# Southern Sea Otters

## (Enhydra Lutris)

Enhydra lutris© James Brooks (CC BY 2.0)

Exploring Seasonal Diets & Conservation

Carlie Gentry, Eli Ward, Mattie Bost
Spring 2026, BIO 110-0A3

GBIF, Enhydra Lutris (Linnaeus, 1758), iNaturalist, Russ Namitz, Jan. 2026

Carlie Gentry, Audio: Carlie Gentry

# Meet the Sea Otters!

- Southern sea otters (*Enhydra lutris nereis*) are adorable coastal mammals.
- They are keystone species, meaning their presence keeps the ecosystem healthy!
- Threats include historic fur hunting, oil spills, and habitat loss.

- GBIF, Enhydra Lutris, Jan. 2026

Carlie Gentry, Mattie Bost, Audio: Carlie Gentry

GBIF, Backbone Taxonomy, Enhydra Lutris (Linnaeus, 1758)

*Fun fact: Otters hold hands when they sleep so they don't drift apart. When they aren't bracing themselves under kelp. 🧡

Earth; Nature, Science, Life, (12-24-2016)

# Where do they live?

- They populate California's coasts in kelp forests
- Dwelling close to the shore raises risk of terrestrial pathogen exposure


Ecosphere, An ESA Open Access Journal, Aug. 26,2025

Elias Ward, Audio: Carlie Gentry

# Taxonomy

Common Name: Southern Sea Otter or California Sea Otter
Scientific Genus Name: *Enhydra Lutris Nereis*
According to the *Nature Serve* page, this species is categorized in the "T2, Imperiled Subspecies" category.

NatureServe Explorer, Enhydra Lutris Nereis (2026)


Distribution for Enhydra Lutris Nereis is in the United states in California

NatureServe Explorer, Enhydra Lutris Nereis (2026)


For their Mobility and Migration they are NOT Colonial Breeders. They are considered Non-Migrant.

They do not locally migrate or migrate over long distances. Their phenology is considered for both immature and adults, and both are labeled as Circadian.

When looking at their food habits they are considered to be piscivores and invertivores. For their habit type they are marine mammals.

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Mattie Bost
Audio: Carlie Gentry

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# What's on the Menu?

Carlie Gentry
Elias Ward,
Mattie Bost,
Audio by Elias Ward

- Main snack: Pacific mole crabs (*Emerita analoga*).

GBIF, Backbone Taxonomy, Enhydra Lutris (Linnaeus, 1758)

- Southern Sea Otter diets include over 70 species of invertebrates
- Scientists study what otters eat to understand their health and the spread of infectious disease.

Ecosphere, An ESA Open Access Journal, Aug. 26,2025

*Fun fact: They must consume 20–25% of their body weight daily! That's over 10 pounds of food a day, to maintain their metabolism and body heat in cold water.

Mattie Bost, Elias Ward, Audio by Elias Ward

# Reproduction

- Males typically live around major feeding and resting areas
- Males are polygynous, mating with more than one female.
- Most females do NOT have young every year, although some reproduce annually.
- Reduction in birth rate has contributed to threatened conservation status

GBIF, Enhydra Lutris (Linnaeus, 1758)

Discovery, Arthur Morris

# LifeStyle & LifeSpan

- Pups' dependency on their mother is typically around 5-8 months!
- *Enhydra Lutris* can reach the range of 1-9km/h, in water.
- They are generally diurnal creatures, with peaks of activity at dawn and dusk.

GBIF, Backbone Taxonomy, Enhydra Lutris (Linnaeus, 1758)

Mattie Bost, Audio by Elias Ward

*The Maximum longevity for *Enhydra Lutris* in captivity is 27 years!*

- The Animal Aging and Longevity Database, (2023)

*Fun Fact: They rest floating belly up!

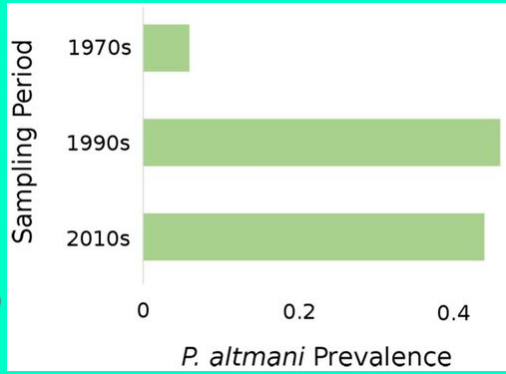
River Otter Ecology Project (2026)

# How were they studied?

- Scientists analyzed 9984 *Enhydra Lutris* strandings from 1992–2020.
- They checked gastrointestinal tracts for what they ate, and compared what pups ate vs adults
- They tracked this data by week of the year to see seasonal trends.

Ecosphere, An ESA Open Access Journal, Aug. 26,2025

Diagram to right: Shows the prevalence of infection in the gastrointestinal tracts of *Enhydra Lutris* across three decades (1970s-2010s)



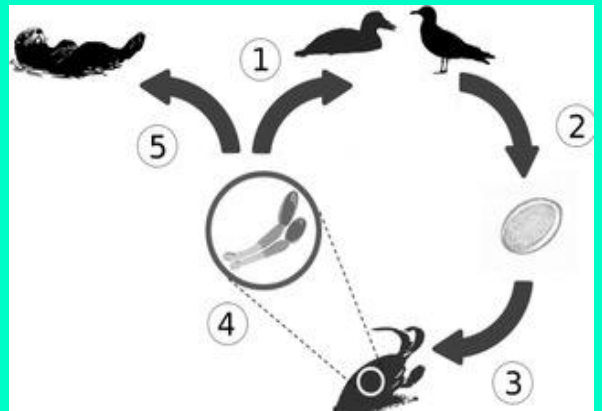

INaturalist, (c)Andrea Kreuzhage

Carlie Gentry, Mattie Bost, Aud
by Elias Ward

- Springtime: Enhydra Lutris eat more mole crabs. Pups tend to eat more crabs than adults.
- Presence of mole crabs in digestive tracts was linked to the presence of Acanthocephalan peritonitis, a disease caused by *Profilicollis altmani* parasite.


Ecosphere, An ESA Open Access Journal, Aug. 26,2025

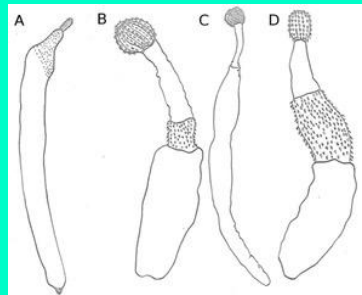
Carlie Gentry, Elias Ward, Audio: Mattie Bost




- This pathogen is spread from sea birds to mole crabs.
- Higher number of AP cases during El Nino years in Monterey Bay area.

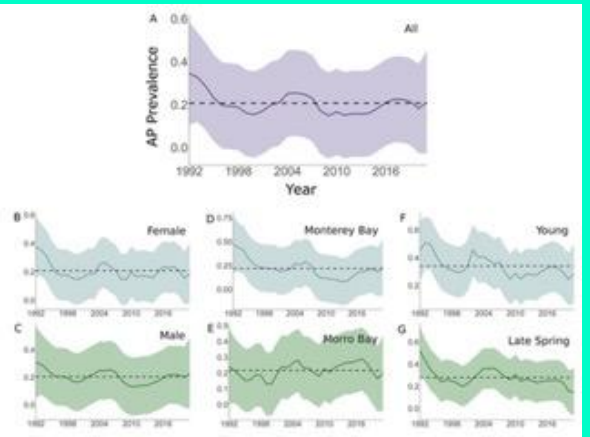
The image on the right shows the P. Altmani.

Science Direct, (Dec. 2023)



# Diagrams of Results:

Ecosphere, An ESA Open Access Journal, Aug. 26,2025




The bottom left diagram: Long-term shifts in the infection rate of Acanthocephalan peritonitis (AP) were evident for some *Enhydra Lutris* groups, while the prevalence for other groups was stationary.

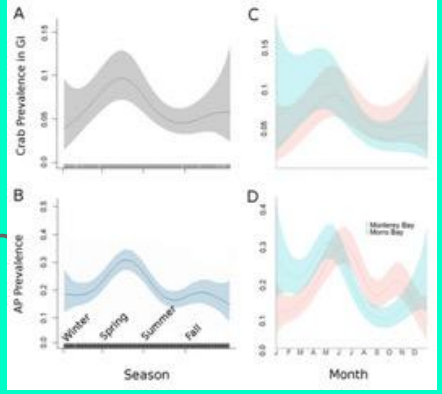
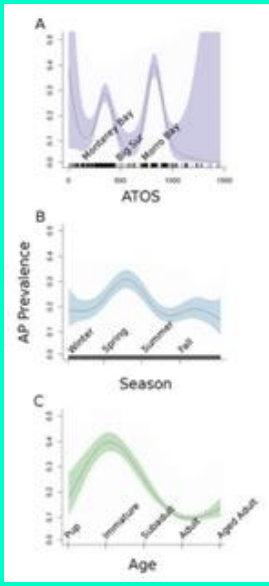



Diagram to Left: Found that body fat was significantly lower in AP cases

Mattie Bost, Audio by Mattie Bost

Diagram to right: Shows Interaction Terms (ATOS|Sex, Day|Sex, Age|Sex) were not statistically significant. A), Peak is at Monterey Bay and Morro Bay. B), Peak is in late Spring. C), Peak is immature Enhydra Lutris.



# Conservation Status

- Acanthocephalan peritonitis significantly impacts fatal disease
- Understanding what they eat helps scientists protect them.
- Conservation = healthier oceans and happier otters!

🌊🦦


Red List; Global Assessment, Jan. 21 2020

As of January 21, 2020, *Enhydra lutris* are listed as an endangered species.


INaturalist,(c) uzun – some rights reserved Red List; Global Assessment, July 17 2024

*Fun fact: Southern sea otters are "climate warriors" that combat climate change by eating sea urchins 🌡️

As of July 17, 2024, *Enhydra lutris'* recovery score is 47% (Largely Depleted).

Carlie Gentry, Mattie Bost, Elias Ward, Audio: Mattie Bost

Carlie Gentry, Elias Ward, Audio: Mattie Bost

# Wrap it up!

- Presence of seasonal AP cases aligns with presence of mole crabs in stranded otters' digestive tracts
- *Enhydra Lutris* control urchin populations, helping maintain healthy kelp forests
- Patterns of AP cases studied in long-term monitoring suggest a shift in prevalence due to several factors. This information can be used to improve conservation efforts

Mattie Bost,
Carlie Gentry

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Mattie Bost,
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