

Cautious Hopes On Oil Damage

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Sea birds have died by the hundreds in the bay's biggest oil spill, and the toll among the creatures of coastal tide pools and estuarine mudflats is unknown.

But despite the tragedy of living organisms lost to an acute episode of man-made pollution, ecologists are hopeful that most of the oil-damaged areas around San Francisco will recover swiftly — and that their complex web of life will flourish again.

Their optimism is based on several foundations:

The oil-spill, caused by two colliding Standard Oil Co. tankers, is a one-shot crisis, unlike the leaking oil wells off Santa Barbara.

TIDES

Along the seacoast, the action of tides and winter waves should flush deposits of oil out of tide pools and off beaches fairly rapidly.

And despite the devastation wrought to countless individual animals on beaches, rocks, pilings and open water, no species appears endangered as a population group.

In the worst cases of oil-soaked tide pools where wave action is minimal and waters are quiet, it may be several seasons before algae grow again and colonies of grazing animals like limpets, snails and chitons return.

VIGOR

"But the sea is a vital, vigorous thing," says Dr. Cadet Hand Jr., director of the University of California's

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Bodega Marine Station. "As an organism the sea is abundantly able to withstand severe shock — if the shock is limited in time and space.

"That seems to be the case around San Francisco."

Biologists were working on several fronts yesterday to assess the impact of the oil spill, both immediate and long-term.

The most visible damage, of course, was to sea birds. Robert W. Lassen, a wildlife biologist with the State Department of Fish and Game, was coordinating bird rescue

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Some Cautious Optimism About the Oil Damage

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studies with Warren Shanks and Jack Downs of the federal Fish and Wildlife Service.

LOST

They agreed that about 1200 to 1500 oil-covered birds have now been rescued, but that hundreds more, trapped in oil slicks far offshore, have sunk and been drowned.

The rescued birds are being treated with light, colorless mineral oil and in some cases with cornmeal too, to remove the heavy bunker-grade oil from their plumage.

A chemical brand-named Polycomplex 11-A removes oil from feathers more quickly, Lassen said, but it also strips all the natural oils from the birds.

As a result, treated birds must be kept until their next molting period before they can be released. By then, Lassen said, the birds either succumb to infectious diseases in captivity, or acquire such tame habits they can no longer fend for themselves in the wild.

DEATHS

In Santa Barbara two years ago Polycomplex was used to treat most of the birds, and while a few species did relatively well, more than 97 per cent of the treated birds died from stress, shock, infectious disease or pneumonia.

The state now plans to use two facilities — San Francisco Zoo and the game farm at Yountville — to shelter all treated birds, and to release them as soon as feasible, Lassen said. Speed is essential to keep the tender feet of

the seabirds from developing deadly infections on unaccustomed land.

The seabird population around San Francisco Bay ranges from about 3.3 million to 3.8 million annually. Within a year, when more young are born, this month's loss will not be noticeable, Lassen predicted.

DROPLETS

Fortunately for marine life in the zone of shoreline between high and low tides, the San Francisco oil slick is not being fought with chemical emulsifiers that break oil up into tiny droplets.

These droplets are so small they would "force-feed" oil into the digestive systems of filter-feeding animals like clams, mussels and barnacles.

According to Cadet Hand at the Bodega Marine Laboratory no one really knows much about the effects of oil on the microscopic plants and animals that make up the first steps in the food chain.

ALGAE

But larger algae, including the common seaweeds, seem able to anchor themselves to the clumps of tar that settle onto rocks from evaporating oil slicks. And even in a tide pool where life has been smothered by a flood of oil, Hand said, a new colony of algae will soon attract the "primary grazers" that will populate the pool anew.

What happens beyond the low tide line is more of a mystery. Here starfish live, for example, and they move up into mussel beds to eat. But if mussels are killed off by oil, then starfish must

move away or starve to death.

It will take detailed reconnaissance to assess this complex kind of damage after the acute emergency is over.

BOLINAS

That reconnaissance has already begun in Bolinas lagoon. Clerin Zumwalt, Audubon Society naturalist, reported yesterday that thousands of shore birds seem unharmed—and their food sources of burrowing ghost shrimp, mudworms and the like seem safe, too, because booms have protected the lagoon from an oil inundation.

But at famed Duxbury Reef, long a tide-pool lure for scientists and nature lovers, the situation is unclear. The reef, and nearby Agate Beach, are part of a proposed ecology preserve for this area.

Craig Hansen, naturalist at the College of Marin Marine Laboratory in Bolinas, said he hopes to survey the two rich life zones next week, and to determine whether their fragile ecology is doomed or not.

To most scientists interviewed yesterday there is a subtle irony about this oil spill, and they all mentioned it.

Crashing tankers and dying birds create an air of crisis and the public respond with dedication, they noted. But far more damage strikes the sea and its life from pesticides and mercury and lead and all the other human pollutants that flow from farm and city every day.

Here, however, the crisis has been building for years — and only now is it dimly recognized.