



## CASE STUDY:

### Rapid Restoration of a 2,500 bbl Produced Water & Crude Spill

*Rapid In-Situ Restoration of a Produced Water + Crude Release*

#### Project Overview

**Site Profile:** Live Creek / Sensitive Aquatic Ecosystem

**Contaminants:** 2,500 Barrels of Produced Water (High Salinity) and 50 Barrels of Crude Oil

**Objective:** Rapid in-situ treatment while minimizing secondary waste generation

**Timeline:** Documented recovery indicators in ~4 weeks

#### The Challenge

A mixed release of produced water and crude oil entered a live creek, resulting in elevated salinity and hydrocarbon impacts. The response required a field-deployable approach capable of addressing both constituents without excavation and harsh chemical oxidants.

#### The Solution: PC Microbial Technology

PC Bio implemented an in-situ bioremediation method that uses a diverse group of naturally occurring microbes, supported by biostimulation, to speed up contaminant breakdown in field conditions. Application was carried out with high-pressure sprayers and pumps to ensure maximum contact with affected banks, sediments, and interface zones.

#### **The Science of Success:**

- **Symbiotic Consortium:** Unlike single-strain products, our microbes live in symbiosis, working together to break down complex hydrocarbons and salts.
- **Catalytic Acceleration:** A proprietary natural catalyst enables microbes to reproduce thousands of times faster than natural rates, ensuring rapid colonization of the spill site.
- **Food Source Conversion:** The microbes use the crude oil and salt as their main energy sources, effectively "eating" the contamination.



**Application:** The formulation was applied using high-pressure sprayers and pumps to ensure thorough penetration into the creek bed and affected banks.

## **Field Results**

Following a second application to accelerate the process, the transformation was documented over 4 weeks.

- **Salinity Reduction:** Chloride levels dropped from toxic highs to approximately **200 ppm**.
- **Hydrocarbon Elimination:** Surface oil was dissipated entirely.
- **Ecosystem Recovery:** The water clarified, algae and new plant life returned, and fish populations rehhabited the previously uninhabitable waters.



**Before**

Vegetation withered, water murky and toxic.



**After**

Water clarified, hydrocarbons eliminated, and ecosystem restored.

*"PC Bioremediation combines proven science with real-world application to restore the environment—safely, efficiently, and sustainably."*