

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

LONG BEACH & HUNTINGTON BEACH ISRA

North American Pacific Region

SUMMARY

Long Beach & Huntington Beach is located in southern California, United States of America. The area is situated in the Southern California Bight and is characterised by the presence of multiple sandy beaches, low-relief rock reefs, bays, rivers, and estuaries. It overlaps with one protected area. Within this area there are: **threatened species** (White Shark *Carcharodon carcharias*); **range-restricted species** (e.g., Thornback Ray *Platyrrhinoidis triseriata*); and **reproductive areas** (e.g., Haller's Round Ray *Urobatis helleri*).

CRITERIA

Criterion A - Vulnerability; Criterion B - Range Restricted; Sub-criterion C1 - Reproductive Areas

UNITED STATES OF AMERICA

0-10 metres

32.89 km²



DESCRIPTION OF HABITAT

Long Beach & Huntington Beach is located in southern California, United States of America. The area is situated in the Southern California Bight and extends from Belmont Shore in the north to Balboa Beach in the south. The area is characterised by the presence of multiple sandy beaches, low-relief rock reefs, bays (e.g., Anaheim Bay), rivers (e.g., San Gabriel), estuaries (e.g., Bolsa Chica), and small harbours along the coastline.

The area is influenced by the California Current, a surface current carrying water equatorward along the Pacific North America coast and is characterised by low temperatures, low salinities, and high dissolved oxygen (Lynn & Simpson 1987). Local surface winds, coastal upwelling during the boreal spring, surface heating, and topography produce high variability in stratification, thermocline depth, and micro-scale cells of water (Di Lorenzo 2003). Bottom temperatures range between 13°C in winter to ~30°C during summer (Jirik & Lowe 2012).

The area overlaps with the Bolsa Chica Basin State Marine Conservation Area (UNEP-WCMC & IUCN 2026).

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 m) to 10 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 White Shark (Rigby et al. 2022).

CRITERION B – RANGE RESTRICTED

This area holds the regular presence of California Butterfly Ray, Thornback Ray, and Shovelnose Guitarfish as resident range-restricted species. These species have been regularly recorded year-round during surveys conducted between 1998–2024 in this area, although not all the catches from these surveys have been quantified (Jahn 2024; CSULB Shark Lab unpubl. data 2024). These species were recorded in the area between 2022–2023 in beach seines tows (n = 210) and baited remote underwater video station (BRUVS) surveys (n = 196; Jahn 2024). These surveys were conducted monthly across five beaches along the southern California coast with seine net (30 x 3 m; 7 cm mesh size) surveys in the surf zone at depths ~3 m.

California Butterfly Rays were only found in seine surveys inside this area with abundances ~10 individuals/survey.

Thornback Ray abundances were also higher in this area (~10 individuals/survey) than outside the area (<5 individuals/survey) during seine nets surveys in 2023–2024 and this species was only recorded in BRUVS deployed inside this area with MaxN up to 10 individuals (Jahn 2024).

Shovelnose Guitarfish abundances in seine nets were higher in this area (~10 individuals/survey) than outside the area (~5 individuals/survey). In addition, acoustic telemetry (n = 23 individuals) monitoring was conducted between 2008–2009 around Bolsa Chica Estuary (inside the area). Acoustic tracking revealed that juvenile Shovelnose Guitarfish are most abundant during summer with average

residency times of 73.9 days and are mostly associated with mud substrates and sea surface temperatures ~22°C which are more common around the estuary than in neighbouring coastal areas (Farrugia et al. 2011).

These three species occur in the California Current Large Marine Ecosystem (LME) and the Gulf of California LME.

SUB-CRITERION C1 – REPRODUCTIVE AREAS

Long Beach & Huntington Beach is an important reproductive area for one shark and one ray species.

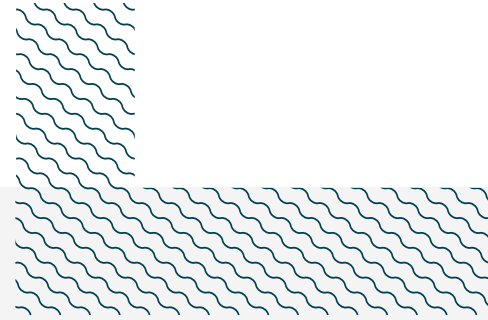
Data from fishery catches, satellite and acoustic telemetry monitoring, unmanned aerial vehicle (UAV) surveys, and environmental DNA (eDNA) surveys have confirmed the regular presence of White Sharks in the area (Lowe et al. 2012; Anderson et al. 2021; Rex et al. 2023; McCauley et al. 2024; Merson et al. 2025). These data indicate that southern California contains spatiotemporally dynamic centres of primary and secondary nursery habitat for young-of-the-year (YOY) and juvenile White Sharks. Juveniles form aggregations at locations that are inter-annually variable along the coast, with individuals exhibiting increased site fidelity, residency levels, and spatially restricted movements for periods up to eight years (Anderson et al. 2021). Long Beach & Huntington Beach represents one of the largest and interannually most reliable sites in which YOY and juvenile White Shark aggregations are regularly and predictably observed (Lowe et al. 2012; Anderson et al. 2021; Rex et al. 2023).

Catch data from multiple fisheries operating in nearshore waters between 1936–2009 revealed that the broader area of the Southern California Bight is a nursery area for White Sharks (Lowe et al. 2012). Of 369 records, 39% (n = 144) were neonate/YOY measuring <175 cm total length (TL; Cailliet et al. 1985; Malcolm et al. 2001), 21% (n = 77) were juveniles, 5% (n = 18) were adults, and the rest were of unreported size. Inside the Southern California Bight, Long Beach & Huntington Beach was identified as a hotspot for catches of YOY and juvenile White Sharks especially during the summer (Lowe et al. 2012).

Between 2010–2026, the California State University – Long Beach (CSULB) Shark Lab tagged 378 White Sharks across southern California. Of these, 40 (10.6%) were neonate (<150 cm TL; Ebert et al. 2021), 61 (16.1%) were YOY, and 243 (64.3%) were juveniles at the time of tagging (CSULB Shark Lab unpubl. data 2026). In Long Beach & Huntington Beach, only seven YOY/juvenile White Sharks were tagged with tagging effort being lower here compared to other areas across the California coast. However, 77 YOY and juvenile White Sharks tagged in other locations were detected 481,153 times from 2010 to 2026 highlighting the area as a hotspot for these early life-stages (CSULB Shark Lab unpubl. data 2026). This area holds a large abundance of the main prey for early life-stage White Sharks (benthic sharks, rays, and bony fishes) compared to other areas across southern California (Jahn 2024).

Data from beach seines surveys, underwater visual census, acoustic telemetry, aerial drone surveys, and recreational fishing records gathered between 1998–2026 indicate that Haller’s Round Ray aggregations occur regularly in the area (Hoisington & Lowe 2005; Vaudo & Lowe 2006; Lowe et al. 2007; Jirik & Lowe 2012; Lyons & Lowe 2013; Jahn 2024). Aggregations of up to 1,000 individuals are present in the area, mostly between June–August around Seal Beach and Belmont, near the mouth of the San Gabriel River and up to 30 m from the shore, with abundances decreasing after periods of high wave activity (Hoisington & Lowe 2005; Vaudo & Lowe 2006; Lowe et al. 2007). Aggregations are composed mostly of mature individuals and while males are more abundant year-round, female aggregations are more abundant in July and August. These are the reported months for pupping

(Jirik & Lowe 2012) as confirmed by dissection of near-term pregnant females (Lyons & Lowe 2013). Pregnancy has been confirmed in most of the females sampled across multiple studies using ultrasounds (all females sampled), dissection, and steroid hormone levels (Mull et al. 2008, 2010; Jirik & Lowe 2012; Lyons & Lowe 2013). Aggregations of pregnant female Haller's Round Rays occur in the summer through fall, where warm shallow waters may provide thermal reproductive benefits including shorter gestation periods, larger offspring, and higher offspring survival rates (Jirik & Lowe 2012; Lyons & Lowe 2013). Male abundances peak during the spring, likely present to mate, before vacating during peak warm water months (Jirik & Lowe 2012) as confirmed by testosterone levels (Mull et al. 2008). In addition, neonates and YOY have been recorded in small numbers (compared to adults) in beach seines based on their size <8.1 cm disc width (DW) as the reported size-at-birth is 6-8 cm DW (Last et al. 2016) and confirmed by age-and-growth studies (Hale & Lowe 2008). These early life-stages have been recorded year-round (Hale & Lowe 2008). Recent beach seine surveys during 2022-2023 have been recording these adult aggregations of hundreds of individuals indicating pregnant females still occur in the area (Jahn 2024; CSULB Shark lab unpubl. data 2025).



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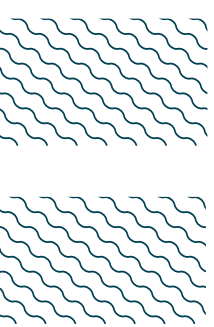
QUALIFYING SPECIES

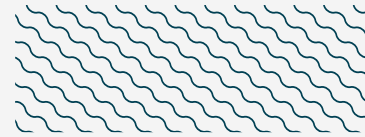
Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met								
				A	B	C1	C2	C3	C4	C5	D1	D2
SHARKS												
<i>Carcharodon carcharias</i>	White Shark	VU	0-1,277	X		X						
RAYS												
<i>Gymnura marmorata</i>	California Butterfly Ray	NT	1-95		X							
<i>Platyrrhinoidis triseriata</i>	Thornback Ray	LC	0-135		X							
<i>Pseudobatos productus</i>	Shovelnose Guitarfish	NT	0-90		X							
<i>Urobatis halleri</i>	Haller's Round Ray	LC	0-91			X						

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
<i>Triakis semifasciata</i>	Leopard Shark	LC
RAYS		
<i>Myliobatis californicus</i>	Bat Ray	LC

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.





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