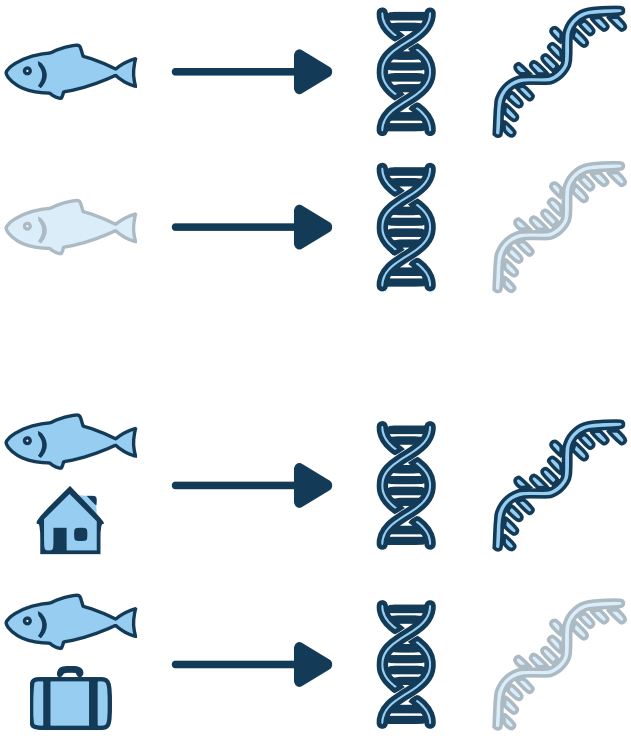
Environmental RNA (eRNA)

WHITE OTTER BIOTECH

What is eRNA?

eRNA refers to genetic products that are transcribed from DNA and released into the environment by living organisms. eDNA and eRNA are collected together from environmental samples and processed in a molecular laboratory. RNA is more abundant than DNA because each cell produces many RNA copies from a single DNA template, but it also persists in the environment for a much shorter time. Because of these features, higher RNA to DNA ratios indicate the relative age of the genetic material, helping reduce false positives and distinguish living organisms from those that are no longer active. eRNA complements eDNA by providing stronger confidence in species presence or absence, revealing whether species are transient or resident in a particular area, and enabling estimation of population levels or relative abundance.



Monitoring wildlife health

RNA molecules originate from physiological processes in living organisms and change with stress, seasonal cycles, and environmental pressures. Environmental samples also contain RNA molecules released not only by wildlife themselves but also by the viruses, bacteria, and parasites that infect them. By analyzing these signals, we can detect key biological events and gain insight into the health status of wildlife populations.