Restore4Life
RESTORING WETLANDS
FOR A SUSTAINABLE FUTURE

SCENARIOS for 15 to 19 years old students

Context:

Wetlands play a vital role in sustaining human well-being by delivering a wide range of ecosystem services. They act as natural providers of essential resources—supplying food, fresh water, and raw materials—while also performing critical regulating functions such as reducing flood and drought risks, filtering pollutants, and maintaining water quality. Beyond their physical benefits, wetlands hold significant cultural value, supporting recreation, spiritual practices, and local heritage. Despite their importance, these ecosystems are increasingly threatened by land-use change, including agricultural expansion, urban development, and drainage for infrastructure, which leads to habitat loss, degradation, and a decline in the very services they provide.

You are witnessing a “crime”, find out who is guilty! Create a functional model of the wetland function that is described in the scenarios below.

1.The Crime Scene: Two suburban areas on the riverside, on one case (Town A) the surrounding area before the town is in its natural state, with the water coming and getting out of the floodplain, on the other case (Town B) land was changed for agricultural purposes, the river was channelled by dikes.
Time of Incident: Early morning, post-heavy, all-night rainfall.
The Crime: A localized, yet devastating, **flash flood** has caused severe floods to Town B but not in Town A.

Your job is to find out why was Town B flooded and to model the wetland function that saved Town A from the floods.

2. The Crime Scene: A river with its floodplain transformed in agricultural land where intensive agriculture has been practiced for many years.
Time of Incident: Post-rainfall, runoff event.

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The Crime: Severe water quality degradation downstream, characterized by high nutrient levels and toxicity, impacting the river ecosystem.

Your job is to find out why the river was polluted. Modell what might happen if there were a stretch of riparian vegetation between the river and the agricultural land.

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