

# U.S. Finds Most Oil From Spill Poses Little Additional Risk

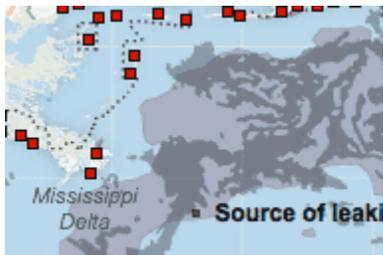
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Jeff Haller for The New York Times

Nearly 36,000 tons of oily debris had been collected from shorelines through Sunday. Above, near the shore in Port Share

WASHINGTON — The government is expected to announce on Wednesday that three-quarters of the [oil](#) from the Deepwater Horizon leak has already evaporated, dispersed, been captured or otherwise eliminated — and that much of the rest is so diluted that it does not seem to pose much additional risk of harm.

## Multimedia

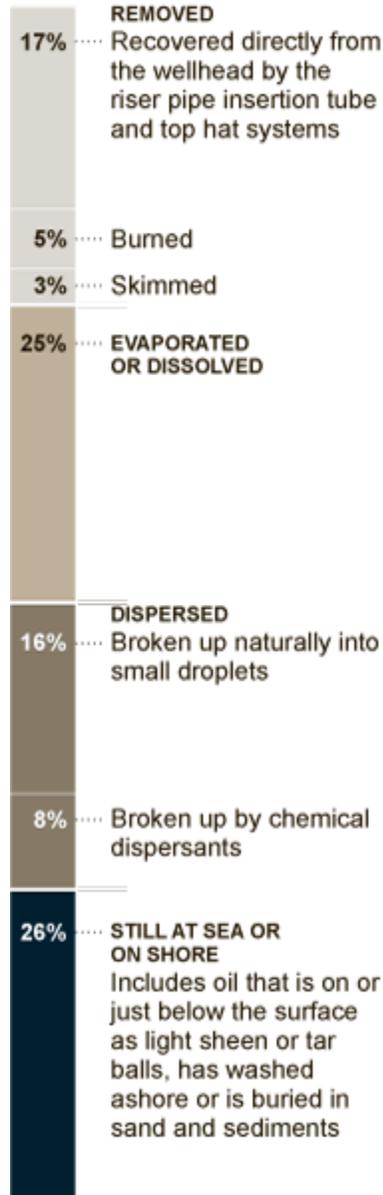


Interactive Map

[Tracking the Oil Spill in the Gulf](#)

## Where the Oil Went

A breakdown of what happened to the 4.9 million barrels of oil that have leaked from the Deepwater Horizon well, according to a new government report.



Source: NOAA

THE NEW YORK TIMES

A government report finds that about 26 percent of the oil released from BP's runaway well is still in the water or onshore in a form that could, in principle, cause new problems. But most is light sheen at the ocean surface or in a dispersed form below the surface, and federal scientists believe that it is breaking down rapidly in both places.

On Tuesday, BP began pumping drilling mud into the well in an attempt to seal it for good. Since the flow of oil was stopped with a cap on July 15, people on the Gulf Coast have been wondering if another shoe was going to drop — a huge underwater glob of oil emerging to damage more shorelines, for instance.

Assuming that the government's calculations stand scrutiny, that looks increasingly unlikely. "There's absolutely no evidence that there's any significant concentration of oil that's out there that we haven't accounted for," said Jane Lubchenco, head of the National Oceanic and Atmospheric Administration, the lead agency in producing the new report.

She emphasized, however, that the government remained concerned about the ecological damage that has already occurred and the potential for more, and said it would continue monitoring the gulf.

"I think we don't know yet the full impact of this spill on the ecosystem or the people of the gulf," Dr. Lubchenco said.

Among the biggest unanswered questions, she said, is how much damage the oil has done to the eggs and larvae of organisms like fish, crabs and shrimp. That may not become clear for a year or longer, as new generations of those creatures come to maturity.

Thousands of birds and other animals are known to have been damaged or killed by the spill, a relatively modest toll given the scale of some other oil disasters that killed millions of animals. Efforts are still under way in Louisiana, Mississippi, Alabama and Florida to clean up more than 600 miles of oiled shoreline. The government and BP collected 35,818 tons of oily debris from shorelines through Sunday.

It remains to be seen whether subtle, long-lasting environmental damage from the spill will be found, as has been the case after other large oil spills.

The report, which is to be unveiled on Wednesday morning, is a result of an extensive effort by federal scientists, with outside help, to add up the total volume of oil released and to figure out where it went.

The lead agency behind the report, the oceanic and atmospheric administration, played down the size of the spill in the early days, and the Obama administration was ultimately forced to appoint a scientific panel that came up with far higher estimates of the flow rate from the well. Whether the new report will withstand critical scrutiny is uncertain; advocacy groups and most outside scientists had not learned of it on Tuesday.

The government announced early this week that the total oil release, from the time the Deepwater Horizon exploded on April 20 until the well was effectively capped, was 4.9 million barrels, plus or minus 10 percent. That estimate makes the Deepwater Horizon disaster the largest marine spill in history. It is surpassed on land by a 1910 spill in the California desert.

As the scientists did their calculations, they were able to rely on direct measurements of the fate of some of the oil that spewed from the broken well. For example, BP and its

contractors succeeded in capturing about 17 percent of it with various containment mechanisms, the report says.

The outcome for much of the oil could not be directly measured, but had to be estimated using protocols that were scrutinized by scientists inside and outside the government, Dr. Lubchenco said.

The report calculates, for example, that about 25 percent of the chemicals in the oil evaporated at the surface or dissolved into seawater in the same way that sugar dissolves in tea. (The government appears to have settled on a conservative number for that estimate, with the scientific literature saying that as much as 40 percent of the oil from a spill can disappear in this way.)

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The aggressive response mounted by BP and the government — the largest in history, ultimately involving more than 5,000 vessels — also played a role in getting rid of the oil, the report says. Fully 5 percent of the oil was burned at the surface, it estimates, while 3 percent was skimmed and 8 percent was broken up into tiny droplets using chemical dispersants. Another 16 percent dispersed naturally as the oil shot out of the well at high speed.

All told, the report calculates that about 74 percent of the oil has been effectively dealt with by capture, burning, skimming, evaporation, dissolution or dispersion. Much of the dissolved and dispersed oil can be expected to break down in the environment, though federal scientists are still working to establish the precise rate at which that is happening.

“I think we are fortunate in this situation that the rates of degradation in the gulf ecosystem are quite high,” Dr. Lubchenco said.

The remaining 26 percent of the oil “is on or just below the surface as light sheen or weathered tar balls, has washed ashore or been collected from the shore, or is buried in sand and sediments,” the report says.

Some fishermen in Louisiana are worried about the buried oil, fearing that storms could stir it up and coat vital shrimp or oyster grounds, a possibility the government has not ruled out.

Testing of fish has shown little cause for worry so far, and fishing grounds in the gulf are being reopened at a brisk clip. At one point the government had closed 36 percent of federal gulf waters to fishing, but that figure is now down to 24 percent and is expected to drop further in coming weeks.

States are also reopening fishing grounds near their coasts. The big economic question now is whether the American public is ready to buy gulf seafood again.

The new government report comes as BP engineers began pumping heavy drilling mud into the stricken well on Tuesday, with the hope of achieving a permanent seal or at least revealing critical clues about how to kill the well before the end of the month.

Through the afternoon, in what is known as a static kill, engineers pumped mud weighing about 13.2 pounds per gallon at slow speeds from a surface vessel through a pipe into the blowout preventer on top of the well. If all goes well, cement may be applied over the next few days. But officials said they could be confident the well was plugged only when one of two relief wells now being drilled was completed, allowing the well to be completely sealed with cement.

“The static kill will increase the probability that the relief well will work,” [Thad W. Allen](#), the retired Coast Guard admiral who is leading the federal spill response effort, told reporters on Tuesday. “But the whole thing will not be done until the relief well is completed.”

The static kill operation could last for close to three days. After it is completed, work can resume on the final 100 feet of the first relief well, which officials say should be completed by Aug. 15 unless bad weather intervenes.

*Clifford Krauss contributed reporting from Houston, and Campbell Robertson from New Orleans.*