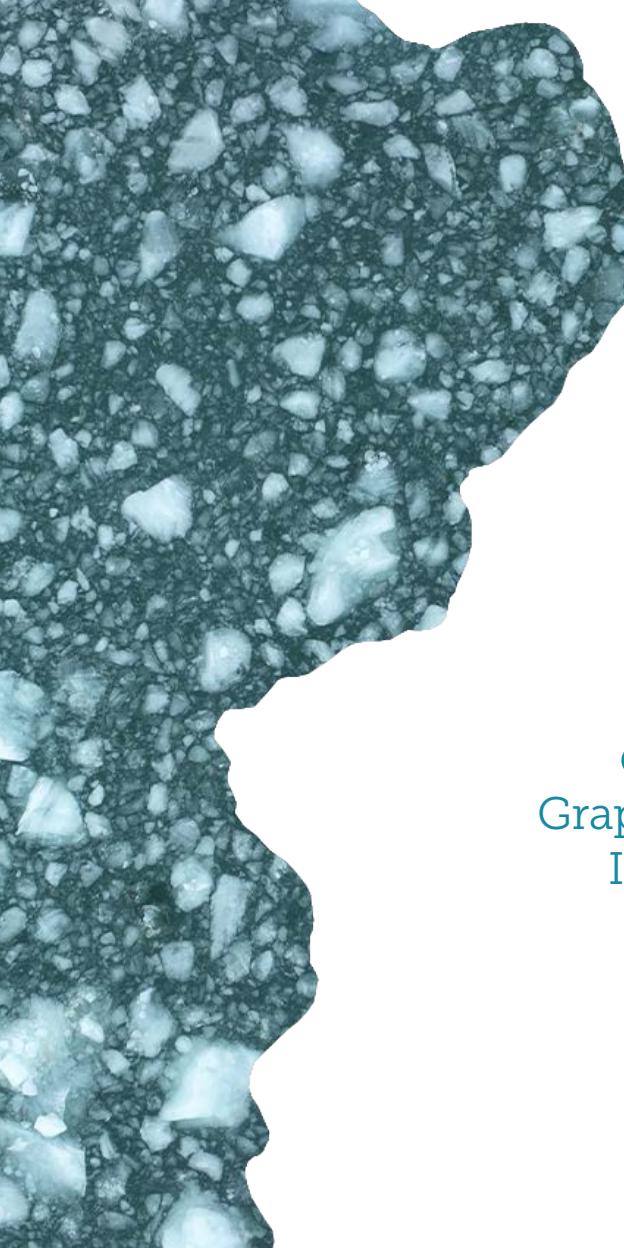




Leopard seals of Tierra del Fuego

Graphic and Scientific Photo Identification Field Guide





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Identification Field Guide

Authors and team members

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Meet the leopard seals (*Hydrurga leptonyx*)



Females weigh up to 454 ± 59 kg and reach 302 ± 11 cm in length

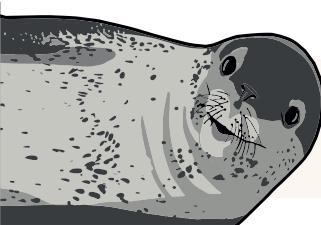


Males reach 302 ± 22 kg and 276 ± 11 cm in length

Morphologic characteristics

They can be identified by their large heads, long bodies, and long flippers. They tend to be dark grey dorsally (on their back and sides) and light grey ventrally (on their belly).

They show sexual dimorphism (morphological differences between sexes)



The most relevant characteristic for this field guide:

They can be individually identified by their irregular spots along the face and body; their spots are similar to those of a leopard, which is where the species name, leopard seal, come from.

Voracious predator

Leopard seals are apex predators.

In Antarctica, their diet includes many different species, such as krill, fish, cephalopods, seabirds, other seals, and sea lions.

Upon sighting a seal, maintain a safe distance so as not to disturb the animals (15 m minimum).



Habitat and distribution

Leopard seals are found in Antarctic and sub-Antarctic waters. They are usually associated with pack ice in the Southern Ocean. However, vagrant individuals have been reported in subpolar habitats, including Chile. The map shows some of the historical sightings of leopard seals in Chile.



Occasional sightings:

They have reached Eastern Island and the Juan Fernandez Archipelago.



Recurrent sightings:

The glaciers of the Tierra del Fuego Province and The San Rafael lagoon in the Aysén Region. Here, the same individuals are observed year after year (resident animals).



Photo identification

Researchers utilize Photo Identification (PhotoID) to identify individual leopard seals. In addition, pictures can provide information about the health and distribution of the overall population.

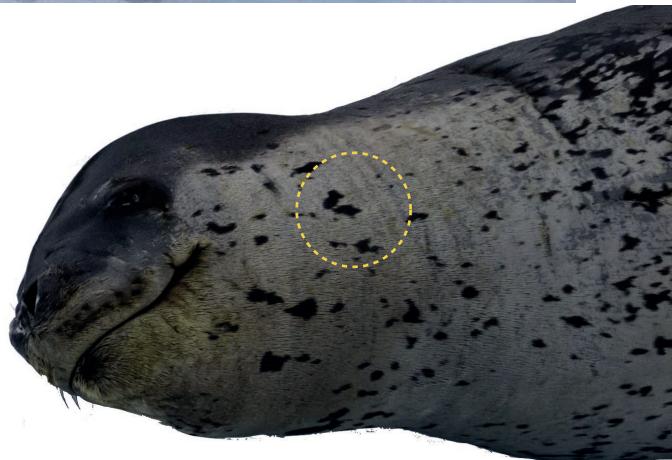
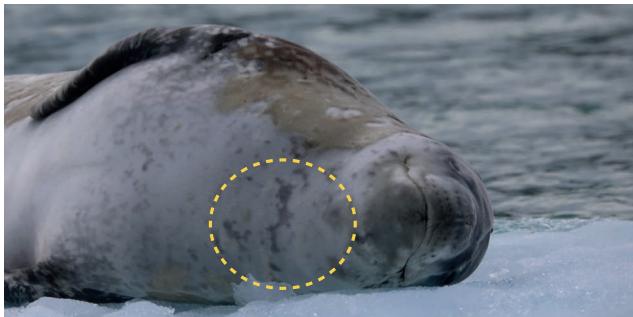
What to look for?

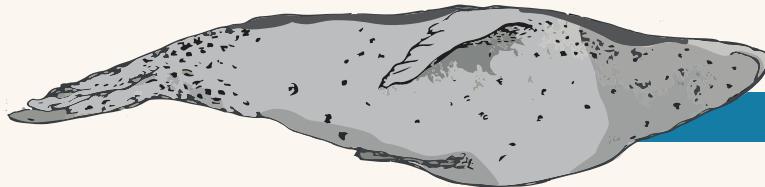
To ensure later identification, while photographing, it is essential that characteristics such as spots and scars are made visible for recognition.



Where would you find these spots and scars?

The head, neck, shoulder, and belly are key locations for characteristic spotting and scarring patterns that can differentiate individuals. In addition, images of the seal's entire body can provide clues to a seal's health condition and sex.

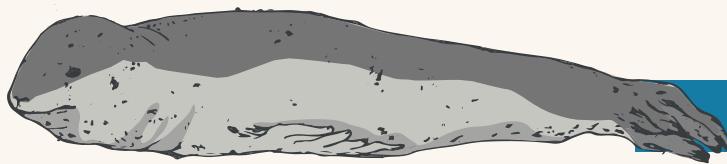




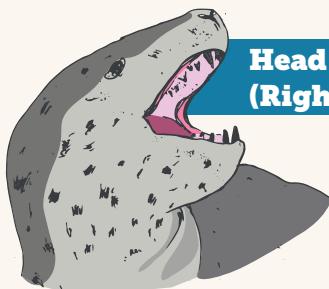
Ventral



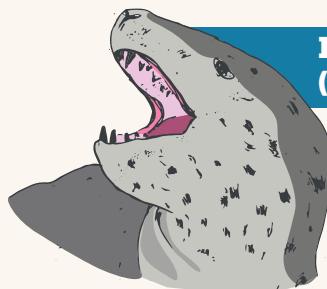
**Body
(Right side)**



**Body
(Left side)**



**Head
(Right side)**



**Head
(Left side)**

How to get a picture with a “Seal” of approval

When photographing leopard seals in the wild, it is important to keep this key information in mind:

- 1** Upon sighting a seal, maintain a safe distance so as not to disturb the animals (15 m minimum).
- 2** Be sure to capture the seal from as many angles as possible. These include the full body and close-up images that capture the unique features of the seal.
- 3** Cameras with high-powered lenses should especially focus on areas such as the face, head, throat, and flippers of the observed seal.
- 4** If the animal is sideways or belly up, get a picture of their rear ventral area where you can identify if they are female or male.



Preparing your camera



On your mobile phone:

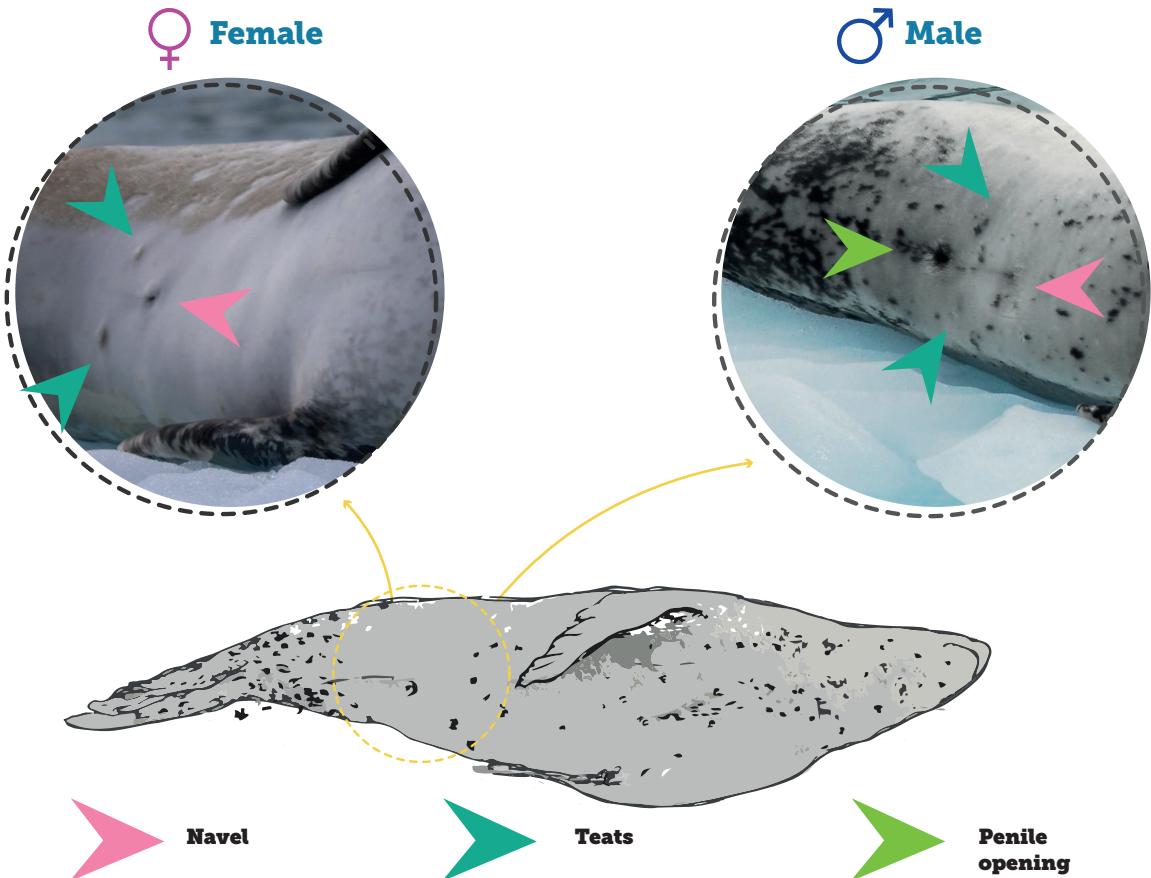
- 1 Take your phone and clean your camera lens.
- 2 Make sure the date, time, and location are up to date since this information further assists researchers in describing movement patterns.
- 3 You have an amazing phone?
Then try close-ups as well as general full-body pictures.

On your nice camera:

- 1 Take your camera and clean your lens.
- 2 Must double-check your camera date, time, and location in the configuration of your camera,
VERY IMPORTANT.
- 3 If you have a great lens, try to get as many close-ups of the spot patterns, and scars from the different areas of the body as mentioned earlier. Pictures from the camera are the most valuable for scientists.



Learn how to recognize seal sexes

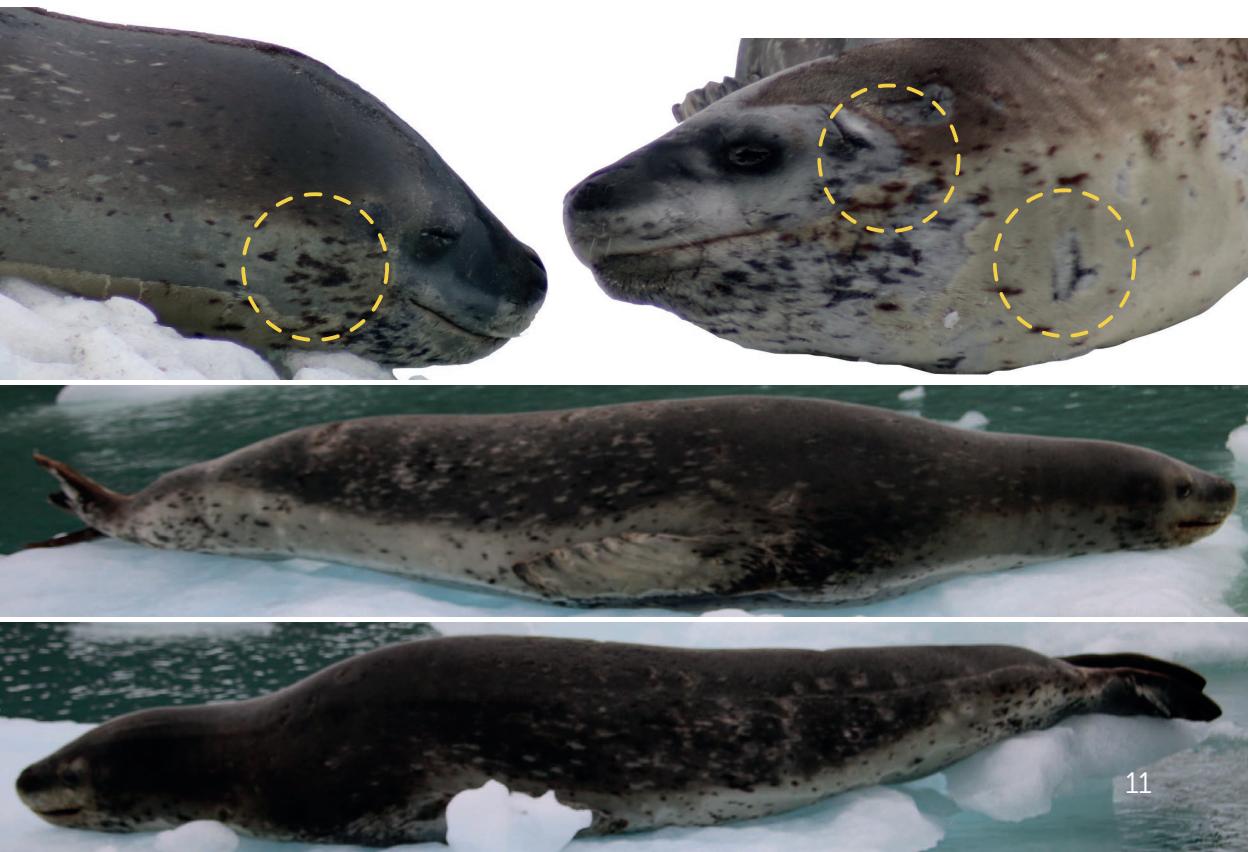


Unique features



Parry Fjord

Female with distinctive scarring around the mouth and eyes. Most notable of these are a "Y" shaped spot on her lower left jaw, a horseshoe-shaped spot behind her mouth on the right side, and a vertical scar behind her left eye. Two parallel spots are visible on the upper ventral region of the animal.

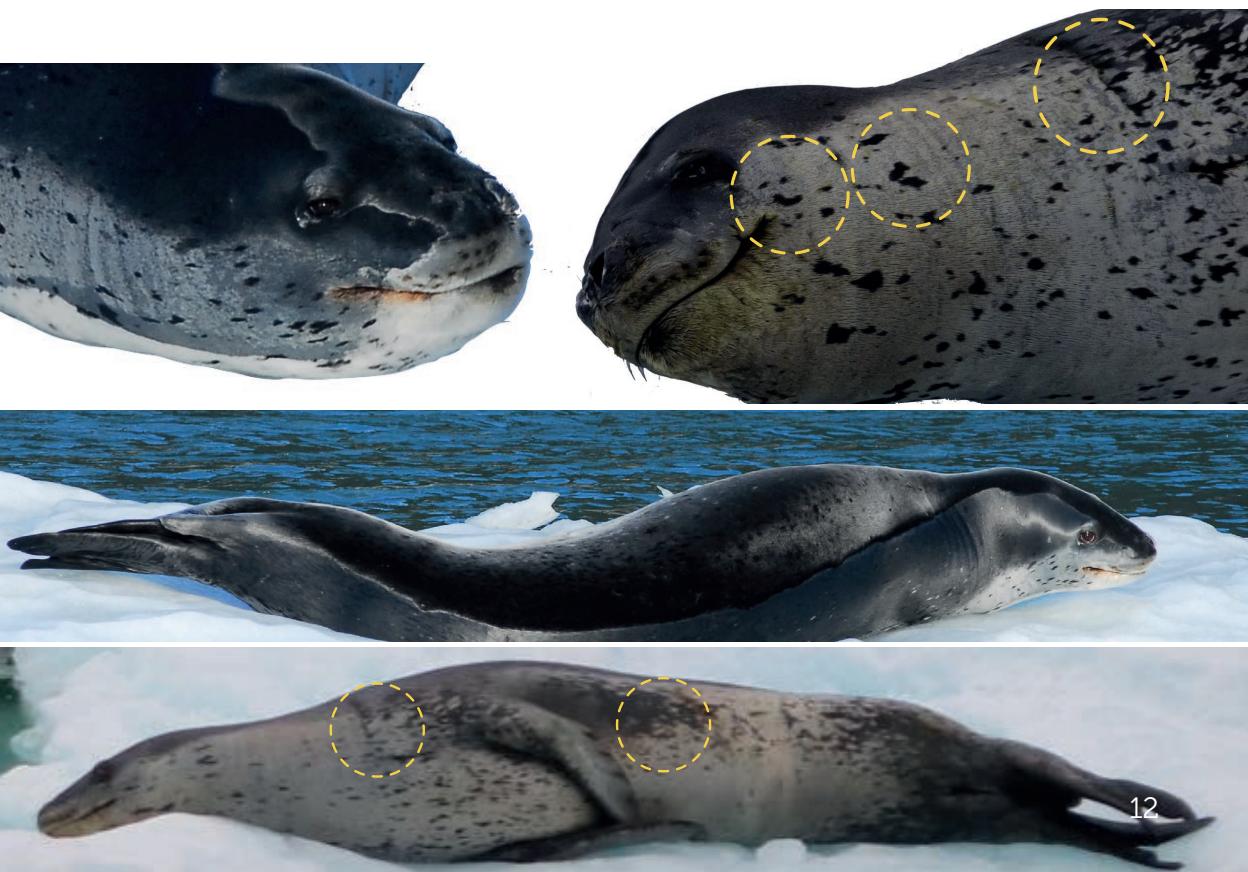


Unique features



Cuevas Sound

Female with distinctive spot formations around the face. Spots on the left side of the face resemble a smiley face behind the mouth and a horizontal heart on the neck. Additionally, TF02 has two vertical scars on her left side, one of which can be found on her left shoulder before the flipper, and the other located along the midsection of her body.



Unique features



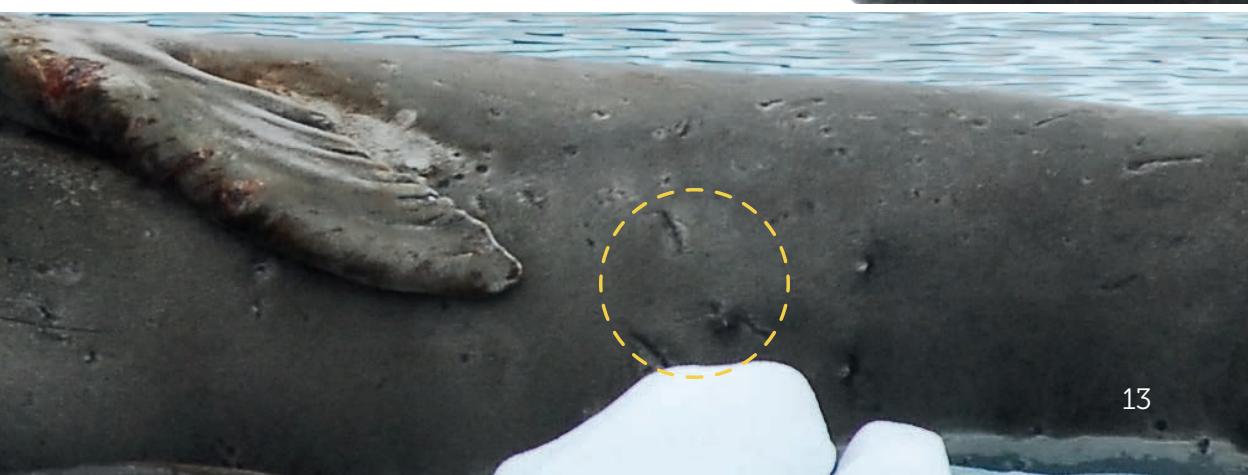
Cuevas Sound

Female with distinctive scarring along the left side of her face and navel area. Most notable of these are a pair of near-parallel scars right above the navel. An additional identifiable characteristic of the seal is a 'gill-like' arrangement of two vertical scars on the left side of the face. Due to a lack of sightings, the collection of photographs is limited.



WANTED!

Have you photographed this seal?
We are missing many angles
of this and other animals.

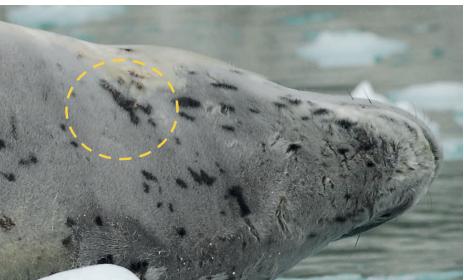
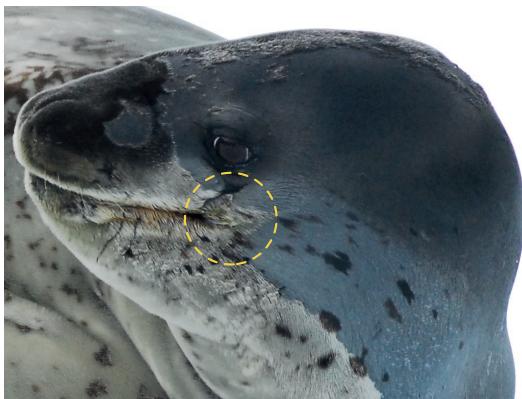


Unique features



Parry Fjord

Female with uniquely shaped spot patterns around the face. Of these are concave-shaped spots on the right side of the face and throat. In addition, TF04 has a vertical scar that extends below her left eye to her upper jaw.



Unique features

TF
05

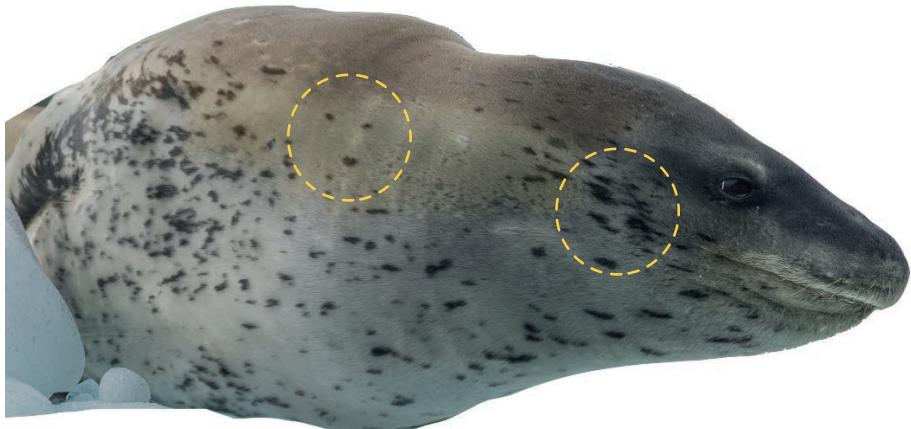
Parry Fjord

Male seal with little scarring. There are areas that include spots that create identifiable shapes. Of these are three spots that form a downward pointing triangle on the neck, and a unique cluster of spots behind the mouth on the right side of the animal. In addition, an 'M' shaped spot can be denoted on the underside of the jaw.



WANTED!

Have you
photographed this seal?
We are missing many
angles of this and other
animals.



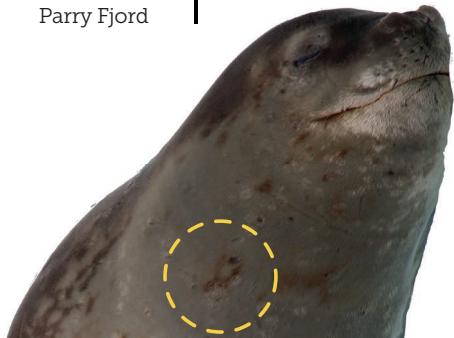
Unique features



Parry Fjord

Female that can be identified by a 'keyhole' shaped spot on the right side of the neck.

In addition, a similar "keyhole" shape can be observed on the underside of the neck as well, in a collection of spots that are arranged like a necklace.

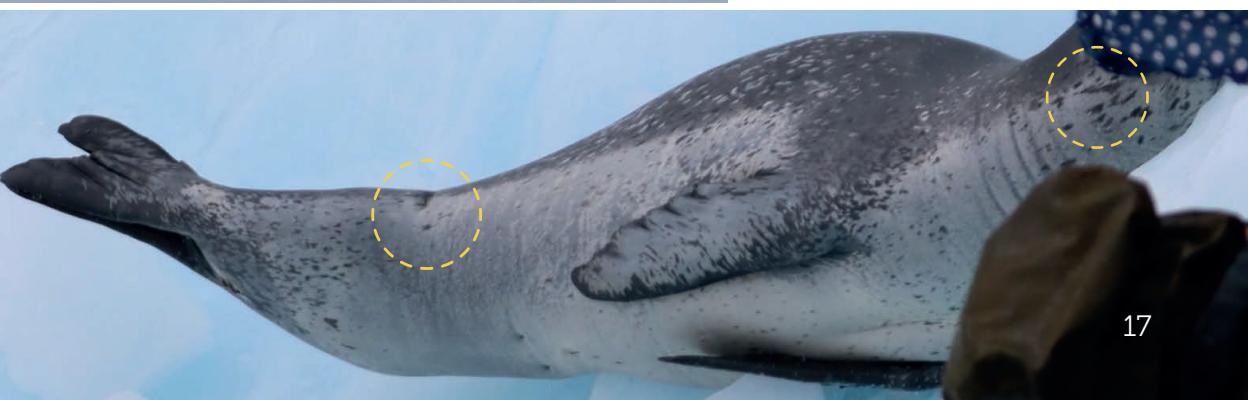
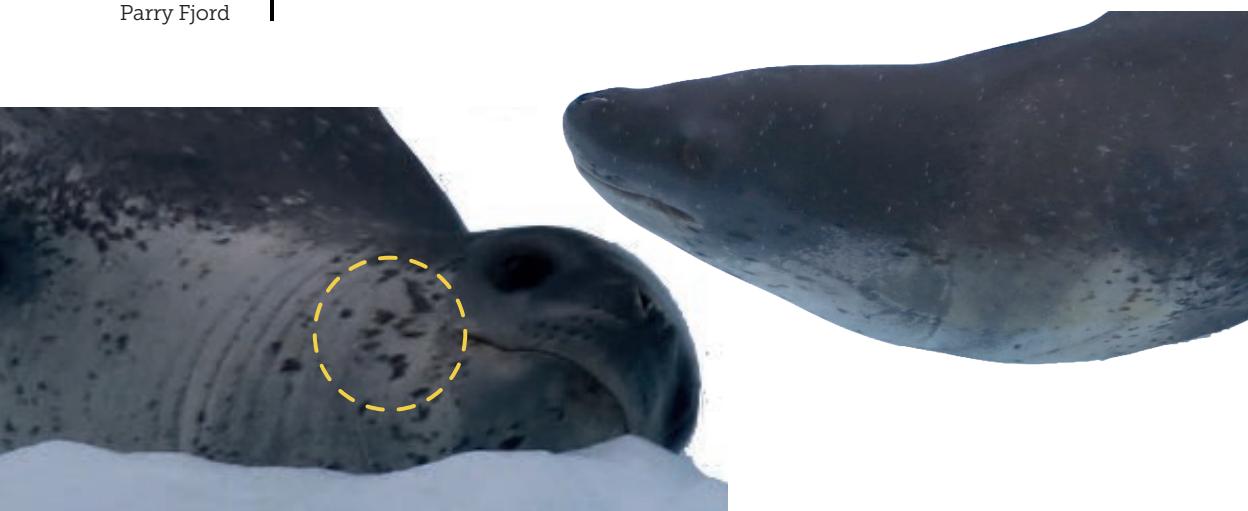


Unique features



Parry Fjord

Female with distinctive markings on the right side of the head behind the mouth. These include a grouping of spots that resemble the letter 'Z'. In addition, the seal has a vertical scar along the right hip.

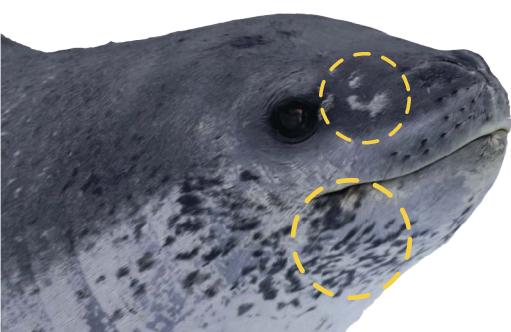


Unique features



Parry Fjord

Female that can be identified by a cluster of spots that lack pigmentation anterior to the eye on the right side of the face. In addition, spot formations that surround the jaw are dense in distribution beneath the jaw.



Unique features



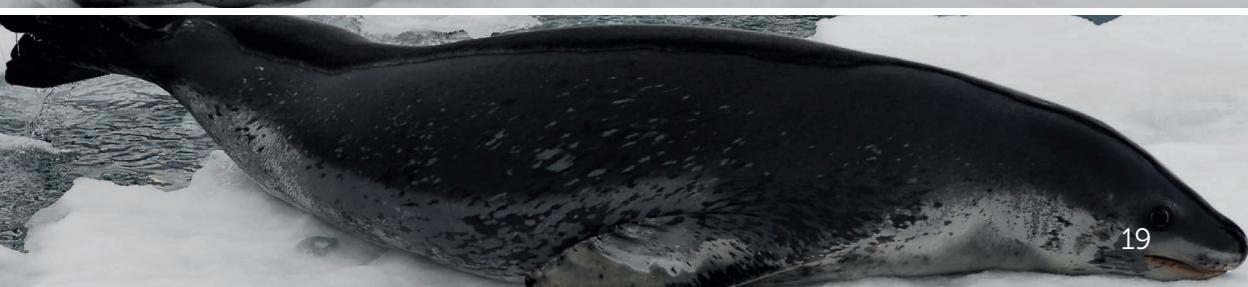
Parry Fjord

Female with limited photos.

Most identifiable of her facial marks is a spot that resembles a musical 'half note', located posterior to the mouth on the right side of the face. Capture TF09 on your expedition and your photographs could be here!



Take a picture to TF09
on your expedition and be part
of this catalog!



Unique features



Cuevas Sound

Male with a horizontal scar beneath the mouth on the right side of the face. In addition, the seal has a minor scar on the right side of the neck, anterior to the flipper.

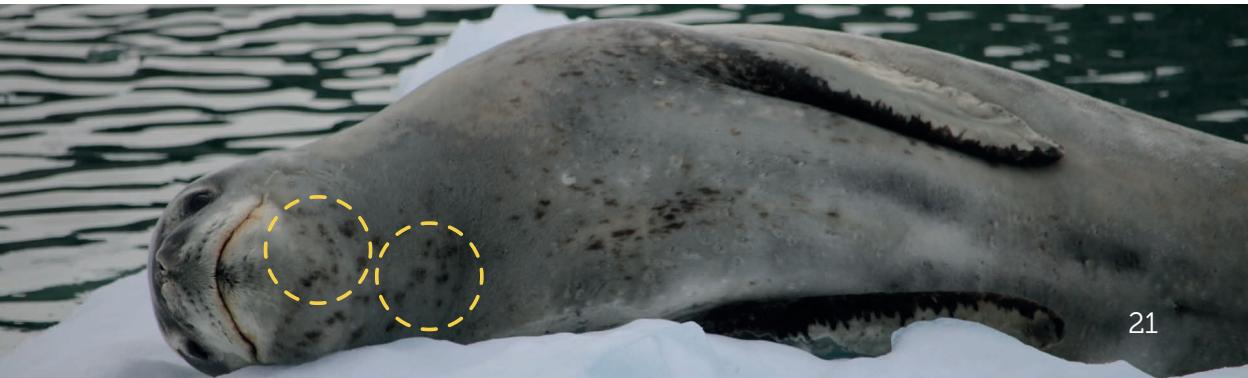
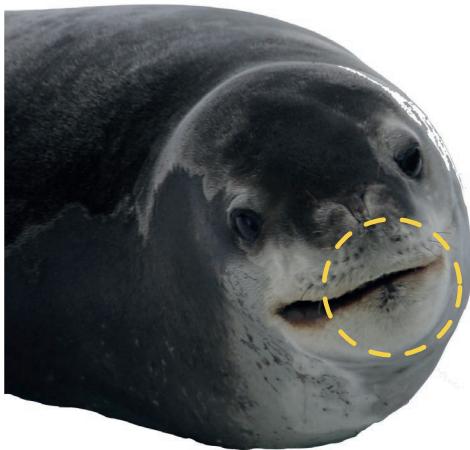


Unique features



Cuevas Sound

Male seal with unique patterning beneath the jaw.
Most notable is the 'L' shaped arrangement of spots, and a horizontal line of spots that extends towards the neck.



Unique features



Parry Fjord

Male with a forked spot on the right side of his face beneath the jaw. In addition, a horizontally oriented 'Y' shaped spot can be found on the chest of the animal.



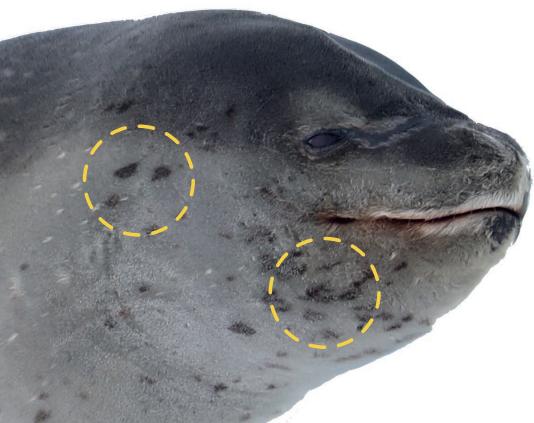
Unique features



Cuevas Sound

Female easily identifiable due to unique spotting on the right side of her body. These include two horizontal spots on the neck, and a horizontally orientated 'S-shaped' spot.

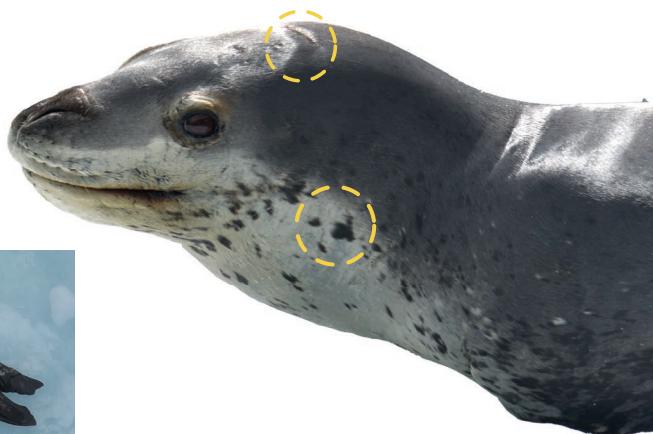
In, addition, a 'J' shaped spot is present on the right side below the jaw.



Unique features



She can be identified by a star shaped spot on the right side of the face with a horizontal line below. In addition, there is a diagonal scar on the right side of the neck. She also has a variety of scars along the right side of the body, and a prominent scar at the top of the head. On the left side of the neck, there is also a unique spot pattern that can further assist with identification.



Sightings in time				
Seal	First sighting		Last sighting	Location
TF1 	2010		2023	Parry Fjord
TF2 	2010		2018	Cuevas Sound
TF3 	2016		2016	Cuevas Sound
TF4 	2017		2017	Parry Fjord
TF5 	2017		2017	Parry Fjord
TF6 	2018		2021	Parry Fjord
TF7 	2018		2018	Parry Fjord
TF8 	2018		2018	Parry Fjord
TF9 	2017		2017	Parry Fjord
TF10 	2018		2021	Cuevas Sound
TF11 	2019		2019	Cuevas Sound
TF12 	2017		2021	Parry Fjord
TF13 	2021		2021	Cuevas Sound
TF14 	2015		2021	Parry Fjord

I have pictures! Now... what do I do with them?

1

In your computer, create a folder for each day and label it with your Lastname_Date_Location. Example: "Brown_15-Dec-25_Parry fjord".

2

Did you identify the seal with the catalog?

Awesome! you can specify the animal ID within the folder created using a subfolder with the seal's name.

Example: Nicholi Brown saw two seals in one day, so within the folder "Brown_15-Dec-25_Parry fjord" he will create two folders called "TF01 and TF05".

3

Contact us! Send us your questions, concerns and pictures to chileanleopardseals@gmail.com or wcschile@wcs.org, we will write back with more instructions.

4

That's it!

You are now officially part of this global scientific effort to study this apex predator!

Thank you so much, and congratulations!



Would you like to know more about leopard seals?

This is the first Catalog of leopard seals from Tierra del Fuego. However, there is a catalog of leopard seals of San Rafael built by the National Forestry Corporation (CONAF):

Fernández-Ferrada N., Gómez, G., and Toledo R. 2021. *Catálogo de foto-identificación de focas leopardo (Hydrurga leptonyx) San Rafael Lagoon National Park*. Eds: Corporación Nacional Forestal (CONAF), Región de Aysén. 42pp

Follow The worldwide Project with the **#GlobaLeps**

Get more information about the project at: <https://globaleps.baylor.ai/>

Contact us at: chileanleopardseals@gmail.com

Are you interested in learning more about the work of WCS?

Visit our website <https://chile.wcs.org>, or you can contact us by sending an email to wcschile@wcs.org

If you want to read some recent scientific publications of our working group:

- 1** Kienle SS, et al. (2023). Plasticity in the morphometrics and movements of an Antarctic apex predator, the leopard seal.
- 2** Sperou ES, et al. (2023). Large and In Charge: Cortisol levels vary with sex, diet, and body mass in an Antarctic predator, the leopard seal.
- 3** Charapata P, et al. (2023). Whiskers provide time-series of toxic and essential trace elements, Se: Hg molar ratios, and stable isotope values of an apex Antarctic predator, the leopard seal.