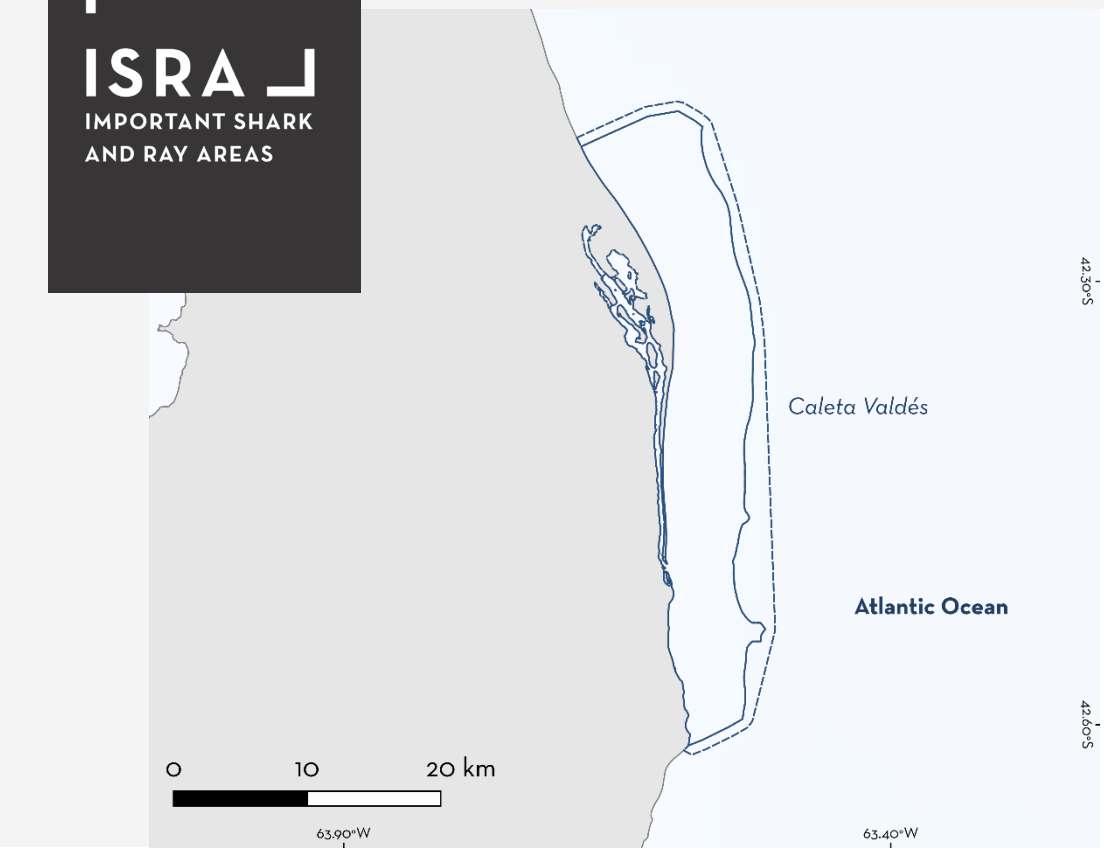
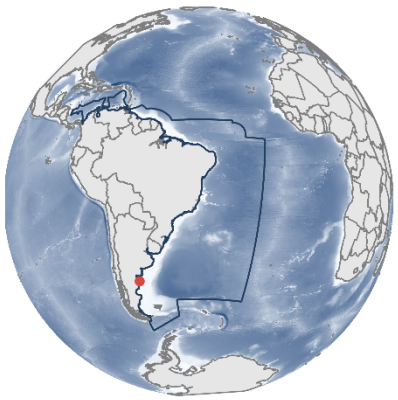
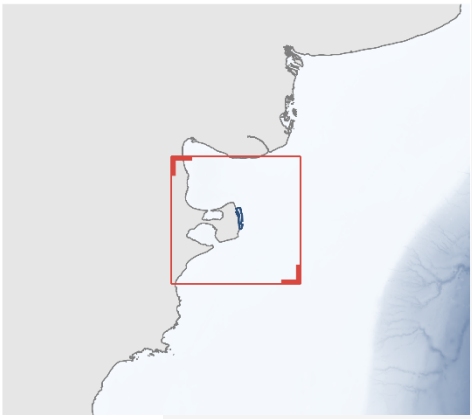
ISRA
IMPORTANT SHARK AND RAY AREAS







Blue lines indicate the area meeting the ISRA Criteria; dashed lines indicate the suggested buffer for use in the development of appropriate place-based conservation measures

CALETA VALDÉS ISRA

South American Atlantic Region

ARGENTINA

0–45 metres

301.7 km²

SUMMARY

Caleta Valdés is located on the Peninsula Valdés in Chubut Province, Argentina. The area encompasses a bay separated by a long gravel bank and part of the east coast of Peninsula Valdés. It is influenced by strong and shifting tidal currents at the entrance of the bay while the northern section is shallower and calmer. The area is influenced by the Valdés Front driven by tidal energy, creating a permanent front. This area overlaps with the Valdés Marine Protected Area. Within the area there are: **threatened species**, **reproductive areas**, and **feeding areas** (Broadnose Sevengill Shark *Notorynchus cepedianus*).

CRITERIA

Criterion A – Vulnerability; Sub-criterion C1 – Reproductive Areas; Sub-criterion C2 – Feeding Areas

DESCRIPTION OF HABITAT

Caleta Valdés is located within the Peninsula Valdés in Chubut Province, Argentina. This bay is characterised by a narrow, elongated waterway, measuring between 200–700 m in width and bounded by a 35 km long gravel bank. The bay reaches a maximum depth of 13 m at high tide (Irigoyen et al. 2018). A 450 m wide opening at its southern end facilitates water exchange with the sea. Strong and shifting tidal currents dominate the area (Kokot et al. 2005), while the northern section is shallower and more tranquil, featuring vegetated islets that periodically connect and disconnect with the tides (De Wysiecki 2024). Caleta Valdés is part of the inshore coastal area of the Valdés Front, a marine zone where distinct water masses converge (Giaccardi & Caloni 2022). This front is driven by tidal energy, which brings nutrient-rich bottom layers to the surface, fostering ideal conditions for phytoplankton growth (Giaccardi & Caloni 2022). The water temperature fluctuates seasonally, ranging from a minimum of 9°C in August to a maximum of 18°C in February (Irigoyen et al. 2018). The gravel bank and islands at the bay's southern end host dense colonies of Southern Elephant Seal *Mirounga leonine,* penguins, and other marine birds (Dans et al. 2004; Lewis et al. 2004; Ferrari et al. 2009; Irigoyen et al. 2018).

This area overlaps with the Valdés Marine Protected Area (UNEP-WCMC & IUCN 2025).

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 m) to 45 m based on the bathymetry of the area.

ISRA CRITERIA

CRITERION A – VULNERABILITY

One Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species regularly occurs in the area. This is the Vulnerable Broadnose Sevengill Shark (Finucci et al. 2020).

SUB-CRITERION C1 – REPRODUCTIVE AREAS

Caleta Valdés is an important reproductive area for one shark species.

The Broadnose Sevengill Shark aggregates seasonally during the austral spring and summer in the area to mate. This area is nationally important as it is the only area in Argentina that is occupied year-round by the species (Irigoyen et al. 2018; De Wysiecki et al. 2023).

Between June 2015 and February 2017, the area was monitored bi-monthly with day-sampling trips (Irigoyen et al. 2018). Rod and reel and longline fishing studies were used to calculate catch-per-unit-effort (CPUE) to examine relative abundance. Longlines were 140 m in length, with 20 hooks, and a soak time ranging from 30–120 min. One rod and reel session was conducted per sampling day, from the coast, to provide an additional CPUE index. Fishing sessions lasted between 10–12 h and used either four or five rods (Irigoyen et al. 2018). Basic biological data were collected, including sex, total length (TL), total weight, clasper length, and the presence of fresh mating scars on females (Irigoyen et al. 2018). Additionally, Baited Remote Underwater Video Station (BRUVS) surveys were undertaken to generate fishing-independent indices of relative abundance, to compare with fishing-derived abundance. BRUVS were placed in depths of 4–9 m, with deployment sites chosen randomly along a 6 km stretch of the bay (Irigoyen et al. 2018). Finally, blood samples (n = 82; 60 females, 22 males) were taken from a subset of individuals and plasma levels of reproductive hormones

(testosterone, 17β-estradiol, and progesterone) were measured by radioimmunoassay (Irigoyen et al. 2018).

Between 2015–2017, a total of 198 Broadnose Sevengill Sharks (145 females and 53 males, sex ratio 2.7:1 F:M) were recorded (Irigoyen et al. 2018). Female sizes ranged between 152–253 cm TL and males measured between 145–222 cm TL (Irigoyen et al. 2018; AJ Irigoyen unpubl. data 2024). Size-at-maturity for this species is ~150–180 cm TL for males, and 220 cm TL for females (Ebert et al. 2021). A total of 59 females and 51 males were adults (Irigoyen et al. 2018). During this period at least 30% of adult females (n = 43) had fresh mating scars on their pectoral fins in spring and early summer (September–December). During the other months of the year, no mating scars were recorded (Irigoyen et al. 2018). In 2015, out of 22 females (both mature and immature), three exhibited fresh mating scars. In 2016, 16 of 87 females showed mating scars, while in 2017, 15 out of 60 females had scars. Additionally, in 2018, four of the 35 captured females had mating scars, and in 2019, five out of 40 females had mating scars (AJ Irigoyen unpubl. data 2024). The reproductive hormones of adult females by season indicated a multi-annual reproductive cycle within the population (Irigoyen et al. 2018). The highest levels of testosterone in males were in spring and summer, reflecting a possible mating period in concordance with the presence of females bearing fresh mating scars (Irigoyen et al. 2018).

Furthermore, 20 Broadnose Sevengill Sharks were acoustically tagged between November 2019 and March 2021 and tracked with an acoustic array (n = 10 receivers) inside the area (De Wysiecki et al. 2023). A seasonal pattern in occurrence of Broadnose Sevengill Sharks was documented. There was a greater proportion of tagged individuals present between October–February, behaving as long-term and short-term residents (minimum residency index 0.16–0.69). This corresponded with the mating season and the Southern Elephant Seal season. There were fewer individuals behaving as short-term or vagrant residents during the rest of the year (minimum residency <0.3) (De Wysiecki et al. 2023).

SUB-CRITERION C2 – FEEDING AREAS

Caleta Valdés is an important feeding area for one shark species.

The abundance of Broadnose Sevengill Shark is influenced by the seasonal presence of an important prey species: Southern Elephant Seal. Between September–March of 2016 and 2017, shark sampling campaigns occurred in the area using longlines and rod and reel from the beach (Irigoyen et al. 2018). Broadnose Sevengill Sharks (n = 496) were tagged on the dorsal fin with plastic spaghetti dart tags, sexed, and measured. Stomach contents of the animals that regurgitated (n = 65, 13.1% of the total captured) (10 males and 55 females; size range 162–265 cm TL), were analysed with prey identified to the lowest possible taxonomic level (Funes et al. 2024). Prey composition of regurgitations was determined as the frequency of occurrence of individual prey (Funes et al. 2024). Stable isotopes from blood samples (n = 43; including eight resamples, i.e., the same individuals captured in different sampling events) were analysed from 35 sharks (20 females, 15 males; size range 145–245 cm TL) (Funes et al. 2024).

The estimated trophic position was 4.43, placing the species among the apex predators of the area (Irigoyen et al. 2018; Funes et al. 2024). The stable isotope analysis indicated that Southern Elephant Seals overall contributed ~30% to the diet (Funes et al. 2024). The analysis of regurgitated prey items revealed that marine mammals were the most frequent prey, constituting nearly 70% of the observed occurrences. Of this, the Southern Elephant Seal was the main prey (56%) (Funes et al. 2024). Sharks regurgitated Southern Elephant Seal mainly during spring and early summer, when these marine

mammals are breeding and moulting, and their abundance peaks (September–October) (Lewis et al. 2004; Ferrari et al. 2009; Irigoyen et al. 2018; Funes et al. 2024). During this period, seal pups enter the sea for the first time, coinciding with the peak abundance of Broadnose Sevengill Sharks (Lewis et al. 2004; Ferrari et al. 2009). While the Broadnose Sevengill Shark has been recorded year-round in the area, its numbers are highest in late spring, aligning with the mating season and the peak availability of Southern Elephant Seal pups (Irigoyen et al. 2018; Funes et al. 2024). In contrast, during the summer and autumn months, Broadnose Sevengill Shark numbers decrease, likely due to their migration to other areas with seasonally abundant prey, such as sea lions, American Elephantfish *Callorhincus callorhynchus*, and migratory bony fishes (Di Giácomo 1992; Dans et al. 2004; AJ Irigoyen pers. obs. 2024). This seasonal shift in shark abundance further highlights the importance of the Caleta Valdés area as a critical feeding ground linked to the availability of specific prey species.

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QUALIFYING SPECIES

Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met								
				A	B	C1	C2	C3	C4	C5	D1	D2
SHARKS												
Notorynchus cepedianus	Broadnose Sevengill Shark	VU	0–570	X		X	X					

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
Mustelus schmitti	Narrownose Smoothhound	CR
RAYS		
Myliobatis goodei	Southern Eagle Ray	VU
Myliobatis ridens	Shortnose Eagle Ray	CR
CHIMAERAS		
Callorhinchus callorhynchus	American Elephantfish	VU

IUCN Red List of Threatened Species Categories are available by searching species names at www.iucnredlist.org Abbreviations refer to: CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; LC, Least Concern; DD, Data Deficient.

SUPPORTING INFORMATION

There are additional indications that this area is part of a movement corridor for Broadnose Sevengill Sharks between Caleta Valdés, Golfo Nuevo, and Rocas Coloradas. Of the 496 Broadnose Sevengill Sharks traditionally tagged on Caleta Valdés, 11% were recaptured at the same site. Two were recaptured and reported by recreational fishers at Golfo Nuevo (minimum linear distance of 26 km), and one was recaptured on Rocas Coloradas (minimum linear distance of 200 km) showing the connection between these areas (AJ Irigoyen unpubl. data 2025). Further information is required to understand the regularity of this movement and how animals move between these sites.

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