

Biodegradation of Dispersed Crude Oil

FACT SHEET

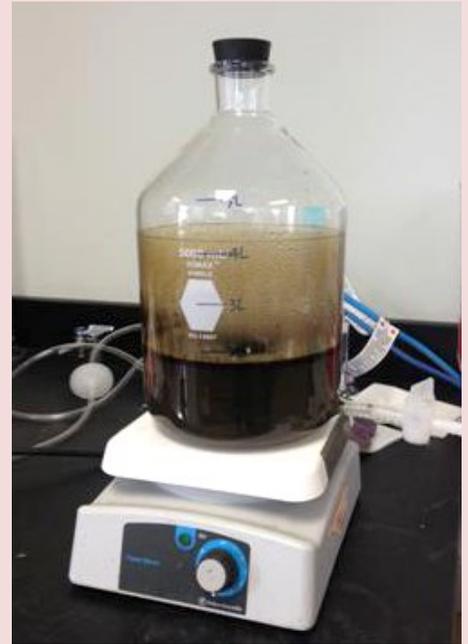
Overview

This council project will help us understand whether chemically dispersed oil in Prince William Sound conditions would be biodegraded by indigenous microfauna or float around until it either resurfaces or is carried downstream.

Microfauna are essentially marine bacteria and other plankton that can eat and digest dispersed oil, breaking it down into simple molecules such as carbon dioxide, water, or methane.

The project will compare the biodegradation by microfauna of chemically dispersed Alaska North Slope crude oil with physically dispersed crude oil at ambient Prince William Sound conditions.

This project supports the council's mission by providing the organization with the best scientific knowledge to help make informed, scientifically justified, decisions



For the experiment, four liters of seawater were mixed with oil and dispersant. Photo by Michel Boufadel.

The dispersed oil biodegradation project is a two-year effort, started in 2012.

The council contracted with Michel Boufadel at the New Jersey Institute of Technology to conduct the experiments.

The project began in 2012 with three consecutive microcosm trials conducted to investigate biodegradation of dispersed oil in seawater in the lab. These trials were performed under conditions with low nutrients (background seawater) and high nutrients (additional nutrients added to the

background seawater). These first tests were aimed at refining an oil dispersion technique prior to conducting a full experiment which will take place in Summer 2013.

Once the project is completed, the study results will be published in a peer review journal. The research can then be used as the basis for council comments on spill response policy and regulatory reviews by regulatory agencies and the Regional Response Team.

This project is part of the work of the council's Scientific Advisory Committee.

For more information, contact council project manager, Joe Banta: banta@pwsrca.org.
On the web: www.pwsrca.org/programs/environmental-monitoring/biodegradation-of-dispersed-crude-oil/