

Plants Return to Oil Slick Perimeter

Scientists reported in the July 27 issue of *Nature* (as summarized in *Science News* [volume 148, no. 6]) that wildflowers (*Compositae*) have begun to recolonize the perimeters of oily lakes created by the destruction of oil pipelines and wells from the 1991 Gulf War in the Persian Gulf region. Biologists analyzing this surprising phenomenon see a potential connection between oil spill recovery and plant cultivation.

The microbiologists uprooted plants growing amidst the oil-soaked soils and found that their roots were healthy and oil-free. Hypothesizing that the roots recruited commonplace oil-degrading microbes to aid in the clean up, the scientists cultured bacteria and fungi residing in the petroleum-laced sand. They discovered that, indeed, the plant root zone was rich in the well-

known oil-metabolizing organisms. Ninety-five percent of the microbes were a bacterium, *Anthrobacter*, that resided nearest the plant, but a different community of fungi and other bacteria occurred about 1 cm further away from the wildflower roots.

The group repeated the experiment in controlled conditions, planting other species to see what would happen. Most of the species grew into normal looking plants, although most were 25%-40% smaller than those reared in clean sand. The sugars, amino acids, oxygen, and vitamins associated with plant root zones, evidently, create an environment that attracts the oil-loving microorganisms. The investigators conclude that part of the answer to cleaning

up the extensive desert pollution is densely cultivating suitable plants known for this phenomenon. They add that this “solar-powered” bioremediation approach may also prove useful elsewhere in the world and with contaminants other than oil.