

THE MEXICO GULF OIL SPILL

AN ONGOING DISASTER

BELLONA

Acknowledgements and legal disclaimer

The Bellona Foundation, 2015

The Bellona Foundation is an international environmental NGO based in Norway. Founded in 1986 as a direct action protest group, Bellona has become a recognised technology and solution-oriented organization with offices in Oslo, Brussels, St. Petersburg and Murmansk. Altogether, some 65 engineers, ecologists, nuclear physicists, economists, lawyers, political scientists and journalists work at Bellona.

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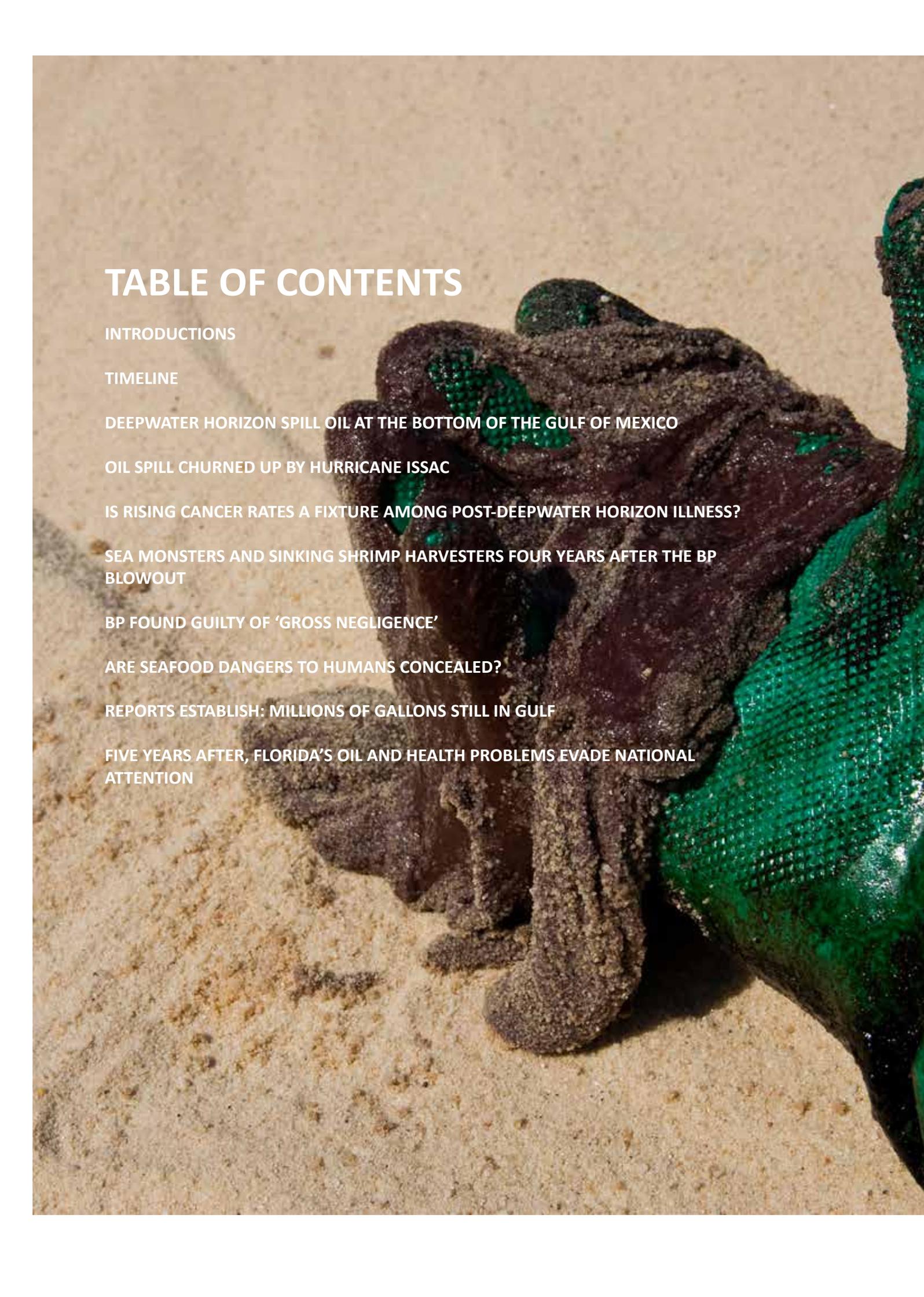


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INTRODUCTIONS

The story of the explosion aboard the BP-operated Deepwater Horizon platform isn't just about the tragic loss of eleven human lives and the world largest offshore oil spill. It is also a story about a disaster that could have been avoided, and how efforts to cover up the damages eclipsed the urgency of cleaning it up. The consequences of these actions have amplified the harms haunting the Gulf region today, and will most likely continue to do so for decades.

Bellona visited the spill area in the days after the accident, and has followed the cleanup operations closely, publishing almost a hundred articles. The story of the BP accident and the resulting damage is as important now, as it was five years ago. It is an important lesson to every oil-producing nation urging us to pay more attention to how we avoid a similar accident in the future.

The Deepwater Horizon-explosion

So what really happened on the April 20th 2010, and in the time that followed? What is the status today, and what can we learn from this story? These are some of the questions Bellona seeks to address in this collection of articles by our reporter Charles Digges, who has covered the BP oil spill from his base in New Orleans.

How could a modern, high-tech oil rig burst into flames and sink to the bottom of the ocean? That was the most unnerving questions in the days after the accident. Today we know that the explosion was triggered by a large high pressure methane bubble called a well kick that traveled through a failed cement job performed by Halliburton. It then continued through a fatally-flawed blow-out preventer and burst out on the drill deck where it ignited a fire that was beyond the capabilities of the fire suppressant systems to contain. For this reason it eventually enveloped the entire rig in an enormous fireball.

Several investigations of the accident have given the public a coherent picture of significant factors causing the accident. It has also been showed that crucial information about the unstable well condition was in fact available to the crew who failed to act upon it. An investigation by the American government found evidence of BP failing to comply with governmental regulations in the time leading up to the accident. This formed the basis of District Judge Carl Barbier's ruling in September 2014 that BP was guilty of gross

negligence and willful misconduct under the Clean Water Act (CWA). He also went on to describe BPs actions as "reckless".

The Deepwater Horizon oil spill

The Deepwater horizon accident caused the largest marine oil spill in history. The US Government estimates that as much as 780,000 m3 escaped into the water column during the 87 days that the well leaked. The size of the oil spill overshadows all other known blowouts. The Exxon Valdez oil spill in 1989 (42.000 m3), the blowout from the Ekofisk field in 1977 (20.000 m3) and the oil leak from Statfjord A in 2007 (4000 m3) all put together represent less than ten percent of the emissions from the BP-accident.

Despite the cleanup efforts, satellite photos showed oil covering a sea area of 180.000 km2 which is almost half the size of Norway. By July 2011 1728 km of coastline in Louisiana, Mississippi, Alabama and Florida had been reported contaminated by oil since the spill began.

On May 15th 2010 subsea plumes of drifting oil caused by the accident were reported by Dr. Samantha Joye. Similar plumes have later been reported by other teams of scientists. In September the same year large amounts of oil from these plumes were reported to have sunk to the seafloor mixing with sediments. In 2013, a group of scientists at the Gulf of Mexico Oil Spill and Ecosystem Science Conference stated that as much as one-third of the total oil spill may have mixed with deep ocean sediments. That makes it less prone to degradation, and it may continue to damage ecosystems and commercial fisheries for years to come. There is also a concern about how storms and strong currents will continue to wash up parts of the oil causing continued oil spills on beaches, as we have seen after the hurricane Isaac in 2012.

The cleanup operation and battle to close the well leak

In an effort to contain the enormous amounts of oil spreading out over the gulf, the largest offshore clean-up operation in history was launched under the leadership of Rear Admiral Mary Landry and Chief Communications officer Admiral Thad Allen. Allen later visited Norway at a Bellona seminar in 2011 where he shared his experiences from this operation. 47.000 workers participated in the cleanup operation

included placing oil booms, use of oil skimmers and burning to remove sea surface oil in addition to collection of beached oil. In addition enormous amounts of chemical dispersants were applied on the sea surface from ships and air, and also injected directly into the oil plume flowing from the well head at 1500 meter below the surface; a controversial technique never tried before.

Despite the efforts of the largest cleanup operation in history, only a small fraction of the oil spill was removed from the sea surface.

Corexit: an added catastrophe

7.000 m³ of the dispersion product Corexit was reported used during the cleanup operation. This is largest amount of dispersant ever used. Corexit and other dispersants remove oil sheens from the surface by breaking the oil into small droplets that gets mixed down in the water column. This reduces the risk of the oil making a landing onshore, but increases the toxic burden in the water column and at the seafloor. In May 2010 the dire effects of Corexit application was revealed to the public. The product was shown to contain 2-butoxy-ethanol, which is a known carcinogen and may also generate other very dangerous health effects. In a paper published in the scientific journal Environmental Pollution in January 2012 a mixture of Corexit and crude oil was shown to be 52 times more toxic than each component alone. The enormous amounts of Corexit used, applied in ways earlier unheard of, has taken a very high toll on human health and marine ecosystems.

Bellona has spoken with many first responders and coastal residents that were exposed to Corexit either during cleanup operations wearing inadequate hazmat gear or from being sprayed from planes, and you will meet some of them in the following articles. A cluster of symptoms including respiratory failure, memory loss and other neurological problems, painful rashes and skin conditions very often describes the health condition of victims after the BP-oil spill, and are sometimes referred to as the "BP-syndrome". Several doctors express a need for a diagnostic definition to make it easier for health services to identify these patients.

Ecological damage

Ecosystems and species that made contact with the oil

spill were obviously affected. Dolphins, marine turtles, shellfish and seabirds like pelicans and seagulls were among the species reported to experience especially severe acute effects. What remains to be seen is whether the ecosystems of the Gulf of Mexico will be able to recover. Reports of unusual large numbers of dead dolphins and turtles washing up on beaches continue to this day. Commercial harvests of shrimps and oysters are still down in affected areas. Crabs, corals and fish species like blue fin tuna, red snapper and killifish are still showing symptoms or population fluctuations that could be signs of long term or irreversible damage.

At the Gulf of Mexico Oil Spill and Ecosystem Science Conference in 2015 the effects of the BP oil spill were described as "significant, far reaching and still on-going". These facts contradict BP's claim in their report from March 2015 where the main message is that no significant long term damage to Gulf's ecosystems were done in the first place, and whatever damage that did occur is being restored faster than predicted.

The Chernobyl of the oil industry

Five years after the biggest human caused offshore oil spill in history people are still suffering from life threatening or disabling diseases caused by the oil spill and chemicals applied to fight it. Ecosystems also suffer, and the economy of the affected region is still in recovery. It is hard to imagine how this situation will improve significantly in the future. To Bellona the main take away lesson from this situation is clear. It is impossible for the oil industry to completely safeguard against a large scale accident such as the BP-explosion. And it is just as impossible to protect human health, ecosystems and commercial activities against long term damage if such an accident occurs. Investigations have shown that although the Deepwater Horizon accident could have been avoided, BP lacked both the ability and more importantly the will to do what was necessary to achieve this, and has undermined the public trust of the whole petroleum industry. For this reason stronger government regulation and control is critical, even in Norway. The need for protection of especially vulnerable or critical ecosystems seems more important than ever.

Karl Kristensen, Bellona

2010

20. April	Explosion aboard the Deepwater Horizon oil rig triggers fire and sinks the rig. 11 people die in the accident.	8. May	Dome announced a failure as methane is freezing at the top of the dome.
22. April	Unified Command mobilizes world's largest oil spill cleanup operation.	10. May	BP announces plans to apply containment vessel nicknamed "top hat". BP announces another strategy of trying to push mud and debris down the riser pipe to clog it, called a "junk shot."
25. April	Unified command authorizes in situ burning of oil at sea. BP begins proves to establish two relieve wells	11. May	BP, Transocean (rig owner) and Halliburton (BOP designer and cementer) officials testify before Congress blaming each other for the incident
26. April	Failed attempt to repair blowout preventer	15. May	US Coast Guard and EPA (Environmental Protection Agency) authorize first ever subsea application of Corexit at Macondo wellhead.
29. April	Official estimate of leak put at 5000 barrels per day	15. May	First discovery of oil plumes reported by Dr Samantha Joye.
30. April	First oil from spill makes landfall in Venice, Louisiana. Barack Obama imposes moratorium on offshore drilling until more safeguards are in place.	17. May	Congressman Ed Markey demands BP release live feed of leak from cameras positioned at the wellhead. Broadcasting starts on May 21th.
1. May	Officials admit Macondo well lacked acoustic switch on the BOP (blow out preventer), which could have prevented accident. VP Dick Cheney shown to play instrumental role in dropping acoustic switches as regulatory requirement.	23. May	BP rebuffs EPA order to change its dispersants from Corexit.
2. May	Obama makes first trip to Gulf, stopping in Venice, Louisiana. Transocean, owner of the DWH, begins drilling first relief well.	26. May	BP announces plan to force feed drilling mud in a project called "top kill."
3. May	Dire effects of Corexit application revealed to public	27. May	Official daily leak estimates upwardly revised to 12,000-19,000 barrels a day.
7. May	125-ton container dome lowered onto the well. A pipe is to guide to a storage vessel on the surface.	29. May	Top Kill declared a failure

1. juni	US Attorney General launches criminal investigation into Deepwater Horizon spill.	2. August	The Flow Rate Technical Group reports that the well initially was dumping 62,000 barrels of oil per day. It dwindled to 53,000 barrels as the well was depleted. This means 4.9 million barrels were dropped into the Gulf. The largest offshore oil spill in world history.
11. June	Official daily leak estimates upwardly revised to 20,000-40,000 barrels a day		
15. June	Obama delivers his first speech from the Oval Office on the oil spill		
17. June	BP CEO Tony Hayward is called before Congressional hearings held by the House Subcommittee on Energy Oversight and Investigations.	14. August	The White House releases a photo of The President and his daughter swimming in St. Andrews Bay, Florida. The Press was not present during the swim, and it has been suggested that the water was a fresh water lake.
10. July	Cap removed from MC252 to replace it, but allowing oil to flow unabated for 24 hours	30. August	Norsk olje og gass and NOFO submits report prepared by DNV which compares regulations for American and Norwegian offshore petroleum activities. The report concludes that the Norwegian regulations are better.
12. July	A 40-ton containment device sealing cap is installed on MC252, and tests begin on the well's integrity. Obama administration issues new moratorium on deepwater wells that use blowout preventers valid through November 30th.		
22. July	BP says an internal investigation has cleared itself of gross negligence in the spill.	2. September	Another gulf of Mexico oil platform, belonging to Mariner Energy, explodes west of Deepwater Horizon site. No human casualties or blow out reported.
27. July	Robert Dudley appointed BP chief executive after Tony Hayward who resigns after leading the company through bitter aftermath in a way that has triggered very harsh criticism.	8. September	BP publishes report where eight causes of the accident are presented. The company admits responsibility for one of them, and pushes the responsibility for remaining conditions of the partners.
		14. September	BP officially declares oil well completely and permanently sealed

2011

27. February The federal trial against BP opens in New Orleans overseen by Judge Carl Barbier.

2012

3. Mars BP agrees to settlement with victims affected by the oil spill, and promises to pay \$ 7.8 billion in damages. The agreement does not include claims by the US federal or state government.

4. September Reports of new beached oil spill sightings in US Gulf States after Hurricane Isaac. Analyses of oil samples proves BP accident to be the source.

16. November BP pled guilty to manslaughter of 11 workers as a result of gross negligence prior to the accident. BP agrees in settlement with US authorities to pay \$ 4.5 billion in fines and compensation. A BP employee sentenced for having lied to the American Congress.

2014

november Jack Hill, the first mate of the shrimp boat "The Roll Tide" that participated in cleanup, informs Bellona that three of his five crew members died of cancer. Hill passed away of lung cancer in December. Last remaining crewmember Buster Johnson reported hospitalized with cancer.

14. April BP halts all Unified Command clean up activities, claiming all beaches are now clean. Gulf states beg to differ, and cleanup operations continue on voluntary basis.

2015

15. January Federal judge Barbiers decides to a compromise between government and BPs calculations of the size of the oil spill. Total oil spill set to 3,19 million barrels. Department of justice later appeals this decision, claiming BP is liable for the full 4,9 million barrels.



Deepwater Horizon spill oil found at the bottom of the Gulf of Mexico

September 13, 2010

NEW YORK- In contradiction to a US government report released last month, university scientists are confirming that the majority of the oil is being found on the bottom of the Gulf of Mexico.

Professor Samantha Joye of the Department of Marine Sciences at the University of Georgia, who is conducting a study on a research vessel just two miles from the spill zone, said the oil has not disappeared, but is on the sea floor in a layer of scum – confirming earlier studies by the university saying as much as 80 percent of the oil still remained in the Gulf.

The studies also confirm that hundreds of thousands of gallons of the controversial oil dispersant Corexit dumped on the spill may have done more harm than good by simply cosmetically cleaning up the problem, which, at the bottom of the sea, will do far more long term harm than good.

“We’re finding it everywhere that we’ve looked. The oil is not gone,” Joye said. “It’s in places where nobody has looked for it.”

The oil will undergo tests to determine its exact provenance, but Joye said there is simply too much oil to be chalked up to natural seepage.

The discoveries are bound to reignite suspicions between residents of the Gulf of Mexico and the Federal Government, which was initially criticized for its handling of the spill. It also vindicates independent environmental research conducted by southern US universities after the spill began, which were initially witheringly denied by Federal response units and BP.

The findings also coincide with the 9th Conference of Arctic Parliamentarians now taking place in the European Parliament, where Bellona and others are demanding a moratorium on oil and gas drilling in the Arctic.

“The Deepwater Horizon spill has revealed huge knowledge gaps,” said Bellona President Frederic Hauge. “We know very little about how long it takes for oil to dissipate.”

Cannot be natural seepage

All 13 of the core samples Joye and her team have

collected from the bottom of the gulf are showing oil from the spill, she said.

In an interview with ABC News from her vessel, Joye said the oil cannot be natural seepage into the gulf, because the cores they’ve tested are showing oil only at the top. With natural seepage, the oil would spread from the top to the bottom of the core, she said.

“It looks like you just took a strip of very sticky material and just passed it through the water column and all the stuff from the water column got stuck to it, and got transported to the bottom,” Joye said. “I know what a natural seep looks like — this is not natural seepage.” In some areas the oily material that Joye describes is more than two inches thick. Her team found the material as far as 70 miles away from BP’s well.

“If we’re seeing two and half inches of oil 16 miles away, God knows what we’ll see close in – I really can’t even guess other than to say it’s going to be a whole lot more than two and a half inches,” Joye said.

This oil remaining underwater has large implications for the state of sea life at the bottom of the gulf. Independent experts vindicated

For Ian MacDonald, a Florida State University biological oceanographer, who is not a part of Joye’s team, the latest studies confirm that the government assessments, especially the August report issued by the National Oceanic and Atmospheric Administration (NOAA), were too optimistic.

The oil “did not disappear,” he said. “It sank.”

MacDonald had long supported the theory that Joye’s group is proving, and his research about spill size estimates that contradicted those issued by the Joint Information Command, comprised of Federal and oil industry officials, constantly devilled officials versions of events as they unfolded.

Joye said she spent hours studying the core samples. “There is nothing living in these cores other than bacteria,” she said. “I’ve yet to see a living shrimp, a living worm, nothing.”

Studies conducted by the University of Georgia and the University of South Florida caused controversy back in August when they found that almost 80 percent of the

oil that leaked from BP's well is still out in the waters of the Gulf.

NOAA administrator Jane Lubchenco had earlier savaged Joye and her team for reporting the discovery of massive underwater plumes of oil in the Gulf. Yet after much public debate NOAA finally acknowledged it had no ships in the Gulf trying to research underwater oil plumes.

Oil smears the administration

Joye and her team's report stands in stark contrast to that of the federal government, which on August 4 declared that 74 percent of the oil was gone, having broken down or been cleaned up.

"A report out today by our scientists shows that the vast majority of the spilled oil has been dispersed or

removed from the water," President Obama said in August, referring to the NOAA findings.

The studies by Joye and other scientists found that what the government reported to the public in August only meant that the oil still lurked, invisible in the water.

Though initially denying the claim, BP – and the National Oceanic and Atmospheric Administration – acknowledged the existence of the dispersed oil. BP subsequently pledged \$500 million for gulf research.

The White House and the NOAA have so far issued no statement on the University of Georgia findings.

"Nobody should be surprised," by the findings, Joye said. "When you apply large scale dispersants, it goes to the bottom – it sediments out. It gets sticky."



Oil spill churned up by Hurricane Issac

September 6, 2012

Weathered oil, purportedly from BPs 2010 Deepwater Horizon disaster, has been churned up by Hurricane Issac and seems to be making a second coming along shores of Louisiana, Mississippi, Alabama and Florida.

The appearance of the oil is prompting restrictions of fishing in some waters and tests to determine whether the source is submerged oil from the BP explosion and rig sinking that killed 11 and inundated the Louisiana coast for months.

Experts had speculated that the first hurricane to hit the Gulf of Mexico since the April 2010 spill might stir up some of the estimated one million gallons of crude oil that remains.

“The discovery of oil spills on beaches in Louisiana confirms the severity of the Deepwater Horizon accident. This shows that the severity of the spill is much more complex than what we know today, said Bellona President Frederic Hauge, who was in Louisiana with other Bellona staff to follow the BP accident.

“These recent incidents also show very clearly that the oil industry’s claims that environmental problems after the Deepwater Horizon accident were resolved and no longer posed a danger were unfounded,” he added.

On Tuesday, the discovery of large areas of oil forced the closure of a 20 kilometer stretch of Louisiana coastline to fishing and other activities, reported the New Orleans Times Picayune. Recreational rod and reel fishing can continue in the area, but commercial and recreational shrimping, crabbing and commercial fin fishing is for now prohibited.

Jonathan Henderson, of the nonprofit Gulf Restoration Network, spent Tuesday earlier this week inspecting the East and West Ship Islands off the coast of Mississippi.

“What we saw yesterday was disgusting,” he told Bellona, recounting heavy deposits of tar balls that appeared to have washed in from offshore. He also reported that he saw oil below wind- and wave-battered sand.

“We saw all the telltale signs of BP oil resurfacing,” he said Thursday.

Henderson noted that samples collected for testing would eventually determine the toxicity and origin of the residues.

“There are numerous other companies doing business in the Gulf, and there are leaks every day of some shape or form,” Henderson said. “But these are areas that we know BP oil has hit and oil remains, and the weathered tar balls are consistent with ones that have been coming up since April 2010.”

Pieces of sea sponge soaked in oil have also been reported as far east as Florida, the Huffington Post reported. Similar scenes are being relayed by crews who have taken to the skies and waters from Texas to Florida, evaluating the devastation left in Isaac’s wake.

Garrett Graves, Louisiana Governor Bobby Jindal’s top adviser on coastal issues was not waiting for analysis of the oil to publicize his opinion on its origin.

“I’d say there’s a smoking gun,” he told MSNBC, adding “[the oil is in] an area that experienced heavy oiling during the oil spill.”

Karl Kristiansen, Bellona’s advisor on industrial waste, said that the oil that is washing up on Gulf of Mexico shores would scientifically be of a different kind than it was when it spilled because it has chemically modified in the period since the 2010 disaster.

Because of these modifications, identifying conclusively whether the oil products currently washing up in the Gulf originate from the Deepwater Horizon spill will depend on the investigative measures used. Simple chemical fingerprinting techniques will probably not identify the source, said Kristiansen.

Some oil that’s been spotted in parts of the Gulf Coast has shown evidence of non-BP sources.

Petty Officer William Colclough, a spokesman for the U.S. Coast Guard, told the Huffington Post that a leaking platform, oil drums and barges have been spotted in the vicinity of oil that Coast Guard teams had detected.

“The investigation continues,” said Colclough. “And the cleanup response is ongoing.”

For its part, BP also emphasized in a statement that it is too early to tell the origin of much of the surfacing oil.

“In Florida, Alabama and Mississippi, shoreline quick assessments were initiated on Saturday, Sept. 1, and there has been no indication thus far of Deepwater Horizon residual oil in areas outside of existing cleanup operations,” Melick said in a statement late Tuesday.

However, the company has by now acknowledged the appearance of residual BP oil along shorelines near Fouchon Beach and Grand Isle, Louisiana – accounts that were confirmed by the Mayors’ offices of both communities to Bellona by email.



Is rising cancer rates a fixture among post-Deepwater Horizon illness?

August 25, 2014

NEW ORLEANS/BAYOU LABATRE, Alabama - The last thing veteran shrimp fisherman Jack Hill expected to catch when he participated in the Deepwater Horizon clean up was cancer.

Jack Hill (54) spent five and a half months at sea after the spill blackened the Gulf of Mexico. Serving as first mate to his best friend and captain, Buster Johnson, on the 94-foot Roll Tide shrimp trawler, Hill and his crew hauled a 150,000 barrel skimmer imported from Norway, crawling at a tediously slow pace of two knots per hour through the darkest, most stinking, fetid, eye-burning slick of oozing reddish slime and chemicals imaginable.

The constituents of this sludge were a mixture of Gulf sweet crude and the oil dispersant Corexit, which when added to oil increases its toxicity by 52 times, according to a 2012 peer reviewed scientific article published in the journal Environmental Pollution.

The pantheon of debilitating illnesses resulting from exposure to crude and Corexit are well established in the press, watch dog groups and confirmed by interviews with former cleanup workers of all stripes conducted by Bellona through late July and August.

The so-called "BP Syndrome" includes acute respiratory problems, recurring skin rashes and legions, cardiovascular complications, gastrointestinal impacts, migraines, short-term memory loss, longer

term neurological difficulties, vision impairment, and eventual disability or death from the combined symptoms.

The Plaintiffs' Steering Committee, a group of 19 court appointed attorneys who represent the hundreds of individuals and entities that have sued BP reached a proposed \$7.8 billion oil spill damages settlement in 2013.

"Nine of the most common symptoms of my patients do not appear on the list of illnesses that settlement says can be compensated, including memory loss, fatigue, and joint and muscular pain," says Dr. Michael Robichaux, one of the few Gulf area physicians to treat and document the symptoms.

- A substantial blow to the workforce

Some 47,000 former cleanup workers took part in the hasty cleansing effort when the Deepwater Horizon oil rig exploded and sank.

"I get calls every day from people who say the exact same thing," said Robichaux. He said their symptoms ensure that "they will never work another day in their lives."

On average, patients seen by Robichaux are in their 20s to 40s, worked skilled labor jobs prior to the oil disaster, and have families. "This," he says, "is a substantial blow to the workforce" in the Gulf region.

Those former workers who are lucky enough to live in Louisiana are receiving government social security checks, small though they may be, said Robichaux. States like Alabama and Mississippi, however, offer no social security or state disability payments to ill workers whatsoever.

Other long term effects that are just beginning to show up are birth defects in children born to mothers who were exposed to Corexit during the disaster - some

affected as tangentially as washing clothes stained with oil. Recent local media reports cite rises in autism among coastal children who were in utero or very young during the cleanup.

All of that from a dispersant famously declared by one BP spill supervisor in the heat of the disaster to be “as safe as dishwashing liquid.”

In keeping with perpetuating this notion, the federal district court in New Orleans currently assessing damages owed by BP has thrown each of those ailments out as criteria for medical compensation, Dr. Michael Robichaux, who treated hundreds of spill victims, told Bellona by phone from Raceland, Louisiana.

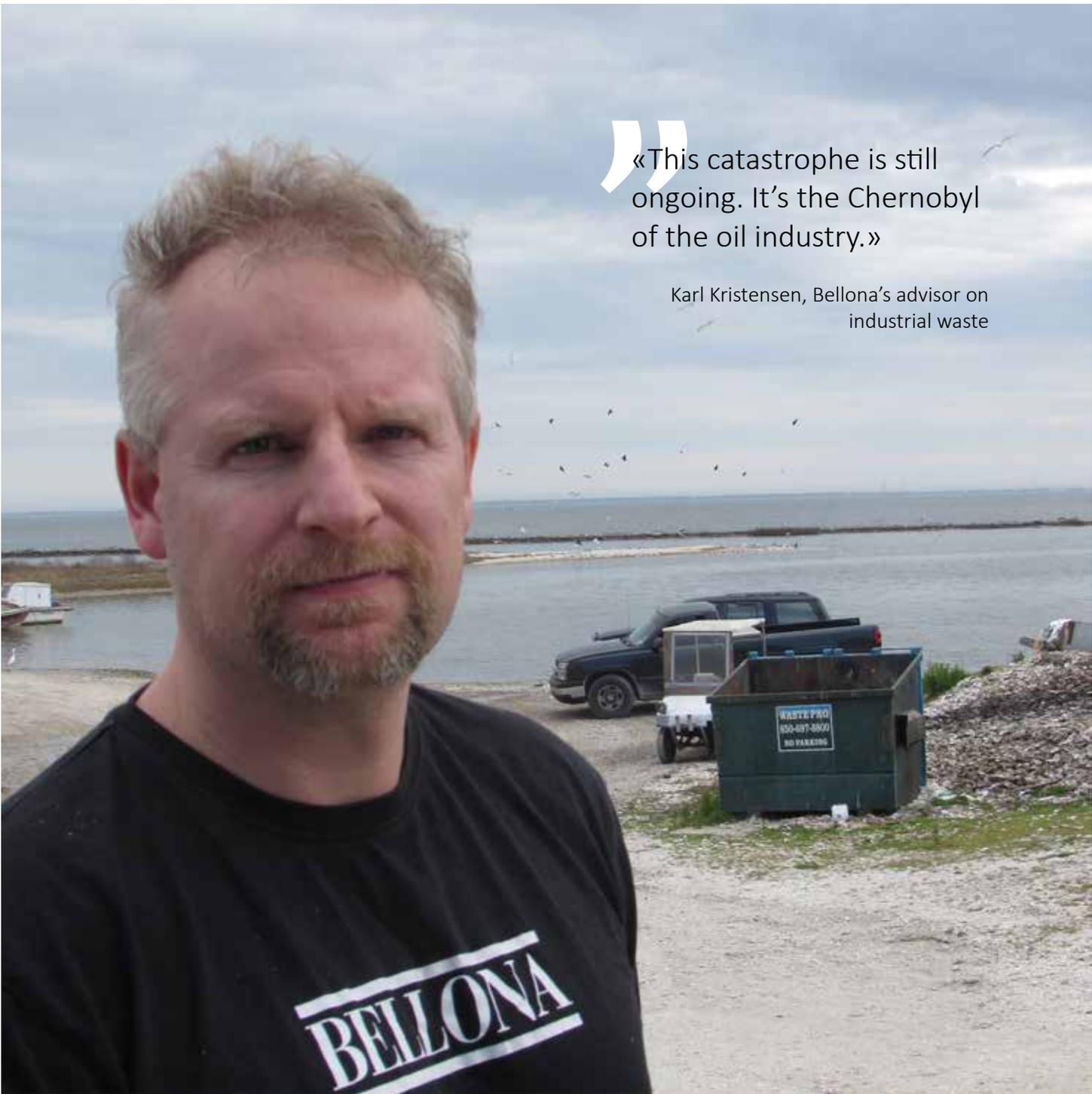
But cancer as a longer-term result of exposure to the BP spill has been until recently an outcome much of the medical community, big oil, some marine researchers, and even many non-profits have been reluctant to acknowledge. It’s a hot-potato topic, they say. Too dicey. Too speculative. Too dangerous. Even Dr. Robichaux an ardent health advocate for former cleanup workers, shied away from drawing any conclusions connecting Hill’s cancer to Corexit.

But the biggest effect of mentioning the “C” word, says Marylee Orr, Executive Director of the Louisiana Environmental Action Network (LEAN) – the go-to organization for tallying the health aftermath of the BP spill – is that it causes hard wrought research dollars for establishing the health link to dry up as fast as BP claims its oil has.

Cancer gaining acknowledgement

More recently, the condition of Hill, is no longer surprising, say doctors, environmental scientists, non-profits like LEAN and whistleblower organizations that are dealing with health issues.





«This catastrophe is still ongoing. It's the Chernobyl of the oil industry.»

Karl Kristensen, Bellona's advisor on industrial waste

The rising incidence of cancer is something these doctors and scientists – who are willing to speak with media despite continued BP pressure – are agreeing is the second, and possibly darker, phase.

“I think very definitely that we have reached a stage in this disaster when we will begin to see more incidents of cancer,” Dr. Wilma Subra told Bellona. She is a MacArthur Foundation “genius award” winning environmental scientist based in New Iberia, Louisiana.

“It is, in fact, already happening and it should be an issue of grave governmental concern – long-term exposure to Corexit can cause cancer.”

Emailed requests for cancer treatment rates recorded by the health departments in the states of Louisiana, Mississippi and Alabama show a statistically insignificant bump in 2013 – the last year for which data is available – over cancer treatment rates for previous years.

But as Marylee Orr pointed out, any industrial disaster of such magnitude never yields up specific and immediate results, and it will be decades before a consensus can be reached. Lisbeth Gronlund of the Union for Concerned Scientists pointed out that disputes over the number of cancer deaths caused by Chernobyl – the name-brand in cancer-causing industrial disasters – still rage 28 years after it exploded and there is still not an accurate picture or accounting method.

“People don’t die of cancer right away so it’s not possible to get an accurate picture of how many cancer deaths the BP spill could result in,” said LEAN’s Orr. “Only time will tell, but over time as rage dies down and social memory shifts – the true outcome may never be accurate.”

Hill’s cancer – a 5 centimeter and an 11 centimeter tumor in his right lung that were discovered on an MRI following a car accident in Wisconsin in 2013 – has now spread to his lymph nodes.

His doctors said he will live another year to 18 months, a surprisingly rapid spread, especially for a patient whose lungs were spotless five years ago, said his doctors, who spoke in confidence. Hill’s medical records include an MRI from 2009 following an exam for a back strain, which shows his lungs at that point were entirely clear.

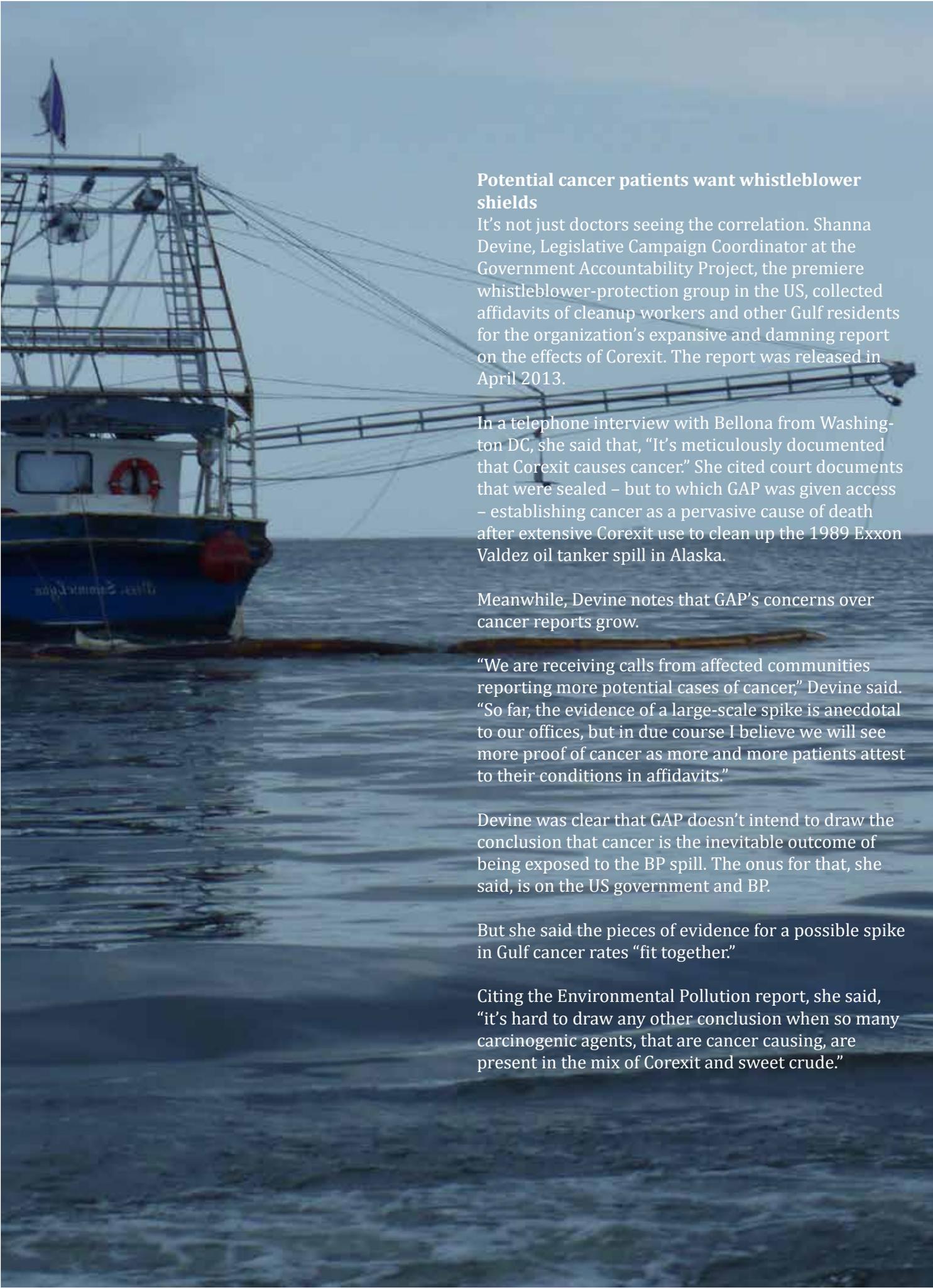
Dr. Subra pointed to another patient who contracted a fast moving cancer from Corexit exposure. The patient wasn’t even a cleanup worker. He was a photographer with a spotless health record who documented the spill from helicopters and boats beginning in May of 2010 until shortly before his death in 2012.

Dr. Subra determined that breathing the aerosolized Corexit caused cancer in the patient, whose name she wouldn’t release because of confidentiality constraints.

The patient, said Subra, asked that his cancerous tissues be maintained after his death so they could be studied to shed light on the cancer causing agents in the dispersant. After his autopsy, however, Subra said the tissue samples mysteriously ended up in the hospital incinerator.

Subra pointed out that in both Hill and her patient’s cases, there was a kind of lurid luck at play.

“Because Hill and the photographer’s conditions prior to the spill were known, we can draw educated conclusions from how they contracted their illnesses,” she said.

A blue fishing boat with a complex rigging system is shown on the water. The boat has a white cabin and a red life preserver. The rigging consists of a tall mast with various pulleys and ropes. The boat is moving through the water, leaving a wake. The sky is overcast and the water is a dark blue-grey color.

Potential cancer patients want whistleblower shields

It's not just doctors seeing the correlation. Shanna Devine, Legislative Campaign Coordinator at the Government Accountability Project, the premiere whistleblower-protection group in the US, collected affidavits of cleanup workers and other Gulf residents for the organization's expansive and damning report on the effects of Corexit. The report was released in April 2013.

In a telephone interview with Bellona from Washington DC, she said that, "It's meticulously documented that Corexit causes cancer." She cited court documents that were sealed – but to which GAP was given access – establishing cancer as a pervasive cause of death after extensive Corexit use to clean up the 1989 Exxon Valdez oil tanker spill in Alaska.

Meanwhile, Devine notes that GAP's concerns over cancer reports grow.

"We are receiving calls from affected communities reporting more potential cases of cancer," Devine said. "So far, the evidence of a large-scale spike is anecdotal to our offices, but in due course I believe we will see more proof of cancer as more and more patients attest to their conditions in affidavits."

Devine was clear that GAP doesn't intend to draw the conclusion that cancer is the inevitable outcome of being exposed to the BP spill. The onus for that, she said, is on the US government and BP.

But she said the pieces of evidence for a possible spike in Gulf cancer rates "fit together."

Citing the Environmental Pollution report, she said, "it's hard to draw any other conclusion when so many carcinogenic agents, that are cancer causing, are present in the mix of Corexit and sweet crude."

Devine described an atmosphere of concern where neighbors of people exposed to the spill in the Gulf's closely knit fishing communities call GAP to report what the victims will not.

Cancer patients reluctant to disclose their condition

For Hill, the cancer diagnosis was something he kept secret from the closest of his friends and his two daughters, Amanda, 24 and Simple, 19, until the early days of August. His best friend and former captain, Johnson, who is currently fishing more fertile shrimp beds off Texas, still doesn't know.

"I'm a fisherman [...] – I don't want a bunch of my buddies and family worrying over me, especially Buster [Johnson] – he's got a boat to run and doesn't need my distractions" said Hill, who doesn't shy away from gory fish tales of life at sea and all the ways there are to "buy it" aboard a big commercial shrimper like the Roll Tide.

A winch can turn an absent-minded deckhand into fish bait. A mislaid line going suddenly taught can cost you a hand or a leg. Rough storm tides can wash you overboard. And there are always the sharks.

Hill's hands, arms, and torso are a diary of scars cataloging nearly each of his trips to sea.

"I survived 30 years of that, all I know how to do is this crazy work," he said. "And after God knows how many times I could have died out there, it's cancer that's gonna get me. Cancer from oil and Corexit."

Culture of collusion and denial

The White House, the Environmental Protection Agency (EPA), the Federal Drug Administration (FDA), the US Coast Guard and BP all knew that each of the 1.84 million gallons of Corexit hosed onto the spill from BP's Macondo well were acutely toxic. Yet none of them have gone on record saying exposure to the oil

or dispersant has anything to do with the emergent cancer cases.

Indeed, all of them told Bellona they're convinced the cleanup was a roaring success. A response from BP's giant, impersonal online PR machine blamed Hill's cancer on "lifestyle choices or simple chance."

At its worst, the Macondo well was leaking at an actual rate of 62,000 barrels a day. Yet, as of last April, all beach, water and wetlands reclamation efforts guided by BP were stopped – as were considerations of adequate health benefit payouts. The Corexit did its job. The oil disappeared and the beaches reopened for business.

But where at least 75 percent of that oil went is still a matter of dispute. While the government keeps hewing that it just "evaporated," independent analysis of what is still washing up on Gulf beaches tells a completely different story.

The oil is still there, studies and eyewitness accountings tirelessly documented by Jonathan Henderson of the New Orleans-based Gulf Restoration Network indicate – coating the ocean floor and, washing up again and again in the form of tar balls, slicks and dead sea-life.

Masking tourists fears by unmasking cleanup workers

With fishing closed in the Gulf mere hours after the BP blowout, cleanup work for fishermen was the only work there was. And everyone needed it: When the well blew, six months were left in a two-month-old fishing season, the time when shrimpers make their annual paychecks.

Hill said the Roll Tide lost \$300,000 in the 2010 fishing season alone.

During the cleanup, the Roll Tide crew wore what Hill described as sort of paper hazmat suits that were prone to tears routinely mended with duct tape. The rotating BP supervisors aboard his boat got comfortable in front of the plasma screen TV in the mess while the crew swabbed black sludge on deck, their bare skin often exposed to caustic sewage.

Rashes and welts appeared on Hill's skin two days into the cleanup. Breathing and seeing got difficult, and a new light sensitivity means he always wears sunglasses.

Twelve- and eighteen-hour shifts of filling the skimmer and bringing its toxic haul to a larger disposal vessel ended in sledgehammer migraines, bloody noses, wracking coughs, and muscle spasms.

Though respirators were onboard as required in the BP cleanup manual, BP supervisors discouraged Hill and his crew from donning them. “

They'll scare off tourists,” he was told. Though what tourists 20 miles into an oil stain the size of Rhode Island was unclear. Besides, said the BP supervisors, they weren't hurting from anything but heat rash and dehydration – not unthinkable in the 40 degree temperatures they were toiling in. But the headaches, nausea and dizziness got worse.

Finally, a minor mutiny by the Roll Tide crew got them papery surgical facemasks.

“There was just something not right about the whole thing,” Hill told Bellona. “All this gear that they wouldn't let us use, planes dumping dispersant from the sky, water as thick and black as tar, stuff our skimmer couldn't even pick up, all the rules and the rules that got broken – and feeling sick all the time.”

According to BP safety policy, as outlined to Hill and his crew during their cleanup training, no planes were supposed to spray Corexit within two nautical miles of oil recovery boats.

Like so many other rules, that one went by the way-side, too. While struggling to tow their skimmer through rough seas without splitting it, a C-130 came in low and unleashed a thousand-gallon payload of Corexit right on the Roll Tide's deck.

“We all got soaked to the bone,” said Hill. “Everybody knew that wasn't supposed to happen, and we spent the next few days hovering over toilets and feeling pretty sick – everybody broke out in rashes and nobody could hold down their grub. But we got the oil in.”

EPA unwittingly reveals cancerous effects of dispersant

A 2002 study by the EPA (Environmental Protection Agency) points out the cancerous effects of Corexit, but tap dances around them in such a way as to make them seem distant and insignificant.

Bellona spoke with an anonymous source at the EPA who is familiar with the studies, and the source admitted that the data is purposely presented in a circumlocutory way.

The report studied lab animals exposed to 2-Butoxyethanol, the compound in Corexit responsible for its cancerous effects. The source told Bellona that “we saw random cancers but they were too diffuse to characterize as caused by one source.”

From this, researchers extrapolated that if cleanup workers were to wear the correct protective hazmat gear that protects them from the non-cancerous effects of 2-Butoxyethanol, then the same gear should protect them from the cancer causing agents in the chemical.

But as Hill and Orr explained, barely any of the 47,000 rescue workers were wearing appropriate protective gear.

Planning for death

Hill is far luckier than many in a terminal state following BP cleanup related sicknesses, and prudent financial planning will leave his family cared for.

“I’ve always saved my money, made sure my girls are provided for,” he told Bellona in a smoky fisherman’s bar in Bayou Labatre where the appearance of a non-local causes the jukebox to skip a beat.

When it became clear the medical case had fallen apart in court, Hill took a \$60,000 one-off medical settlement BP offered until this month. He’s also selling off his trucks, his house in Bayou Labatre and some land he owns in his home state of Tennessee.

“Then my girls can get their lives back, same as that jackass [now former BP CEO Tony] Hayward was whining about when the spill got too much for him,” he said, punctuating his point with a long-neck bottle of Bud Light.

What Hill plans to do with his remaining time is slightly uncertain for the moment, but two things are sure: He’s hanging a sign on his door in Bayou Labatre reading “Gone Fishing,” and he is not going to subject himself to the ravages of chemotherapy or surgeries and die in a hospital.

Eventually he’ll pull the dust cover off his Harley and head out on the open road, see friends. Then again, he may take to the sea with his fishing tackle in hand.

“I wasn’t meant to die in a hospital bed,” he said with a defiant half smile. “I was meant to die in the open, off on some trip – once you get salt water in your veins, it doesn’t come out.”

Jack Hill passed away of lung cancer in December 2014. The last remaining crewmember, captain Buster Johnson, is now reported hospitalized with cancer.



Jack Hill at the “pass” out of Bayou Labatre, through which he’s sailed to fish shrimp for three decades. Now he can fish no more. (Photo: Charles Digges/Bellona)

Sea monsters and sinking shrimp harvesters four years after the BP blowout

August 27, 2014

GRAND ISLE, Louisiana – It's Thursday August 3, the third day of the shrimping season, and the boatyards of Dean Blanchard Seafood Inc – once supplier of 11 percent of America's shrimp – are, in the words of its owner, “a graveyard.”

Blanchard himself, an avuncular if unvarnished guy who's literally just trying to stay afloat, sits in the boatyard office's air conditioning that battles the 40 degree temperatures pelting this now forgotten island 170 kilometers south of New Orleans, trading gossip on his iPhone with other shrimp distributors.

“Y'all didn't get nothing either, accept for tar, gook and some of those deformed creepy-crawlies, huh?” he says into the phone. “Sounds about right for around here, too.”

His nephew, Ryan Penick – one of the few workers around in the yard because he's part of the family – motions out the window at two empty refrigeration unit 18-wheeler trailers awaiting something, anything, to carry away.

“On a day like this, this early in the season, there should be at least another 15 or 20 of those waiting, and this place should be a madhouse of people running around,” he told Bellona. “But there's nothing going on, and it's been that way for a long time – too long.”

The “creepy-crawlies” Blanchard referred to on the phone are the ever-rising rash of horrifically mutated

shrimp, crabs and other sea life covered with oozing growths and extra limbs, shrimp and crabs lacking eyes and eye sockets, and fish of all manner swollen with apparent tumors.

As more and more fisheries fail, shrimp boat nets have been dragging these freaks of nature to the the surface since the 2011 fishing season, said Blanchard, after BP's Deepwater Horizon rig blowout, which gushed 4.9 million barrels of crude into the Gulf of Mexico after the vessel exploded and sank on April 20, 2010, killing 11.

“We ain't never seen anything like those shrimp and crabs before the spill,” said Penick. “This kind of stuff was news to us all.”

Penick said the mutated shrimp can be easily spotted in the sorting process, but said that plenty actually make it through seafood distributors to market. The malformations would not be noticeable in most US supermarket seafood chests because the heads and outer shells are most often discarded. But that presents no guarantee that whatever carcinogens caused the horrific malformations are not making it into the human food supply.

A small group of grease-stained, skinny shrimpers wait for Blanchard to finish his call to collect pay for their measly hauls. They chat among themselves about how their catches won't even pay for the diesel fuel that got them to the shrimp beds 60 to 70 kilometers to the east – near the Macondo well, the source of the BP leak. And, of course, they'll have to subtract the deformed crabs from their weights.

Those creatures will be added to Blanchard's growing collection of sea oddities that he keeps in the office freezer and photographs for the lawyers. His photo collection, which he shared with Bellona, spans from 2012 when mutations first became obvious through to the 2014 fishing season.

Once in a while, says Penick, a group of unidentified scientists will drop by and take a few specimens.

"They don't say where they've come from, and we know better by now than to ask," he told Bellona. "They don't show any credentials or leave any business cards – and we never hear from them again."

Were the 'creepy-crawlies' come from

That's likely because the chemicals sprayed to put BP's oil out of sight are, according to leading environmental scientists, a recipe for creating aliens.

Dr. Riki Ott, a toxicologist, marine biologist and Exxon Valdez survivor predicted in numerous media the mutagenic effects of the joint decision by BP and the US Government to inundate the Deepwater Horizon spill with 1.85 million gallons of the controversial oil dispersant Corexit – much of it from underwater, a circumstance never tested with the chemical. Corexit – which, according to a study published in the journal *Environmental Pollution*, is with crude 52 times more toxic than crude alone – is known to be mutagenic. Now it is showing up in the form of the seafood deformities, Ott has said.

Shrimp, for example, have a life-cycle short enough that three to four generations have existed since BP's disaster began, giving the chemicals time to enter the genome.

Such being the case, Ott said, "It should be no surprise that solvents are also notoriously toxic to people, something the medical community has long known." Dr Jim Cowan, of Louisiana State University's Department of Oceanography and Coastal Sciences told Al Jazeera that he thinks chemicals called polycyclic aromatic hydrocarbons (PAHs), released from BP's submerged oil, are the likely culprit in lesions and sores on sea life he's been studying since as early as November of 2010.

The mutated fish he found came from "a wide spatial distribution that is spatially coordinated with oil from the Deepwater Horizon, both surface oil and subsurface oil," he said. "A lot of the oil that impacted Louisiana was also in subsurface plumes, and we think there is a lot of it remaining on the seafloor."

Studies by the University of South Florida in 2012 found that some 20 percent of more than 20 species of fish examined in spots hit by oil turned up with lesions, said Al Jazeera. Later studies showed a dramatic increase of 50 percent of fish from oil-affected areas turning up with lesions.

According to Blanchard, who's not known in these parts for sugarcoating things, "It's all part of the damn BP and government conspiracy to cover up what they did out here. They killed our business and they sure as hell don't want to pay for it."

Erosion of a community business

In Blanchard's case, what got killed is a 30-year-old shrimp clearinghouse that he started when he was 18-years-old with one worker aside from himself.

Over the years, the fecund shrimp in the beds off Grand Isle – whose hotels and beachfront condos now turn hollow window sockets and parched, empty parking lots toward Louisiana Highway One – Dean Blanchard Seafood ballooned into one of the Gulf's mega-businesses and local employers.

In 2009, and the years previous, according to his records, Blanchard was hauling in and processing for sale 14 million pounds (6.3 million kilograms) of shrimp a year.

Because the federal government closed down a two-month-old fishing season after the BP blowout in 2010, 2011's shrimp crop was even more robust as fishermen cashed in on leftovers they weren't allowed to trawl the previous year – a statistic BP and the Federal government touted as a banner of Gulf recovery.

They weren't around with the trumpets the following year when Blanchard's distribution haul plummeted to about 3 million pounds. Nor the following year, when it fell to about 2 million pounds.

He predicts this could be his last year in business.

"It took about five years for the Exxon Valdez spill to kill fishing off in Prince Island Sound, and that's pretty much where we're heading," he said. "I'm trying to keep it standing, trying to keep a good face on it, but it ain't gonna last – it's probably adios."

LSU's Cowan drew a similar corollary to the Exxon

Valdez in terms of the shrimp mutations being observed. "The fish are being exposed to PAHs, and I was able to find several references that list the same symptoms in fish after the Exxon Valdez spill, as well as other lab experiments," said Cowan. "There was also a paper published by some LSU scientists that PAH exposure has effects on the genome."

The birth of a ghost town

What the downturn in shrimp quality and quantity has reflected in terms of jobs, said Blanchard, breaks down to something like this: Prior to the BP spill, he employed some 6000 people and took loads from 1400 boats owned by his company. He now employs about 300 people and has contracts with about 350 privately-owned boats and runs 30 of his own.

Where earlier Blanchard's was the largest distributor for mid-sized, short haul vessels manned by local crew, he has now had to turn to larger out-of-state commercial shrimp boats whose sea time averages 25-40 days. These boats largely fish the coast of Texas, west of the megaphone of Corexit and crude poisoning that metastasized in a northeasterly direction, pulling oxygen out of shrimping water, according to studies done by the University of Georgia several weeks after the spill.

Grand Isle's population is only 1400 – which in 2010 put most residents in proximity to the economic stimulation Dean Blanchard Seafood Inc. provided the community – a migration of 6000 workers, Blanchard said, is "just a devastating loss BP will never be able to compensate."

"That's why you see all those clapboard hotels and restaurants when you're driving down here," he said. "There's nobody around to see, nobody to visit and who wants to go swimming in tar?"



Photo: Jonathan Henderson/The Gulf Restoration Network.

Indeed, even as the spill began to encroach on Grand Isle when Bellona visited it in 2010, the community was bustling with vacationers, lured by BP's promises that oil would not hit the shores, though not immune to the putrefaction of burning oil and Corexit drifting in from the sea.

So people have moved away, Blanchard said. "They're too sick to stay – with all kind of respiratory problems, people couldn't breathe or find work."

What the numbers show

In monetary terms, the loss in revenue to Dean Blanchard Seafood seem less devastating on paper than his account would suggest. The company's annual revenues have diminished by half, from some \$50 million to \$25 million.

But Blanchard said he's only able to keep those revenues by charging several more times per pound of shrimp than he did in 2009.

"The shrimp industry isn't in the dollars but in the pounds," he said. "Back in 2009 and 2010 I could charge \$8 per pound wholesale, now I gotta charge \$20 to \$30," representing a drastically and still downwardly spiraling volume of shrimp being harvested in the Gulf.

In 2010, when BP devised a strategy of carpet-bombing Gulf communities with easily achieved money handouts based on potential revenue loss, Blanchard received three payments equaling \$1.1 million. Now that the one-off bonanza has ended, it's done nothing to cover his \$3 million a year in operating costs.

He's joined a federal compensation suit and is going after BP for \$111 million in losses. He doesn't expect a favorable outcome.

Individual shrimpers faring no better

Mississippi shrimper Walter Martin, who captains a mid-sized vessel out of Bay St. Louis, 250 kilometers north of Grand isle, told Bellona his yield is consistent with Blanchard's plummeting figures reports. He says he's catching merely a quarter of what his typical seasonal catch was prior to the BP spill.

Andrew Whitehead, a biology professor at Louisiana State University chalked the low yields up to the mix of oil and Corexit that sunk to the Gulf's floor.

He cited studies of mutations in the small bottom dwelling Killifish as "a good canary in a coalmine" to determine what further impacts the Gulf can expect from the BP spill, he said.

The National Oceanic and Atmospheric Administration (NOAA) – which insists that 70 percent of the Deepwater Horizon spill has "evaporated" – has consistently predicted each year's Gulf shrimp harvest would bring bigger booms. But their predictions focus on western Gulf harvests from fields not touched by the BPs blowout.

Shrimper George Barisich confirmed that information on where the shrimp could be found varies. He fishes the grounds off Plaquemines Parish, 140 north of Grand Isle.

“We’ve got areas that normally produce [shrimp] that haven’t produced since the spill,” said Barisich. But he reports that his shrimp haul is down 40 percent, compared to Martin’s 75 percent.

Nevertheless, Barisich said the spill has forever changed the landscape of fishing in the Gulf.

“If Mother Nature don’t fix it, BP is not going to fix it,” said Barisich. “And they’re not going to make it right as we’ve seen time and time and time again.”

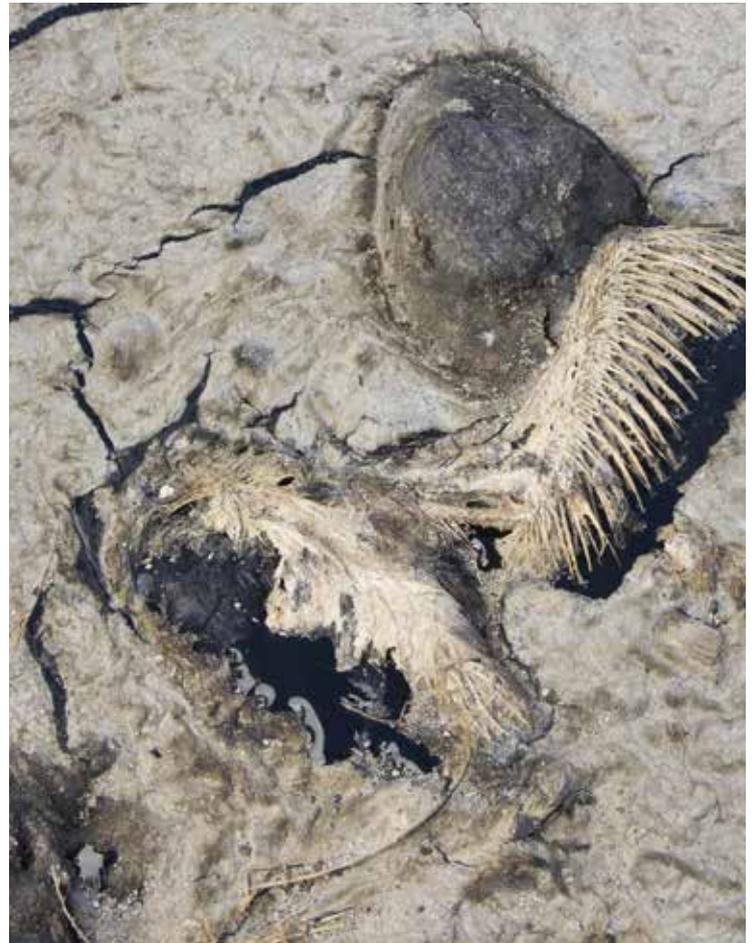


Photo: Jonathan Henderson / The Gulf Restoration Network.

BP found guilty of 'gross negligence'

September 5, 2014

NEW ORLEANS – British oil giant BP's "gross negligence" and "profit-driven decisions" was directly responsible for the worst accidental oil spill in history, Federal District Court Judge Carl Barbier ruled.

The ruling handed down by Barbier could eventually mean that the government can impose penalties nearly four times as large as it could if BP were not found guilty of gross negligence. The "gross negligence" finding impacts the amount of money BP will have to pay for each barrel of oil spill: "negligence" would have cost the company \$1,100 per barrel, while "gross negligence" raises the fine to \$4,300 a barrel.

Thus, the company could face fines as high as \$18 billion, four times the amount the company apparently expected. BP had set aside \$3.5 billion for potential Clean Water Act fines – an indication the firm had expected a more lenient ruling.

Lawyers for the company also noted in court that in previous oil spill cases, the US government and the courts have imposed penalties far lower than the maximum.

Proceedings to continue

Today's ruling on negligence is one but one of a three-part case that will decide the fines the US government can impose on the London-based oil mega giant. Today's part apportioned blame for the accident.

The second part aims to determine the size of the spill – a hotly contested issue with independent experts putting it at 4.9 million barrels, the US government

saying 4.2 million, and BP submitting it spilled only 2.45 million barrels.

Judge Barbier's ruling Thursday said BP should shoulder 67 percent of the blame for the spill, with drilling rig owner Transocean responsible for 30 percent and engineering giant Halliburton responsible for percent.

His ruling details a catechism of errors by BP that concludes the oil giant prioritized money over safety.

"BP's decision was primarily driven by a desire to save time and money, rather than ensuring that the well was secure," Barbier wrote of a decision BP made to forgo a crucial test as the company rushed to complete its drilling at the Macondo well and move the Deepwater Horizon rig to another site.

In particular, Barbier said, the company's decision to drill the last 100 feet of the well left it in "extremely fragile condition" and vulnerable to blowout.

"The court agrees that the decision was dangerous and further finds that it was motivated by profit," he wrote.

BP today issued a statement saying it "strongly disagrees" with the ruling and that it would appeal to a higher court.

"The law is clear that proving gross negligence is a very high bar that was not met in this case," said the firm.

BP has vowed to appeal the verdict to a higher court.

But the ruling sends a thunderclap to the oil industry, which has insisted that BP is an outlier, about the possible consequences from an offshore spill.

Said Carl Tobias, a law professor at the University of Richmond, told The Los Angeles Times that, "What the federal government is trying to do is to deter and punish anything this environmentally disastrous from happening again, so that companies will think twice, thrice, about what they do."

The sick and dying not impressed.

Former beach cleanup worker Lamar Moore, who has been largely housebound and unable to work thanks to his work cleaning up tar mats from the spill on Dauphin Island, Alabama, is a step ahead of eviction with a baby girl on the way.

"They could fine BP \$18 billion or \$800 billion and it's not gonna get me my life back," he said. "All the judge said today is what all of us have known all along – BP doesn't give a damn about what it did."



*Lamar Moore, who cleaned beaches in Alabama during the Deepwater Horizon spill.
(Charles Digges/Bellona)*

Are seafood dangers to humans concealed?

September 8, 2014

NEW ORLEANS/HOUMA, Louisiana – Scott Porter, a scuba diver, marine biologist and self-declared surf-bum from Malibu seems an unlikely candidate to challenge the consolidated bulk of information the US National Oceanic and Atmospheric Administration (NOAA) says it's amassed on the effects of the Deepwater Horizon spill and its ongoing impact four years later.

September 8, 2014

His lab is packed with aquariums and buckets filled with coral harvested from Gulf of Mexico oil platforms, which is allowed under US law. The troughs bubble along, revealing a mucoid goo and producing the rainbow sheen characteristic of oil not mixing with water.

His voice comes out as smooth as Coppertone suntan lotion and his long hair is tied back in a loose sun bleached ponytail as he shuffles in flip-flops through his caldrons of horrors.

The twisted, sooty coral he's running tests on offer indispensable clues on where the oil from the 2010 BP spill are still lying below the placid surface of the Gulf – posing a continuing critical health danger to the Gulf of Mexico's 40 million residents.

"Coral is an extremely sensitive barometer of what is out there and where it is," Porter told Bellona from his lab. "That greyish white substance is oil plume," he said, indicating a foggy water tank holding coral he pulled up in February 2014.

The plumes – an oxygen vacuum amalgam of tiny droplets of crude and the lethal Corexit that can travel

hundreds of miles from the spill source, said Porter, are what NOAA and the Louisiana Department of Environmental Quality (DEQ) have said can't be found in the Gulf any longer.

Yet tendrils of plume are exactly what independent researches documented running through the Gulf back in 2010, some as long as 100 kilometers and 10 meters wide, suspended in the water column for months after the spill. According to Porter's calculations, 70 percent of the Gulf's natural and artificial reefs are now "dead zones" thanks to the BP spill.

The science on plumes is sparse because the BP spill is the first time they've been seen, probably as a result of BP's experiment in deploying Corexit underwater, which was an untested use of the chemical, along with the 1.85 million gallons of Corexit it dumped from planes.

What has become of them is something no government agency wants, or is allowed, to say. But Porter's research suggests the elusive beasts are still at sea.

It's a solitary mission.

Undead plumes

"Among the whole alphabet soup of NOAA and DEQ, that's one word you will never hear from them: plume," said Porter.

"They won't acknowledge they ever existed in Louisiana state waters because [Louisiana Governor Bobby] Jindal said he banned Corexit from being dumped within three miles of the state's shores, but there it is

– plume, four years later,” he says, pointing to a bucket of mutant coral clouded over by cumulous wisps of what looks like fetid milk.

Indeed, Jindal’s office returned comment to Bellona saying Corexit was never sprayed “on or near Louisiana’s coast,” a claim given the lie by dozens of witnesses and researchers besides Porter that were interviewed by Bellona.

Porter’s research has charted a rough 1000-square mile territory stretching from 100 miles west of the Macondo well, and up the east coast of the state to about 40 miles southeast of New Orleans offering solid clues as to where the crude and Corexit from the spill has settled in the water column.

Porter’s dives for ailing coral have also mapped tar mats at the bottom of the sea, some as long as 12 miles according to his documentation, and three to six feet deep.

This could account for the mass seafood deformities and animal deaths – as well as Porter’s assertion that he will no longer eat any seafood coming from south of Bayou Eloi, some 80 miles east-southeast of New Orleans.

Porter admits that his research is incomplete. He’s not trying to do the government’s job – only force the government to theirs.

“Even if the NOAA was correct back in 2010 and 75 percent of the oil just ‘evaporated,’ that still leaves 20 million barrels unaccounted for,” said Porter. “Where did it go? I’m not surprised if I stumbled over a big piece of it, if not more.”

This is entirely plausible, according to scientific studies from as far south as Florida to as far north as Woods Hole, Massachusetts.

As soon as NOAA forwarded its evaporation theory, scientists from the University of South Florida showed they found oil deep on the Gulf seafloor; and that it was virulently toxic to marine microorganisms. The University of Georgia also released calculations that 70 to 79 percent of the oil remained underwater.

And in a major peer-reviewed article in Science magazine, scientists at the Woods Hole Oceanographic Institution described their discovery in June 2010 of a plume of hydrocarbons at least 22 miles long and more than 3,000 feet below the surface of the Gulf of Mexico – a measurement making the plume as big as Manhattan.

Dreams buried in tar

In 1991, Porter traded in his surf wax for degrees in marine biology and a certification in oil spill consultation. He moved from California to Louisiana in search of its resplendent coral reefs.

His dream was to go into aquaculture in Louisiana’s wetlands. Particularly, he intended to raise the coveted cobia fish in a record-breaking 12 months in the right waters. He would pay for this endeavor by harvesting from the Gulf’s 4000 oilrigs’ diverse corals, some of which are found in only narrow slivers of sea halfway around the world in Southeast Asia.

The names of the corals are unpronounceable, but the biomedical potential of their enzymes could, he said, revolutionize cancer studies. But then, the oil and dispersant washed in, destroying his aquaculture farms.

“Now that dream is dead,” he said. “The coral – well, that sucked up the BP poison.”

Porter’s inside view of diving for NOAA

As a scuba diver for Ecorigs – which, in an ironic twist, fights for the preservation of Gulf oil platforms because of the abundant coral reef and aquaculture habitats they support – Porter was recruited by NOAA right after the April 2010 gusher to take extremely dangerous underwater oil samples.

He and his team applied the knowledge they knew best – testing coral for oil and dispersant saturation. The levels were off the charts.

By August of that year, when the political tides at NOAA shifted away from determining sea toxicity levels to saying the sea was not toxic, the agency started ignoring Porter’s coral samples, which continued to show extremely high concentrations of oil and dispersant.

“NOAA is the biggest know nothing, do nothing, stick-its-head-in-the-sand agency involved with the spill,” he said. “The priority went from science to politics and they wanted to say, via whatever concocted scientific methodology, that the oil was gone.” That methodology, said Porter, amounted in the end to so called “amber bottle” tests, where mere milliliters of surface samples were collected and declared clean – offering no information on the plumes evidenced in Porter’s coral samples that lurked far below.

Oil and dispersant concentrating in water column and food chain

Written off by the government agencies that used to trip over each other to consult him, Porter struck out on his own with his colleagues at Ecorigs and reached some shocking conclusions.

The lab test he has been running on coral samples is called depuration, a process that aids the organisms in

expelling the toxic substances contained within them, with the aim of rehabilitating them.

But samples selected for depuration are often impossible to get back to his lab at Ecorigs.

“Sixty to seventy percent of the samples I collected on [the February] dive didn’t pass quarantine,” he said. These samples are marred with obsidian-black growths, malignancies and deformities, ruling them out as candidates for rehabilitation.

The coral samples come from the artificial reefs around the same oil rigs he’s been diving since 2010. He videotapes the conditions and culling coral samples some 100 miles southwest of where BP’s Macondo well blew.

And he’s followed the path some 250 miles up the state’s meandering and dipping coast to St. Bernard Parish, 30 miles southeast of New Orleans, charting the dying coral and fallow, oil-greased oyster beds along the way.

Time-lapse images to Armageddon

The images in his video project descend from a flurry of color and the birdlike veering of schools of fish in 2010 to an anthracite moonscape of Pompeian dust devoid of any life – a lurid send up of Jules Verne’s classic that could be called: 20,000 Leagues Under That You Didn’t Want to See.”

The coral samples, releasing the smell of crude and Corexit in his lab were taken from Porter’s last dive in February 2014. While diving oil rescue for NOAA in 2010, Porter said NOAA was pushing to reach a toxicity level, or LC50, of 2 parts oil per million of water.

“If you can smell it, you’re talking about more like 20 parts per million,” he said. “This is what it smelled like in 2010,” referring to the headache inducing odor of a leaky lawnmower swirling around the lab. This smell is still present in the environment and frequently after storms and high tides

Porter's conclusions

Porter says his four-year-long analysis of coral proves a couple of things.

The first is that Macondo signature oil is still out there in massive quantities, concentrated in the water column and settled along the sea bottom in huge tar mats, causing severe skin rashes particularly among children who spent time on Gulf beaches this summer.

"The oil is difficult to fingerprint because Corexit was designed to break it down to a molecular level. But when you know what the remaining metabolites look like, you can find it." This is precisely what he says his coral dives are showing.

The second conclusion he came to is that the oil and dispersant is concentrating within the gulf seafood supply, which could eventually show baleful and unpredictable results in human seafood consumers.

The carcinogenic effects documented the Gulf's oyster, shrimp, blue crabs and Bluefin Tuna are too great not to cause human health issues down the road, he said.

"The oil and dispersant is a gumbo of carcinogenic compounds," said Porter, "and it's gathering in the food chain."

Food and Drug Administration (FDA) do test the seafood, yet their method is debated: sniff testing remains the primary mode of determining seafood's fitness for market.

Government resists offering real proof

Those interviewed by Bellona agree that Porter's research threatens the sandcastles of evidence NOAA, the US Environmental Protection Agency (EPA), the FDA, BP and even President Obama have submitted as proof that Gulf seafood is safe – proof that is at best anecdotal.

On August 13, 2010, Obama pronounced gulf seafood safe to eat after a lunch of shrimp in Mississippi. He then promised, as quoted by the Associate Press, that, "Things are going to return to normal [...] I am confident that we're going to be able to leave the Gulf Coast in better shape than it was before."

In April this year, BP shut down its cleanup operations altogether saying the beaches and the water are clean. Record breaking quantities of dead sea-life and Corexit tainted tar balls meanwhile continue to wash up on beaches from Venice, Louisiana to Dauphin Island, Alabama.

Government gagged

So, what does the government have to say now?

Because of a National Resources Disaster Assessment (NRDA) that started the day of the blowout, it doesn't have to say much at all, and hasn't. The NRDA has so far restricted NOAA, the FDA, the EPA, the US Coast Guard, other stakeholders and their state-level wildlife and marine agencies from releasing any information pertinent to public health.

When asked several times by Bellona to comment on the specifics of Porter's findings, it received a reply from New Orleans-based NOAA spokesman Ben Sherman.

Sherman wrote in an email that, "The ongoing Deepwater Horizon NRDA is the most transparent in history, but as the basis for the legal case holding the responsible parties accountable for the damages, the Trustee Council and its member agencies including NOAA, cannot make all findings public at present due to that litigation."

The email went on to refer Bellona to NOAA's website on the spill's ongoing effects, which contains little information aside from restoration ideas, endangered

species rehabilitation plans, and cost analyses. There is no mention at all of addressing the pervasive human health issues that have recently come to light in staggering numbers, such as cancer.

“The NRDA has released absolutely nothing about health because they are not focusing any efforts on it,” Porter said. “Ecological projects are a lot easier to advertise and protect BP from any liability to those of us who are sick or dying.”

Though Porter is reluctant to admit it, he falls in that category. His mellow voice is often interrupted as he grasps for the right word. His skin shows signs of pigmentation loss from scorching rashes that break out, forming hard nodules on his skin. He’s showing the classic signs of toxic exposures to Corexit.

The Gulf’s worst disaster

As the government keeps mum on the effects of the oil and dispersant, as more and more people turn up ill, as more and more evidence emerges that the BP spill is a permanent resident within the Gulf’s ecosystem for decades to come, one begins to wonder just how big a blanket of ignorance and misinformation NOAA and other associated agencies can weave to conceal the truth.

In a final request for comment phoned in by Bellona to NOAA’s headquarters in Washington DC, Bellona asked “how long do you think you can continue hide behind the NRDA and refuse to distribute useful public health information to the American Public – how ignorant do you intend to keep it?”

The switchboard spokesperson said: “Due to the ongoing litigation of which NOAA is a principle, we can’t publicly disclose any figures on that.”

Authorities warned against oil rescue diving

Scott Porter could have been spared this insult. As early as July 2010, the EPA voiced concerns to NOAA about sending its divers into the toxic plumes, and eventually forbid it, according to government correspondence obtained by Bellona.

Of particular concern were “the micro-bubbles of oil that are now in the water column – thanks to the dispersant – and take a day or more to reach the surface” according to the correspondence.

The EPA communiqués further evidenced knowledge of serious illnesses that exposure to Corexit could cause: “Even if the diver doesn’t get sick immediately, in this case we’re looking at possible exposure to crude oil (oil and dispersants) –components of which could increase your lifetime cancer risk.”

A July 7, 2010 memo from the NOAA to the EPA regarding divers’ gear, reads: “Traditional scuba equipment does not provide adequate protection for the diver who must operate in contaminated water. Wet suits are designed to permit water to enter the suit at the wrists, neck and ankles [...] Any chemical or biological agent that can be absorbed through the skin presents an immediate hazard if a wet suit is worn.”

The EPA concluded its correspondence by responding on the same day: “Our basic recommendation for our own EPA operations is that divers that haven’t been doing this for a period of time should not attempt to do it ‘on the fly’ in the Gulf within the areas the NOAA Office of Restoration and Response have shown oil to be present or potentially present – the most likely outcome is that divers will be acutely exposed, or unnecessarily increase their chances of showing long term effects down the road.”

NOAA ignored the directive, and continued to send Porter and his colleagues in to sample the plumes. Porter told Bellona the chemicals they were forced to dive in ate away the vulcanized rubber of their wet suits. Porter switched to a dry-dive suit, which covered his head and limited liquid exposure to his skin. But that, too, was chewed away by chemicals.

He is now “showing long term effects down the road.”





Reports establish: millions of gallons still in Gulf

February 2, 2015

NEW ORLEANS -- Millions of gallons of BP oil have been discovered in the sediments on the Gulf of Mexico's floor. A new report is giving lie to the petroleum giant's continue claims that it eradicated the worst consequences of the oil spill.

Florida State University published public its study in the Journal of Environmental Science and Technology, and asserted that about 238,095 barrels, of oil from the BP spill are buried in the seafloor.

This adds to some 2 million barrels that an October study by the University of California Santa Barbara said had coagulated at the seafloor around the derelict Macondo well. This report's lead author, Dr David Valentine, established the spill had left a kilometer "bathtub ring" of oil - roughly the size of the US state of Rhode Island -- on the ocean's floor.

"Based on the evidence, our findings suggest that these deposits come from Macondo oil that was first suspended in the deep ocean and then settled to the sea floor without ever reaching the ocean surface," Valentine told the UC Santa Barbara Current in late October.

These studies begin to assemble the puzzle about where mutated fish life, plunging seafood harvests, continued oily beaches and persisting and emergent human health conditions are coming from.

The Florida State University report comes amid the

third and final stage of BP's civil trial over the spill. Earlier this month, an expert witness for BP testified that the Gulf's shoreline had shown "substantial recovery" since the spill, and that BP's work to clean up the oil had been "comprehensive" and "effective."

But this study – as well as compelling expert testimony at the trial – show that the spill's lasting impact on the Gulf – and the amount of oil left in it – are far from being determined. The last week of the civil trial, in which the US Justice Department is seeking \$13.7 billion in damages, began Monday.

The oil that didn't reach the surface is widely believed to have been turned into droplets by BP's experimental deployment of the toxic, cancer causing oil dispersant Corexit at the mouth of the spill.

Christopher Reddy, a marine chemist at Woods Hole Oceanographic Institute and the bathtub ring study's co-author, said the findings validate earlier research that long-lived deep water coral was coated and likely damaged by the spill.

Squares with independent studies

The Florida State's assertions square with figures given to Bellona in August by Scott Porter, a marine biologist with Ecorigs and a former diver with the NOAA, who has conducted underwater studies to determine the number of gallons left in enormous mats off the Louisiana coast.

Porter, like the Florida State report, asserts that oil in

the seabed sediment was making its way up the food chain. Porter went further to say he has not eaten any Gulf seafood since the spill for fear it may already be contaminating humans.

Florida State's Methods for finding the oil

Researchers from Florida State University, led by Professor Jeff Chanton, used carbon 14, a radioactive isotope as a so-called inverse tracer to determine where oil might have settled on the sea floor. Oil does not have carbon 14, so sediment that contained oil would immediately stand out.

Chanton then collaborated with Tingting Zhao, associate professor of geography at Florida State, to use geographic information system mapping to create a map of the oiled sediment distribution on the sea floor.

Chanton's study sought answers to two questions: if oil had settled on the sea floor, and if so, how much. The study showed that an area of approximately 24,000 square kilometers about 100 kilometers southeast of the Mississippi Delta contained sediments low in carbon 14.

"This is going to affect the Gulf for years to come," Chanton said. "Fish will likely ingest contaminants because worms ingest the sediment, and fish eat the worms. It's a conduit for contamination into the food web."

Five years after, Florida's oil and health problems evade national attention

March 8, 2015

CAT POINT, FLORIDA: This state was said to be clean. Now, five years after the accident, my colleague and I have just struck oil on a beach in Cat Point.

Guided here by Tampa area nurse and biologist Trisha Springstead – who is a one-person clearinghouse for the impact Florida sustained from the spill – we've shoveled through about 50 centimeters of freshly laid sand to discover a black, flaky layer of what Bellona's Karl Kristensen says is oxydized oil.

"There's a very distinct change in color about a half a meter down," says Kristensen. "It looks to be oil contaminated sand and it ends very abruptly, so from the depth of where the layers are located, it fits well with the assumption that it was washed ashore a few years ago and then sedimented in the surface layer."

We found it in three spots and charted a tar mass running along the tide line exactly where Springstead found it at a far shallower depth two years before.

A nurse of 40 years standing, Springstead made her original 5-hour trip north from her home near Tampa to Apalachicola on the Florida Panhandle's aptly-named "Forgotten Coast" in 2011 when reports emerged that children were getting sick on the beach where we stand.

The symptoms of the three children she examined were identical to those thousands of BP spill cleanup workers have shown since the spill's first days: rashes, respiratory difficulties, cardiac problems, declining

mental acuity, diminishing memory, anxiety, a brownish discharge from their ears.

Two of the three children developed pneumonia in the heat of the summer. All this after a month of playing on the beach two years after the BP spill, Springstead told me.

A December study of weathered oil along Florida's Panhandle by the BP-funded Gulf Of Mexico Restoration Initiative (GoMRI) attempts to obscure its connection to the 87-day oil gusher that began on April 20, 2010, when the BP-operated Deepwater Horizon rig exploded, unleashing 4.9 million barrels of oil in to Gulf waters and killing 11 men. The study won't hazard a guess about the Florida oil's toxicity, but says that such beaches can't be considered "clean."

Recalcitrant and weathered oil can become more toxic

As the children Springstead examined were sick, and because she herself broke out in a rash after visiting the beach that was consistent with those cleanup workers experience, it's a safe bet the Cat Point oil was at least at one point toxic beyond usually expected levels.

Likewise, because the oil we found was not tar balls, we can assume it's highly mobile.

"Hydrocarbons don't tend to get stuck in one position," Dr. Joye said. "They mobilize with what they're associated with [and] beach sand is traveling constantly in the gulf."

There's a big chance that oil found even a half meter deep could wash back into the water column of the Gulf through storms or ground waters that might be flowing through the beach.

Springstead has arranged for an independent lab to sample the oil we found at Cat Point.

Ashley Williams, Gulf Coast Public Affairs Manager with the Florida Department of Environmental Protection told me by email and in phone conversations that she was unaware if there'd been reports of oil products on Cat Point.

From 2010 to June 1, 2013, she said, the US Coast Guard oversaw BP's efforts to guard Florida's beaches from oil, with assistance from the DEP. From then until December 31, 2014, the DEP continued monitoring Florida's beaches. Since then, though, beach monitoring activities continue only on a volunteer basis.

She told me this doesn't mean there aren't more oily BP relics to be found in Florida.

"I wouldn't say the beaches are totally clean," Williams told me. "There's definitely still oil there, and there will be for some time."

Tracing Florida's oil to the source

The summary of the GoMRI funded research indicated that the chemicals that weather oil cannot be readily determined. There are various assertions aloft that the oil found on the Panhandle is difficult to trace to the spill.

In 2012 Springstead reported her oil discovery to Dr Edwin Cake of Mississippi's Gulf Environmental Associates, who is listed as a member of the Louisiana Department of Natural Resources' Oyster Lease Damage Evaluation Board.

Cake suggested in an email Springstead showed me that the Cat Point oil could have come from a tugboat or barge beaching during a 2000 construction project in the area.

But the trail of breadcrumbs tying the oil to the Macondo well is far too compelling.

Ben Sherman, the national communications director for National Oceanic and Atmospheric Administration (NOAA), emailed me links to BP spill maps showing Cat Point and surrounding areas were hit.

The Florida DEP's Williams emailed me figures showing that cleanup teams had picked up 60,000 tar balls and a total of 1838 kilos of Macondo well origin oil products on Panhandle beaches alone over the last year and a half.

Then there's the issue of our oil's apparent resistance to biodegradation. It's been in the same spot for at least two years. Joye said that the residual oil left in the Gulf system as a whole may be resistant to biodegradation.

Out of season Corexit campaign

Then there are local witness reports of extensive spill response operations that ramped up off the Florida coast, the bulk of which they say began closer to 2011.

These witnesses, who are fishermen, coastal residents, business owners and activists, told me the US Coast Guard sprayed waters from the Panhandle as far south as Tampa for more than a year after the dispersant sorties officially stopped on July 19, 2010.

Petty Officer Seth Johnson of the US Coast Guard communications team in New Orleans didn't outright deny the witness reports in a telephone interview with me, but said any Corexit dump beyond the July date "wasn't part of the official Deepwater Horizon response."

The record of the acknowledged official response, Johnson said, is contained on the sprawling NOAA-run online Environmental Response Management Application, which he told me "reportedly" contains flight records of each Corexit sortie, as well as locations and volumes of the sprays.

But even a week after my initial email inquiry, Johnson said he and his colleagues had been unable to locate information pertaining to potential 2011 sprays on the website.

"We've got someone looking through the ERMA site to find that information, but there's so much information it's mindboggling," he said.

Johnson's right. I didn't have any better luck at finding complete records for individual flights. But one section of the website, called Aerial Dispersant Applications, lists daily summaries of sorties from two days after the blowout – through the official close-down date.

Florida reports show continued oiling

Local science shows that BP oil products are still hitting Florida five years on. A study published late last month by the University of Southern Florida said dissolved Deepwater Horizon oil wafted underwater as far south as Sanibel Island, causing fish illnesses along the way.

Robert Naman, a chemist at Mobile, Alabama's Analytical Chemical Testing Lab, told me he thinks a lot of oil is still sweeping up from the bottom of the 1000-meter deep De Soto Canyon, 100 kilometers southwest of Panama City, Florida. This area used to represent some of the nation's most fertile fishing territory, but is now, according to local fisherman and Naman, a dead zone.

Naman has studied oil's reaction to dispersant and estimates that the bottom of the 350-kilometer long canyon has been covered by some 100 to 300 meters of BP crude and Corexit.

Oil parked on Florida's shelf

University of Southern Florida oceanographer Bob Weisberg is the co-author on the study that jibes with Naman's theory.

Weisberg reported that a major upwelling — meaning a swirling current of cool water from deep in the gulf — started in May 2010, a little less than a month after the spill, and continued through the rest of that year.

The upwelling, said Weisberg, could have snagged underwater plumes of dispersed oil off Florida's

Panhandle, plumes that were discussed in a paper by David Hollander of University of South Florida.

The upwelling then pushed the plumes southward onto the shelf off Florida's west coast, Weisburg told the Tampa Bay Times.

Plumes appeared in various places, and were initially discovered by Joye in the Southwest quadrant of the Gulf.

Fish harvests lack a pulse

Florida fishermen, meanwhile, are barely scraping by since 2011. Oysters and clam harvest are at a standstill. Everything fishermen pull up is dead. Those that do turn up oysters find they are too pocked with unidentified growths to bring to market.

Some fishermen who refuse to do so often find themselves forced by large fisheries to sell products they know to be toxic, many of them told me on the request I not name them in print for fear of retaliation.

And oil is still charging the beaches: On March 2, a field trip of high school students spent the day at a beach near Pensacola picking up tar balls.

Florida's message to the oiled ill: Shut up

But perhaps the most acute and neglected connection between the Florida experience and the BP blowout is state's heightened incidence of spill related illnesses.

The Florida medical community brushes the conditions – which are well publicized in other Gulf

states – under the rug. People are frustrated, getting sicker, and want action. But outspokenness in these small, economically deprived communities is discouraged, and those doing the discouraging have a lot of leverage: intimidation, surveillance, financial ruin and physical threats.

All but one of the witnesses who spoke to me requested anonymity for fear of violent reprisals. They reported tinkering with their vehicles, job losses, bullet holes getting blasted in their boat hulls, mysterious car tails, and suspicious accidental deaths.

The Florida Department of Health, when contacted by telephone, could provide no information on how many, or even whether, it had received any reports on patient presenting with spill related symptoms. This contrasts sharply with health departments in other Gulf states. Louisiana's has even provided for spill victims who can't work to collect state assistance.

Why is Florida the spill's 'red headed step-child?'

Chemist Naman, said that Florida has a big strike against having its woes aired to an international audience: The state draws \$67 billion annually in tourist revenue, and its most acute oil spill problems didn't emerge until long after the news cycle had moved on to other things.

"Florida, because it's so far east of ground zero, is behind the eight ball in national attention," Naman said. "The chemicals and crude as they come across the Gulf also mutate in ways that the NOAA and [Environmental Protection Agency] were slow to put their finger on, so it's been easier to ignore us."

Charlie Christ, who was Florida's governor at the time of the spill, didn't do much to appropriate funds to defend the state against the coming slick. Instead, he got \$35 million from BP to spend on a huge advertising campaign to boost tourism in the heat of the spill, the Palm Beach Post and numerous other Florida media reported.

The TV blitz that began in May 2010 featured stock images of happy beachgoers and repeated phrases like "the coast is clear" and "Northwest Florida is open for business." Many, said Springstead, believed the ads, only to return home with spill related illnesses.

But sick Floridians remained the most overshadowed, both in the wake of the ads and the heavy focus on Louisiana.

"All the folks over in Louisiana, they got oiled everywhere and had so many problems that we weren't taken into consideration by comparison," Peter Frizzell, 60, a retired musician and citizen-expert on the BP disaster from Cedar Key, Florida told me. "So we, over here in Florida, were kind of the red-headed step children of the spill."

Medical nightmares started on the the 'Forgotten Coast'

Before and since Springstead's original trip to Cat Point, she has collected medical records dating back to 2011 that indicate more than 350 Floridians are suffering with ailments associated with exposure to oil and Corexit.

But, she says hundreds more cases have been misdiagnosed by ER doctors unable to connect the

dots. Still more would-be patients don't seek care because they're too poor to afford medical insurance. Yet others are simply too scared to make waves.

One product of a baffled medical community is Frizzell himself, who spent months shuttling his bleeding lungs to Shands Hospital at the University of Florida, 60 kilometers from his home. Frizzell was hit head on by a Corexit dump from what he identified as a C-130 military aircraft in March 2011 while kayaking off Cedar Key – nine months after the dispersant drops were supposedly stopped. The University of Florida received millions in research grants from BP.

Frizzell turned to the university's hospital ER when he started coughing up blood. The doctors turned up nothing and said he was "okay."

"When they said that, I held up my hand and coughed a bunch of blood onto it and held it out to them," said Frizzell. "And I asked, 'does that look okay?'"

'Son, your lungs blew up'

During further ER visits, Frizzell's physicians pursued a cancer diagnosis. While waiting for yet another MRI one of the hospital staff approached him with an October 2010 article published by Al Jazeera – the first to break the connection between Corexit use and myriad life-threatening health issues along the Gulf after the blowout.

"[The staff member] looked at me and said, 'you were exposed to this stuff,'" said Frizzell. One of the article's sources was Springstead, and she and Frizzell eventually met and got him a medical opinion that connected his symptoms to the spill.

The new doctor looked at Frizzell's MRIs and said "son, your lungs blew up.' More specifically, what he meant is that the red blood cells in my lungs had exploded," Frizzell said.

This, say Springstead and Dr. Susan Shaw, a physician with the State University of New York at Albany, is a hallmark symptom of Corexit toxicity. Unfortunately, it's only one of several dozen more that could begin to turn up.

For the moment, Frizzell's counting himself lucky. He's dug into research, and with Springstead, started publicly asking the questions local doctors won't. Their inquiries have created a critical mass of other sufferers in Florida – and drawn significant intimidation along the way.

One of his friends died of cancer a mere 18 months after getting soaked in 2011 by another C-130 spaying Corexit over the same waters where Frizzell was hit.

Dead calm

As Springstead, Kristensen and I leave the Apalachicola zip code, we pass abandoned, tumble down fisheries are in bad health too. We kick around some of the abandoned oyster processing facilities, which are so far out of commission they no longer even bear the stench of rotting seafood.

The expanses of water on either side of us are dead calm. No fishing boats, or any other boats for that matter, are in evidence anywhere.

More haunting is that there's not a single seabird to be seen, not even seagulls with their dumpster raiding habits. It seems that whatever there would have been to eat has long departed.

Why, exactly, is not clear. The Gulf has been impacted by multiple stressors. Is it the oil, or is it the oil in combination with other anthropogenic impacts in combination with the oil?



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