

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

## KLAMATH KNOLL-TRINIDAD CANYON ISRA

### North American Pacific Region

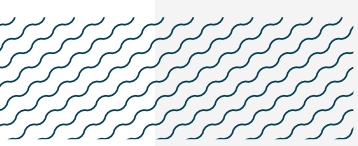
#### SUMMARY

Klamath Knoll-Trinidad Canyon is located off California, United States of America. The habitat is characterised by cold seeps, beds of clam shells, microbial mats with both orange and white morphotypes, and active clam aggregations typically associated with sediment channels. Within this area there are: **undefined aggregations** (Roughtail Skate *Bathyraja trachura*).

#### CRITERIA

##### Sub-criterion C5 - Undefined Aggregations

—	—
<b>UNITED STATES OF AMERICA</b>	
—	—
<b>740-1,250 metres</b>	
—	—
<b>2,248.2 km<sup>2</sup></b>	
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## DESCRIPTION OF HABITAT

Klamath Knoll-Trinidad Canyon is located off California, United States of America (USA). The habitat is characterised by cold seeps, beds of clam shells, microbial mats with both orange and white morphotypes, and active clam aggregations typically associated with sediment channels (Seabrook et al. 2018). The seafloor consists of carbonate platforms interspersed with sediment channels and covered by thin sediment layers. These carbonates support diverse benthic communities, including numerous cold-water corals, sponges, and anemones (Seabrook et al. 2018). Environmental conditions are relatively stable, with temperatures around 4°C, salinity at ~34.4, and low dissolved oxygen concentrations of ~0.2 ml/L (Yoklavich et al. 2016).

This Important Shark and Ray Area is benthic and subsurface and is delineated from 740-1,250 m based on the depth range of the Qualifying Species in the area.

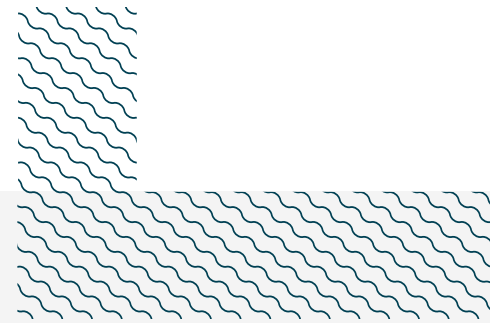
## ISRA CRITERIA

### SUB-CRITERION C5 - UNDEFINED AGGREGATIONS

Klamath Knoll-Trinidad Canyon is an important area for undefined aggregations of one ray species.

The West Coast Groundfish Bottom Trawl Survey (WCGBTS) is conducted annually between May-July and August-October along the USA west coast between the USA-Canada border and the USA-Mexico border, at depths ranging from 55 to 1,280 m (Keller et al. 2017). The survey area is subdivided into ~12,000 equal-area grid cells, from which 188 cells are randomly selected each year within depth and latitudinal strata to ensure representative spatial sampling. All sharks and rays captured are sorted to species level (or the lowest possible taxonomic resolution) and weighed, and subsamples of selected species are measured. The trawl net used in the survey has a headrope measuring 25.9 m and a footrope measuring 31.7 m. Trawling is conducted during daylight hours at a target speed of  $2.2 \pm 0.5$  knots, with a standard tow duration of 15 minutes (approximately 0.55 km) (Keller et al. 2017). Between 2011-2025, 8,386 tows were conducted in the entire survey area, 163 (1.9%) of which were in this area (NOAA NWFSC FRAM 2026).

Roughtail Skates were captured in 1,057 tows in the entire survey area (12.6% of total tows) at depths between 77.5-1,271 m. Within this area, this species was captured in 145 tows (88.9% of tows in this area) at depths between 742-1,250 m. The average catch-per-unit-effort (CPUE; number of individuals per square kilometre; ind/km<sup>2</sup>) for tows with Roughtail Skate outside this area was 168.1 ind/km<sup>2</sup>, while in this area it was 329.6 ind/km<sup>2</sup>. The average number of individuals in a single tow with Roughtail Skate in this area was 7.2 (maximum = 62 in 0.02 km<sup>2</sup>) and outside this area it was 3.7 (maximum = 128 in 0.03 km<sup>2</sup>) for the same average area (0.02 km<sup>2</sup>) (NOAA NWFSC FRAM 2026). The total number of individuals captured in all tows within this area was 917 (5.6 per tow), while outside this area, 3,377 were captured (2.4 per tow). Skates are known to aggregate with temporal changes related to sex and life-stage segregations (Swain & Benoît 2006; Frisk 2010; Hoff 2010). Skates usually aggregate in high density areas where large catch quantities for these species occur (Bizzarro et al. 2014). Further information is required to understand the nature and function of these aggregations.



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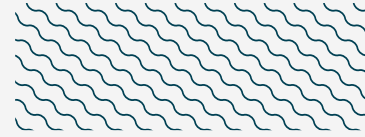
### **Suggested citation**

**IUCN SSC Shark Specialist Group. 2026.** Klamath Knoll-Trinidad Canyon. ISRA Factsheet. Dubai: IUCN SSC Shark Specialist Group.

## 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
RAYS												
<i>Bathyraja trachura</i>	Roughtail Skate	LC	90-2,900							X		

*IUCN Red List of Threatened Species Categories are available by searching species names at [www.iucnredlist.org](http://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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