

## Resources at Risk from NFO Spills: Water Column and Benthic Organisms

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Because most petroleum floats, traditional oil spill response focuses on identification of resources at risk in surface waters. For non-floating oils (NFOs), resources at risk include organisms within the water column and benthic (bottom-dwelling) organisms, for both marine and freshwater ecosystems.

Marine Food Web – Because organisms within an ecosystem are interrelated, water column and benthic resources can be directly or indirectly at risk from NFO spills. Marine examples include:

- Marine Water Column Species
- Marine Benthic Fish Species
- Marine Benthic Invertebrates

Freshwater Food Web – Similarly, organisms within a freshwater food web can be directly or indirectly at risk from NFO Spills. Freshwater examples include:

- Riffles and Pools
- Salmon Redds
- Fresh Water Column Species
- Freshwater Benthic Invertebrates
- Benthic Macroinvertebrates
- Freshwater Benthic Macroinvertebrates
- Sensitivity of Benthic Macroinvertebrates

As with traditional oil spill cleanup, resources can be at risk from the oil itself, or from the cleanup. For NFOs, the cleanup is typically more challenging because it needs to occur at the bottom of the waterbody where the oil is found, with limited access, visibility, and use of specialized and potentially damaging equipment. As a result, impacts from cleanup of NFOs can represent a substantial threat to water column and benthic organisms.