

The Secret Life of Otters and Plastic Sea Threats: A Call to Empathy and Action in Science Education

Science education can inspire a new generation of environmental advocates with knowledge and passion. At OTTER, we suggest using the majestic otter as an example and tool for plastic pollution education.

Otters as Ecosystem Guardians

In the secret life of otters, these creatures emerge as vital **guardians** of aquatic ecosystems. They **regulate populations** of crustaceans, mollusks, urchins, and fish, acting as ecosystem engineers that **shape landscapes** and create **balanced habitats** for various life forms. The presence of otters serves as an **indicator of a healthy ecosystem**, while their struggles against threats, especially plastic pollution, provide a warning of environmental distress.



The Plastic Problem

Approximately **14 million tons of plastic** infiltrate the oceans annually, constituting a significant 80% of marine waste. Otters find themselves **entangled and facing ingestion threats**, leading to habitat destruction and the **release of toxic chemicals**. This plastic waste damages the health of the entire aquatic food chain. The invasion of plastic waste in aquatic habitats disrupts animals feeding and behavioural routines, causing a worrying imbalance in their lives.

What Can Educators Do?

Educators can adopt **research-based practices** to maximise empathy development in students. Structuring conversations around nonhuman animals, emphasising perspectives, emotions, and mental states, enhances **understanding and empathy**. Modeling appropriate behavior towards animals, increasing knowledge about their **unique needs and behaviors**, and providing opportunities to act on empathy strengthen the emotional connection between students and wildlife.

Activities outside the classroom further enrich the educational experience. **Excursions** to monitor aquatic ecosystems, creating innovative solutions for **plastic collection**, designing digital awareness campaigns, and analyzing data on plastic pollution contribute to a **holistic and engaging science education**.



In uniting scientific knowledge with meaningful practices, **educators can empower students** to become agents of change. The goal is not just to impart knowledge but to instill a **deep sense of responsibility and empathy** towards the preservation of aquatic life. By fostering a more empathetic, just, and **sustainable future**, we work towards ensuring the well-being of all forms of life that inhabit our blue planet.

For more information, visit otter-project.eu

