among, if not the top of, the most highly prized species in the international fin trade. Furthermore, many coastal communities utilize the meat from these animals as a source of animal protein. In some coastal regions of the Arabian/Persian Gulf, the eggs are often removed and dried for local consumption and use as medicine to relieve indigestion (R.W. Jabado, unpubl. data).

## 4. Protection status and needs:

### 4.1. National protection status.

Information on the status of protection of the species at national levels is limited. As per Jabado et al., 2017, only Pakistan has species-specific legislation. The two maritime provinces of Pakistan issued amendments to their laws in 2016 restricting or banning the catch of some species of sharks and rays. The Sindh Fisheries Ordinance 1980 and the Balochistan Sea Fisheries Rules 1971 were amended in May and September 2016, respectively. Any guitarfishes and wedgefishes under 30 cm total length (TL) are regulated throughout the year in Sindh whereas their catch.

In the Philippines, only CITES listed species are afforded protection at the national level. There is no known national-level protection for *Rhynchobatus australiae* in the country. Local protection may occur, particularly at the provincial levels, such as in the province of Palawan, through the Palawan Council for Sustainable Development Resolution No. 15-521 includes *R. australiae*, among other elasmobranch species, in its official list of threatened terrestrial and marine wildlife. In the province of Cebu, a total ban on sharks (inclusive of all chondrichthyan fishes) affords protection for all shark species found to occur in Cebu through the Cebu Provincial Ordinance 2012-05 or “The Provincial Fisheries and Aquatic Resources Ordinance of Cebu”.

In some parts of Australia, finning of rhynchobatids is prohibited but a black market trade in their fins is thought to be continuing (Rose and McLoughlin, 2000 in White and McAuley, 2003).

### 4.2. International protection status:

Currently, there are no international protection measures in place for *Rhynchobatus australiae*, *R. djiddensis* and *R. laevis*. The species are distributed throughout areas of high fishing intensity and their fins are one of the most highly prized species in the international fin trade. Despite their value in the international trade, they are also not listed under the Convention on the International Trade of Endangered Species of Wild Fauna and Flora (CITES).

### 4.3. Additional protection needs

These species are mostly captured in inshore coastal fisheries across a range of countries. There is a need to improve species-specific fisheries data in these countries, understand the role that the domestic demand for meat and international trade in their fins plays in their exploitation, develop national legislation for their protection, and ensure enforcement of these species.

Listing of *Rhynchobatus australiae* and the look-alike species *R. djiddensis* and *R. laevis* in the Annex I of the Sharks-MOU would raise the awareness for the need of domestic management for white-spotted wedgefsh in all range states and facilitate cooperation between these states to protect the species, mitigate obstacles to migration, and preserve its habitat.

The fins of wedgefsh, particularly *Rhynchobatus australiae*, are some of the most desired in the trade and sold for extremely high prices (Vannuccini 1999, Clarke 2006). Batoids in the trade are found to be primarily wedgefsh (pers. comm. Chapman). Thus, due to these species' large fin sizes and their dominance in catch in Southeast Asia, it is likely that this genus makes up a significant portion of the international fin trade. Listing of these species in the Appendices of the Convention on the International Trade of Endangered Species of Wild Fauna and Flora (CITES) would afford them of some level of protection from over-exploitation.

### 5. Range States (see official names of UN member states)

The table below lists all range states of the three proposed species of *Rhynchobatus* and indicates whether the countries are Parties to CMS or Signatories to the Sharks MOU.

<b>Country</b>	<b><i>Rhynchobatus australiae</i></b>	<b><i>Rhynchobatus djiddensi</i></b>	<b><i>Rhynchobatus laevis</i></b>	<b>CMS Party</b>	<b>Sharks MOU</b>
<i>Australia</i>	<i>Range State</i>			<i>Party</i>	<i>Signatory</i>
<i>Bahrain</i>	<i>Range State</i>	<i>Range State</i>			
<i>Bangladesh</i>	<i>Range State</i>		<i>Range State</i>	<i>Party</i>	-
<i>Brunei Darussalam</i>	<i>Range State</i>				
<i>Cambodia</i>	<i>Range State</i>				
<i>China (Taiwan, Province of China)</i>	<i>Range State</i>		<i>Range State</i>		
<i>Djibouti</i>	<i>Range State</i>	<i>Range State</i>		<i>Party</i>	-
<i>Egypt</i>	<i>Range State</i>	<i>Range State</i>		<i>Party</i>	<i>Signatory</i>
<i>Eritrea</i>	<i>Range State</i>	<i>Range State</i>		<i>Party</i>	
<i>France (New Caledonia)</i>	<i>Range State</i>			<i>Party</i>	<i>EU has signed the MOU</i>
<i>India</i>	<i>Range State</i>		<i>Range State</i>	<i>Party</i>	
<i>Indonesia</i>	<i>Range State</i>				
<i>Iran</i>	<i>Range State</i>	<i>Range State</i>	<i>Range State</i>	<i>Party</i>	
<i>Iraq</i>	<i>Range State</i>	<i>Range State</i>		<i>Party</i>	
<i>Israel</i>	<i>Range State</i>			<i>Party</i>	
<i>Japan</i>			<i>Range State</i>		
<i>Jordan</i>	<i>Range State</i>			<i>Party</i>	<i>Signatory</i>
<i>Kenya</i>		<i>Range State</i>		<i>Party</i>	<i>Signatory</i>
<i>Kuwait</i>	<i>Range State</i>	<i>Range State</i>		<i>Party</i>	
<i>Malaysia</i>	<i>Range State</i>				
<i>Mozambique</i>	<i>Range State</i>	<i>Range State</i>		<i>Party</i>	<i>Signatory</i>
<i>Myanmar</i>	<i>Range State</i>				
<i>New Zealand</i>	<i>Range State</i>			<i>Party</i>	<i>Signatory</i>
<i>Oman</i>	<i>Range State</i>	<i>Range State</i>	<i>Range State</i>		

<i>Palau</i>	<i>Range State</i>			<i>Party</i>	<i>Signatory</i>
<i>Pakistan</i>	<i>Range State</i>		<i>Range State</i>	<i>Party</i>	
<i>Papua New Guinea</i>	<i>Range State</i>				
<i>Philippines</i>	<i>Range State</i>			<i>Party</i>	<i>Signatory</i>
<i>Qatar</i>	<i>Range State</i>	<i>Range State</i>			
<i>Saudi Arabia</i>	<i>Range State</i>	<i>Range State</i>	<i>Range State</i>	<i>Party</i>	<i>Signatory</i>
<i>Seychelles</i>	<i>Range State</i>			<i>Party</i>	
<i>Singapore</i>	<i>Range State</i>				
<i>Somalia</i>	<i>Range State</i>	<i>Range State</i>		<i>Party</i>	<i>Signatory</i>
<i>South Africa</i>		<i>Range State</i>		<i>Party</i>	<i>Signatory</i>
<i>Sri Lanka</i>	<i>Range State</i>		<i>Range State</i>	<i>Party</i>	<i>Signatory</i>
<i>Sudan</i>	<i>Range State</i>	<i>Range State</i>			<i>Signatory</i>
<i>Tanzania, United Republic of</i>	<i>Range State</i>	<i>Range State</i>		<i>Party</i>	
<i>Thailand</i>	<i>Range State</i>				
<i>Timor- Leste</i>	<i>Range State</i>				
<i>United Arab Emirates</i>		<i>Range State</i>	<i>Range State</i>	<i>Party</i>	<i>Signatory</i>
<i>Vietnam</i>	<i>Range State</i>				
<i>Yemen</i>	<i>Range State</i>	<i>Range State</i>		<i>Party</i>	<i>Signatory</i>

*Rhynchobatus australiae* and the “look-alike” species occur in areas beyond national jurisdiction, therefore CMS Article I h) should be considered in determining a Range State:

“A Range State in relation to a particular migratory species means any State [...] that exercises jurisdiction over any part of the range of that migratory species, or a State, flag vessels of which are engaged outside national jurisdictional limits in taking that migratory species.”

## 6. Additional remarks

Further investigation into the taxonomy, population and range, biology and ecology of *Rhynchobatus australiae* and the “look-alike” species is needed. Recent catch and trade data for these species across their range are required to assess to what extent population declines are occurring. Improved species-specific data from all fisheries that take these species is necessary.

## 7. References

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