Well-Oiled Solution

(Walking on Earth column published the in Tucson Green Times, June 2010)

By Melanie Lenart

The oil spill really brings home the interlocking nature of our planet's problems. The same substance heating up our climate is now destroying the natural systems that help keep our planetary thermostat in balance.

Even as temperatures in Tucson soared above 105 degrees Fahrenheit this month, oil seeping into the nation's coastal wetlands sapped their ability to collect the carbon dioxide driving planetary heating. Future summers in the desert are expected to get even hotter thanks to the carbon dioxide and other greenhouse gases that come from our use of coal, gas and, of course, oil.

We're hearing about many other problems, too. This oil-based disaster threatens to throttle our economy, and is hitting us in the stomach with its effect on the marine equivalent of the nation's breadbasket.

As a scientist and writer who focuses on climate change, though, I find that what makes me want to knock my head against the wall is the ongoing fouling of coastal wetlands.

Coastal wetlands are one of the most effective means the world has for pulling carbon dioxide out of the air into long-term storage.

Every pound of coal in existence today owes its origin to wetlands. Oil, too, typically forms in productive water not far from wetlands. All that oil, and all that coal, started out as carbon dioxide coming down to earth and sea.

Yes, wetlands help clear the air of carbon dioxide. And, unlike some other wetlands, those along the Gulf coast don't really release methane, another potent greenhouse gas. So coastal wetlands are a win-win when it comes to climate change solutions.

What's more, they make the areas where they thrive more resilient against some of the problems that come with climate change – namely, more extreme floods and droughts, encroaching seas and stronger hurricanes.

In their natural state, they absorb floodwaters, and release some of the stored water during drier periods. This helps temper both droughts and floods.

Their flood-protection services dampen hurricane storm surges as well. Plus, forested wetlands – like the cedar swamps once so prolific around Mississippi River bends – provide friction that slows hurricane winds. The longer the stretch of wetlands between a hurricane's arrival at the coast and its entry into a city, the better.

On top of that, wetlands often build land below and around them. They can turn sediment back into soil and convert leaves and branches into peat. Clearly that's an essential skill as rising temperatures melt Arctic ice and raise sea levels.

Finally, wetlands even help purify water. They act as a carbon filter that collects fertilizers, pesticides and metals before they reach the sea. But the amount of oil and chemical dispersants washing up on an increasing number of shores is likely to overwhelm these climate change heroes.

Since the publication of my book Life in the Hothouse this spring, I've been extolling the many ways wetlands and forests can help keep our climate livable in the face of global warming. Many people see the book as having a positive message that nature can help balance our excess greenhouse gases.

In the wake of this oil spill, I'd like to point out a crucial caveat: Ending our addiction to oil is the first step to planetary recovery.

Wetlands can't work under these conditions.

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