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Oil Spill Response: Dispersants

Spill Response Toolbox

Mechanical Recovery: Booms & Skimmers

In-Situ Burning

Monitor & Evaluate

Dispersants

Aerial

Vessel

Subsea

The goal is to design a response strategy based on Net Environmental Benefit Analysis (NEBA)

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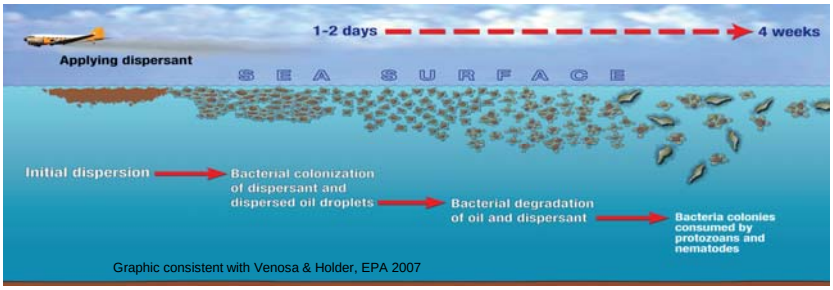
Dispersants – What do they do?

- **Dispersants are solutions of surfactants that reduce oil-water interfacial tension allowing slicks to disperse into very small droplets with minimal energy, enhancing the natural biodegradation process**



Graphic consistent with Venosa & Holder, EPA 2007

- **Dispersed oil rapidly dilutes to concentrations <1 ppm within hours**
- **Dilution allows biodegradation to occur without nutrient or oxygen limits**

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Subsea Dispersant Injection
May 9-10, 2010 Test

- **Dispersant was injected near the spill source**
- **Allowed for targeted application with very high "encounter rate"**
- **Provided evidence of effectiveness and support for continued use**

Before | During | After

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Summary and Future Work

- **Dispersant use may present significant advantages over the limitations of mechanical recovery and should be considered as a primary response tool**
- **Subsea injection is a step-change advance that may reduce spill impacts by an order of magnitude**
- **Industry continues to work on optimizing subsea injection, new methods of application, and new products**

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