Emerging and Zoonotic Diseases

What's the issue?

While many pathogens are limited to their host species, a number of pathogens can be transmitted between species, including at the marine-terrestrial-air interface. Bacteria, protozoa and viruses such as *Leptospira, Mycobacteria, Toxoplasma gondii,* and avian influenza virus can pass among marine mammals, birds and terrestrial species, including domestic animals and humans. Some of these pathogens are well-known and documented, while others have more recently emerged, requiring research to understand their dynamics and drivers of emergence. Understanding which species are susceptible to infection, how the pathogens spread, the risk factors for infection, and the pathogens' impacts on individual host health are critical for insights into the dynamics of these diseases in the marine ecosystem and for informing management actions.

To learn more:

- (October, 2022) "Sea lion disease outbreak along Oregon coast" — Oregon Department of Fish & Wildlife
- (December, 2022) "Avian Flu" — Oregon Department of Fish & Wildlife
- "Avian influenza" — Washington Department of Fish & Wildlife
- "Leptospirosis: Kidney Damage in California Sea Lions" — The Marine Mammal Center
- (March 2023) "Deadly parasite threatens California sea otters" – University of California, Davis; University of Nebraska Lincoln; and California Department of Fish and Wildlife
- (October 2021) "Fungal Outbreak in Marine Mammals Began on Land" – SeaDoc Society, Washington Department of Fish and Wildlife, Cascadia Research