

Dan Rather Reports

Episode Number: 521

Episode Title: A Gulf in Understanding

Description: What will happen to all that oil? With millions of gallons of crude spilling into the Gulf of Mexico, scientists rush to understand the effects of this massive uncontrolled undersea experiment. Also, four generations of a fishing family and an award winning photographer share their views on the environmental disaster.

DAN RATHER (ON CAMERA)

GOOD EVENING. WE COME TO YOU TONIGHT FROM ALONG THE GULF COAST. THE UNDERWATER OIL BLOWOUT, OUT ON THE GULF OF MEXICO HAS CAPTURED THE NATION'S ATTENTION, AND EVERYONE WANTS ANSWERS. BUT ONE OF THE STRIKING AND FRIGHTENING REALITIES OF THIS DISASTER IS HOW LITTLE WE KNOW.

THERE IS AN UNCONTROLLED EXPERIMENT UNDERWAY OUT IN THE GULF OF MEXICO, AND A BIG ONE. IT'S AN EXPERIMENT THAT NO ONE WANTED TO PERFORM AND ALMOST EVERYONE FEARS THE RESULTS.

RATHER (VOICE OVER)

THE GULF OF MEXICO IS THE NINTH LARGEST BODY OF WATER IN THE WORLD. AND IT'S THOUGHT TO BE ABOUT 300 MILLION YEARS OLD. IT HAS BEEN CALLED THE "MEDITERRANEAN OF THE AMERICAS," A RICH SEA TEAMING WITH LIFE.

OIL IS A NATURAL PART OF THE GULF'S ECOSYSTEM. IT SEEPS FROM THE OCEAN FLOOR, AND THERE ARE MICROSCOPIC CREATURES IN THESE WATERS THAT HAVE EVOLVED TO VIEW HYDROCARBONS AS FOOD.

BUT THE MILLIONS OF GALLONS OF GUSHING OIL AND GAS FROM A BLOW-OUT WELL HAVE THROWN THINGS OUT OF BALANCE, AND SCIENTISTS ARE RUSHING TO UNDERSTAND JUST HOW BAD THE DAMAGE IS. IN MANY WAYS, THIS DISASTER HAS NO PARALLEL.

SOME HAVE POINTED TO THE 1989 EXXON VALDEZ SPILL IN ALASKA. ON AN INVESTIGATIVE TRIP THERE A FEW YEARS BACK, WE COULD STILL FIND OIL JUST BELOW THE SURFACE OF THE COASTLINE. BUT SCIENTISTS SAY THOSE

FRIGID NORTHERN WATERS AND THE NATURE OF THAT SURFACE SPILL ARE COMPLETELY DIFFERENT FROM WHAT IS HAPPENING NOW IN THE GULF.

BEFORE THE EXXON VALDEZ, ALASKA'S PRINCE WILLIAM SOUND WAS LARGELY PRISTINE. BUT MUCH OF THE GULF'S ENVIRONMENT HAS LONG BEEN THREATENED, PARTICULARLY THE WETLANDS. EARLIER THIS SPRING, BEFORE THE BIG BLOWOUT WE TRAVELED TO LOUISIANA TO REPORT ON THE DISAPPEARING COASTLINE. THE MISSISSIPPI RIVER, ENGINEERED BY MAN FOR SHIPPING AND FLOOD CONTROL, NO LONGER PROVIDES THE MUD THAT REPLENISHES THESE COASTAL MARSHES.

DR. BOB SHIPP

Things will reach a tipping point, if you destroy so much marsh, if you destroy so much...

RATHER (VOICE OVER)

DR. BOB SHIPP IS CHAIRMAN OF THE DEPARTMENT OF MARINE SCIENCES AT THE UNIVERSITY OF SOUTH ALABAMA AND CHAIR OF THE GULF OF MEXICO FISHERY MANAGEMENT COUNCIL. HE SAYS SPECIES CAN BOUNCE BACK, BUT ONLY IF THEY HAVE A PLACE TO COME BACK TO.

DR. SHIPP

The scientific community I think is in unison with this --with this strategy and that is: do what you can to save the -- the habitat.

RATHER (VOICE OVER)

MUCH OF BP AND THE GOVERNMENT'S EFFORTS SO FAR HAVE BEEN DIRECTED AT KEEPING OIL OUT OF THESE FRAGILE WETLANDS. YET SOME MARSHLAND HAS ALREADY BEEN CONTAMINATED, DESPITE THE HUNDREDS OF MILES OF BOOM DEPLOYED TO CORDON OFF THE SHORE.

BUT KEEPING THE OIL OUT IN THE OCEAN IS SUPPOSED TO BE A TOP PRIORITY AND IT'S THE RATIONALE BEHIND ANOTHER CONTROVERSIAL DECISION: THE USE OF THOSE CHEMICALS CALLED "DISPERSANTS" THAT WE'VE BEEN HEARING SO MUCH ABOUT.

THE DAMAGE THAT OIL CAN DO TO WETLANDS IS WELL KNOWN. BUT MANY SCIENTISTS ARE MORE CONCERNED ABOUT WHAT THEY DON'T KNOW - WHAT EFFECT THE OIL AND DISPERSANTS WILL HAVE IN THE OPEN OCEAN.

DR. SHIPP

All the media has been focused on the estuaries and the marshes and the oil getting in and the pelicans and all the rest of it and obviously that's of great concern. But what's not being seen, what's going on beneath the surface, that's what's of the greatest concern to me and my colleagues. There --there is so much unknown about this, but it's all gonna be bad.

RATHER (VOICE OVER)

SINCE THE BLOWOUT BEGAN, ONE OF THE MOST CONTENTIOUS ISSUES HAS BEEN EXACTLY HOW MUCH OIL IS ESCAPING FROM THE DEEP - AND EXACTLY WHERE IT'S GOING. ESTIMATES OF THE FLOW OF OIL HAVE RANGED FROM 5,000 TO 60,000 BARRELS A DAY. EARLY CALCULATIONS WERE MADE BY EXAMINING THE VISIBLE OIL ON THE SURFACE OF THE OCEAN. "OIL FLOATS," THAT WAS BPS CLAIM. ALL THE OIL ESCAPING FROM THE WELL WOULD QUICKLY RISE TO THE TOP. BUT NOT EVERYONE AGREED WITH THAT THINKING. WHAT IF SOME OF THE OIL WAS STAYING BELOW THE SURFACE - MAYBE EVEN THOUSANDS OF FEET BELOW THE SURFACE - OUT OF SIGHT AND UNACCOUNTED FOR?

DR. VERNON ASPER HAS BEEN STUDYING THE DEEP WATERS OF THE GULF FOR YEARS. HE'S A PROFESSOR OF MARINE SCIENCE AT THE UNIVERSITY OF SOUTHERN MISSISSIPPI AND WHEN THE OIL BLOWOUT BEGAN, HIS TEAM SHIFTED THEIR FOCUS TO INVESTIGATE THE CONSEQUENCES OF THIS UNPRECEDENTED EVENT. BUT HE ALSO KNEW THAT IT ISN'T EASY TO GET ANSWERS THOUSANDS OF FEET BELOW THE SURFACE.

DR. VERNON ASPER, PROFESSOR OF MARINE SCIENCE AT THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Traditional ocean research has been likened to trying to understand a -- a forest by flying over it at night in a blimp and lowering a hook, and you're going to pull back a leaf or a twig or maybe a --a rock if you're lucky. You're not going to pull back a squirrel or a bear. It's very difficult. When we're out there doing oceanography using traditional methods, we take this package of sensors and we lower it down and bring it back and see what we get. Sometimes we don't get much. Sometimes we get a lot.

RATHER (VOICE OVER)

DR. ASPER SHOT THIS VIDEO IN EARLY MAY ABOARD THE RESEARCH VESSEL PELICAN. IT WAS A FEW WEEKS INTO THE DISASTER, AND CONFUSION REIGNED. NO ONE KNEW SIZE OF THE GUSHER AND MOST OF THE NATION'S ATTENTION WAS FOCUSED ON THE OIL SLICKS ACCUMULATING AT THE SURFACE. THAT'S WHEN DOCTOR ASPER AND HIS COLLEAGUES DROPPED THEIR SENSORS INTO THE UNKNOWN LOOKING FOR THE ORGANIC SIGNATURE OF OIL.

DR. ASPER

This is the --the organic molecule signature and that's what the ocean typically looks like. Very low, this is down and back. We saw these signals down - you can see those are down at 1,100, 1,200, 1,300 meters. So you multiply that by three and something for feet. Really big signals. Typically if you're studying anything in the open ocean they -- the signals look like that, and sometimes you'll see a little blip and you'll say, "Hey, look look look, there's something, there's something." When you see something like this it's like "Wow, look at that." I think the expression we used was "There's the smoking gun. We've found -- we've found the oil."

RATHER (VOICE OVER)

WHAT THEY FOUND WERE GIANT CLOUDS OF OIL, SOME AS DEEP AS THREE THOUSAND FEET BELOW THE SURFACE. THEIR FINDINGS WERE INITIALLY WRITTEN OFF - NOT ONLY BY BP, BUT BY THE GOVERNMENT AGENCY THAT FUNDED THEIR EXPEDITION, THE NATIONAL OCEANOGRAPHIC AND ATMOSPHERIC ADMINISTRATION, OR NOAA.

RATHER

You come back and you say, "We've had this eureka moment. We -- look here, we see this stuff. It's a -- it's a oil polluted underwater cloud of things, what maybe you called at that time a plume. Did, uh - was that pretty much, "Oh well, this guy doesn't know what he's talking about?"

DR. ASPER

A lot of people were very skeptical about it, and with good reason, because this is something that had not been reported before. And so in order to prove it, we had to take samples, and we had to take them back to laboratories for analysis.

RATHER (VOICE OVER)

FURTHER ANALYSIS VERIFIED THAT THERE WAS OIL IN THOSE DEEP WATER SAMPLES. AND IN THE PAST FEW WEEKS, OTHER RESEARCH VESSELS HAVE CONFIRMED THE EXISTENCE OF HUGE UNDERWATER CLOUDS OF OIL, MOVING THROUGH THE DEEP.

RATHER

What happened to the contention, in fact BP still contends that --that oil floats, that all of it's coming up to the surface?

DR. ASPER

Oil does float, there's no question about that. But not all oil floats. These droplets are really, really, really, small. If you think about a --a cloud in the air, a cloud - a cumulus cloud - is composed of little tiny droplets of water. And water of course doesn't float in the air. Water

sinks. But those little tiny droplets of --of moisture, of water in a cloud stay up there because of a balance of forces, and because they are really, really, really, small. We think similar processes are going on in these clouds under water. It starts off with oil and gas coming out of that well really, really rapidly. And it kind 'a like-- it-- it atomizes and forms into these little, tiny particles. And they-- because they're so small, they-- they rise up basically with-- with momentum. They rise up until they s-- stop because of a-- a change in buoyancy and because they just reached the-- a level where they're no longer as buoyant. And then they just sort of spread out, and that happens to be right at 3,000 feet.

RATHER

Why should anyone be concerned about this-- what you call now a cloud of oil that's well, well below the surface. Why should we be concerned about it?

DR. ASPER

This deep oil has a couple of potential negative impacts. One is that, as the microbes that live down there decompose it - and there are bacteria that are down there that are just designed to do this. Well these bacteria, as they decompose the oil and the gas in these clouds, they're actually using oxygen. As they're --they're breathing they consume oxygen. And so the oxygen levels at these-- in these depths are fairly low.

RATHER

And does that affect the food chain?

DR. ASPER

Well, it affects anything that lives down there because anything that lives down there needs-- needs oxygen.

RATHER (VOICE OVER)

IN THE FACE OF MOUNTING EVIDENCE, BP HAS ACCEPTED THAT WELL; THERE IS SOME OIL BELOW THE SURFACE. BUT BP CONTINUES TO DISPUTE THAT THE DEEP OIL COULD HAVE ANY SIGNIFICANT IMPACT ON THE UNDERWATER ECOSYSTEM.

DR. ASPER

They're saying that this is a very small amount of oil and it's just trivial. And, on one hand, they're right. The concentrations here are very, very small relative to what you see in the --in the slick at surface. They're in the in parts per billion range, per billion. So that's a very small concentration. But if you multiply a small concentration times a very large field of this oil, it could end up being a lot of oil. And that's one of the things we just don't know.

RATHER (VOICE OVER)

IN ADDITION TO CONTINUING UNCERTAINTY ABOUT THE EXTENT OF THE UNDERWATER OIL, ANOTHER BIG QUESTION IS WHAT ROLE CHEMICAL DISPERSANTS MIGHT BE PLAYING IN THE FORMATION OF THESE CLOUDS.

DISPERSANTS ARE A STANDARD TOOL FOR COMBATING OIL SPILLS. BUT THE AMOUNT BEING USED IN THIS GUSHER HAS RAISED ALARM. THIS VIDEO WAS PROVIDED BY THE U.S. COAST GUARD AND SHOWS AIRPLANES APPLYING DISPERSANTS ON THE SURFACE. THE IDEA IS TO BREAK UP THE OIL INTO SMALLER PARTICLES SO THAT THE MICROBES IN THE WATER CAN DECOMPOSE THEM MORE EASILY.

BUT BP HAS TAKEN THE USE OF DISPERSANTS INTO UNCHARTED WATERS. FOR WEEKS NOW, THE COMPANY HAS BEEN RELEASING HUNDREDS OF THOUSANDS OF GALLONS AT THE SOURCE OF THE LEAK, ALMOST A MILE BELOW THE SURFACE. DISPERSANTS HAVE NEVER BEFORE BEEN USED AT SUCH DEPTHS.

DR. ASPER

Why are they injecting dispersants at depth? What effect are they hoping to accomplish with that? When we heard that they were doing it, we said, "Well"-- I mean, this was our working hypothesis at the time-- "That ought to keep the oil down below. It ought to prevent it from coming to the surface at all." And if that's the case, we ought to be able to go and find it. And based on that hypothesis, we did go and find these clouds. Now, are they caused by the dispersants? Would they be there without the dispersants? Again, we don't know.

RATHER (VOICE OVER)

THERE'S A LOT THAT'S UNKNOWN ABOUT DISPERSANTS. THE PRIMARY DISPERSANT BEING USED IN THE GULF GUSHER IS CALLED COREXIT 9500. FOR WEEKS, THE COMPANY THAT MAKES IT, NALCO, REFUSED TO RELEASE A FULL LIST OF ITS INGREDIENTS, CLAIMING THAT THE INFORMATION WAS PROPRIETARY. THE INGREDIENTS WERE RECENTLY POSTED TO THE WEBSITE OF THE ENVIRONMENTAL PROTECTION AGENCY, BUT THEIR RELATIVE AMOUNTS WERE NOT INCLUDED.

THE CONCERNS ABOUT DISPERSANTS ARE NOT NEW. DR. CARYS MITCHELMORE, AN AQUATIC TOXICOLOGIST AT THE UNIVERSITY OF MARYLAND, HAS BEEN STUDYING THEIR EFFECTS FOR YEARS.

DR. CARYS MITCHELMORE, AQUATIC TOXICOLOGIST AT THE UNIVERSITY OF MARYLAND

We simply don't know very much about the toxicity of dispersants and dispersed oil to some very big groups of species.

RATHER (VOICE OVER)

TO BEGIN FILLING SOME OF THOSE DATA GAPS, DR. MITCHELMORE HAS CONDUCTED STUDIES ON THE IMPACT THAT DISPERSANTS HAVE ON ONE OF THE MOST IMPORTANT AND SENSITIVE SET OF SPECIES IN THE MARINE ECOSYSTEM: CORAL. SHE USES A PARTICULAR SPECIES OF SOFT CORAL WHOSE NATURAL PULSING MAKES IT EASY TO SEE DIRECTLY THE EFFECTS OF TOXIC CHEMICALS.

DR. MITCHELMORE

This is one of our controls. Oh wow.

MALE VOICE

Oh wow.

DR. MITCHELMORE

He looks nice.

MALE VOICE

That's what the coral should look like.

DR. MITCHELMORE

Yeah, they look great.

RATHER (VOICE OVER)

DR. MITCHELMORE AND HER TEAM EXPOSE THE HEALTHY CORAL TO VARYING DOSES OF COREXIT 9500, THE DISPERSANT BEING USED BY BP. AT THE HIGHEST DOSE, THE EFFECTS CAN BE SEEN RIGHT AWAY.

DR. MITCHELMORE

You just dropped him in there. He's pulsing a little bit, but look he's starting to fall over already. Wow, and that's only after what, less than a minute?

RATHER (VOICE OVER)

BUT AFTER TWENTY-FOUR HOURS, EVEN LOWER DOSES HAVE A DRAMATIC IMPACT.

DR. MITCHELMORE

This is less than one drop, and wow. He's so small.

MALE VOICE

It is -- it is dead now for sure.

DR. MITCHELMORE

I mean these all started at the same size. This is our lowest concentration of dispersant that we've used. It's clearly impacting them, even at this low level. This is the first day. They have four days of this exposure to go.

RATHER (VOICE OVER)

WHEN THE BRITISH GOVERNMENT TESTED COREXIT, THEY FOUND THAT FOR CERTAIN SHORELINE SPECIES, IT WAS MORE TOXIC THAN OIL. THE UNITED STATES RESTRICTS COREXIT'S USE TO DEEP WATERS MORE THAN THREE MILES FROM SHORE.

THOSE WHO DEFEND THE USE OF DISPERSANTS MAKE THESE POINTS: DISPERSANTS, THEY SAY ARE HIGHLY DILUTED IN THE OPEN OCEAN AND BREAK DOWN QUICKLY. BUT DR. MITCHELMORE SAYS ANOTHER DANGER OF DISPERSANTS IS WHAT THEY DO TO THE OIL ITSELF.

DR. MITCHELMORE

This is just oil and seawater. This here is the same amount of oil that has dispersant added to it.

RATHER (VOICE OVER)

SHE LET THE TWO SOLUTIONS SETTLE FOR A FEW MINUTES AND THEN SHOWED US THE RESULTS. IN THE ONE WITHOUT A DISPERSANT, THE OIL QUICKLY FORMED A SLICK AT THE SURFACE. BUT WITH A DISPERSANT, SMALL DROPLETS OF OIL STAYED SUSPENDED THROUGHOUT THE WATER.

SOME PARTS OF THE GULF ARE ALREADY LOOKING VERY MUCH LIKE DR. MITCHELMORE'S LAB SAMPLE.

THIS IS VIDEO SHOT BY DR. KEVIN BOSWELL OF LOUISIANA STATE UNIVERSITY. HE PUT A CAMERA UNDERNEATH AN OIL SLICK ABOUT 12 MILES OFF THE COAST. AS THE CAMERA IS LOWERED, YOU CAN SEE SMALL BROWN PARTICLES, WHICH DR. BOSWELL IS ALMOST CERTAIN ARE OIL. THE FLURRY OF PARTICLES CONTINUES TO A DEPTH OF OVER 200 FEET. WHEN HE GAVE US THIS VIDEO, HE SAID HE'D NEVER SEEN ANYTHING LIKE IT.

BREAKING THE OIL INTO THESE DROPLETS IS ONE OF THE MAIN GOALS OF DISPERSANT. SUPPOSEDLY, THE OIL DETERIORATES MORE QUICKLY THAT WAY. BUT SOME SCIENTISTS FEAR THAT SOMETHING ELSE MIGHT HAPPEN FIRST.

DR. MITCHELMORE

Those little oil droplets, zooplankton, for example, think that they're food. And so they will eat them and accumulate the oil. So essentially, what can happen is that you're moving the --the oil up the food chain to potentially sea food species that we --we would consume.

RATHER (VOICE OVER)

HOW LIKELY IS IT THAT OIL WILL ENTER THE FOOD CHAIN AND CONTAMINATE SPECIES THAT WE EAT? RIGHT NOW, SCIENTISTS SIMPLY DON'T KNOW.

DR. MITCHELMORE

As a toxicologist, there's three main things that I need to know before defining risk. First you need to know what organisms are present, the specific life stages of those organisms. You also need to know the concentration of the oil and the form of the oil. But then you need to know the duration of the exposure.

RATHER (VOICE OVER)

WITH TENS OF THOUSANDS OF BARRELS OF OIL GUSHING INTO THE GULF ON A DAILY BASIS, SCIENTISTS DON'T KNOW ANY OF THOSE THINGS.

DR. ASPER

If you get that oil into the food chain, it's potentially gonna cause all kinds of problems. For one thing, it's-- it's got some toxicity to it. So, if you have the little, juvenile fish out there, the blue-fin tuna and other fish like that, and if they're looking for something to eat and they see these little, tasty-looking globs of oil, they may be eating them and being poisoned by them. We don't know. This is one of the many, many things that we just don't know.

RATHER

Should I be worried about that?

DR. ASPER

Um, I would say no, you should personally not be worried about it because everybody else in all in all of the resource management agencies, they are extremely worried about that.

DR. SHIPP

Un --un -- unfortunately, the use of dispersants has scattered this stuff many, many, many layers deep. When the oil is on the surface, at least you can deal with it. The absolutely worst decision, in my mind, that was made is to add dispersants and hide it, you know, and hide it and put it in the water column where we have absolutely no idea what it's going to do.

DR. MITCHELMORE

In the open ocean you really don't see what you're affecting. Those organisms will simply die, fall to the bottom. Your not -- your not gonna see that -- or if they don't die they can be impacted in all sorts of sublethal ways. Their growth can be impacted, they might not reproduce, it can change their -- their behavior.

DR. SHIPP

The Gulf of Mexico at some areas is 7000 feet deep, but the upper 600 feet, or the upper 1000 feet supports a tremendous diversity of organisms. That's really the foundation of the Gulf of Mexico and its productivity. And --and we know so little about that, but what we do know is that those creatures, every single night, they make a migration from the depths, from 500 feet, 1000 feet, all the way to the surface. In the process, they're going to be passing through these concentrations of dispersed oil. The expanse of that impact we just have absolutely no idea at all.

RATHER (VOICE OVER)

DR. ASPER AGREES THAT MUCH IS UNKNOWN ABOUT DISPERSANTS, BUT HE THINKS THAT THE OIL HAD TO BE KEPT OFF THE MARSHES AT ALL COSTS.

DR. ASPER

The --the worst outcome is the oil in the marsh. Just about anything you can do, and that includes skimming and burning and dispersants and anything you can do offshore, is probably better than getting it on --on shore to those marshes. If --if I were in charge, I would probably use dispersants. They're -- they're the lesser of two evils in --in my opinion.

RATHER

You have concerns about 'em, but you're honest enough to say-- candid enough to say it's probably the best of bad options?

DR. ASPER

That's what I would say, yeah.

RATHER (VOICE OVER)

THE FACT THAT SCIENTISTS DISAGREE ABOUT THE USE OF DISPERSANTS HIGHLIGHTS HOW LITTLE IS KNOWN ABOUT HOW THE OIL GUSHER IS PLAYING

OUT. MUCH OF THE GULF ECOSYSTEM REMAINS A MYSTERY, AND THAT BRINGS US BACK TO CORAL.

CORAL REEFS ARE SOMETIMES CALLED THE “RAINFORESTS OF THE SEA” AND SCIENTISTS ESTIMATE THAT THEY SUPPORT A QUARTER OF ALL MARINE LIFE.

MOST OF US ARE FAMILIAR WITH SHALLOW WATER REEFS LIKE THIS ONE, OFF THE COAST OF FLORIDA. SOME OF US HAVE EVEN DIVED DOWN TO SEE UP CLOSE THE REEFS’ BREATHTAKING COLORS AND THE DIZZYING NUMBER OF MARINE SPECIES THAT CALL THE REEFS HOME. MUCH REMAINS UNKNOWN ABOUT SHALLOW WATER CORAL, BUT DEEPWATER CORAL REEFS ARE EVEN MORE OF A MYSTERY. LOCATED HUNDREDS OF METERS BELOW THE SURFACE, THEY ARE WELL BEYOND THE REACH OF DIVERS. THEY CAN ONLY BE STUDIED FROM REMOTELY OPERATED SUBMERSIBLES, WITH ROBOTIC ARMS TO TAKE SAMPLES.

THESE IMAGES WERE CAPTURED ON AN EXPEDITION LAST FALL LED BY DR. ERIK CORDES OF TEMPLE UNIVERSITY. THEY REPRESENT ONE OF HIS TEAM’S BIGGEST DISCOVERIES YET. TO FIND THIS SITE, THEY USED THE SAME MAPS OF THE OCEAN FLOOR THAT COMPANIES LIKE BP USE TO LOOK FOR OIL DEPOSITS.

DR. ERIK CORDES

It's an area that is about 200 to 250 meters across, and is just continuous coral. A variety of different species. Lofelia is the most common one, that's a very close relative of the corals that are in shallow water. But there are also black corals, and a variety of other soft corals and sea fans that create this really beautiful habitat, and all these different shapes and colors that are really reminiscent of a shallow water coral reef.

RATHER (VOICE OVER)

IT’S THE SECOND LARGEST DEEP SEA CORAL REEF IN THE GULF OF MEXICO. IT’S LOCATION: TWENTY MILES FROM THE SITE OF THE DEEPWATER HORIZON BLOWN OUT GUSHER.

DR. CORDES

One of our primary concerns is that there are plumes of oil and possibly a mix of oil and dispersant that are moving around at depth. And the depths of some of those plumes, where they've been predicted to be, coincides with the locations of a lot of our best sites.

RATHER (VOICE OVER)

IN HIS LAB, DR. CORDES HAS SAMPLES OF HEALTHY CORAL THAT WERE COLLECTED FROM THE SEA FLOOR. THEY MAY SERVE AS A BASELINE AGAINST

WHICH HE WILL MEASURE THE IMPACT OF THE GUSHER ON THE DEEPWATER REEFS.

DR. CORDES

I would love on our first trip down to the Gulf to send us ROV down, to send a sub down, to have a camera on the sea floor, to turn it on and see everything exactly how we left it last year. That's really what I hope. It won't make a very interesting paper, but it will be the best result that I could possibly hope for.

RATHER (VOICE OVER)

SCIENTISTS' CONCERN FOR DEEPWATER CORAL ISN'T JUST A MATTER OF PRESERVING A BEAUTIFUL HABITAT. JUST LIKE RAINFORESTS ON LAND, CORAL REEFS HAVE PROVEN TO BE A RICH SOURCE OF SPECIES WITH MEDICINAL PROPERTIES.

DR. CORDES

In shallow water coral reefs, a lot of our best anticancer agents, a lot of natural antibiotics have come out of the research in those reefs. And that research is expanding into deep water reefs now. We're still in the exploratory phase of these deep water ecosystems. We don't know what species are there. We have no idea what resources we might be losing right now before they're even discovered.

RATHER (VOICE OVER)

ANOTHER HABITAT THAT COULD BE IMPACTED BY THE UNDER SEA GUSHER IS MUCH CLOSER TO THE SURFACE.

DR. SHIPP

Sargassum, to most people, they've probably never even heard of it-- unless maybe some fleeting reference to the Sargassum Sea in the Atlantic. But the Gulf of Mexico has the second largest concentration of sargassum anywhere in the world.

RATHER (VOICE OVER)

AND THAT HAS SCIENTIST LIKE DR. SHIPP VERY WORRIED. SARGASSUM IS A TYPE OF BROWN ALGAE. FAR OUT IN THE GULF, FLOATING ISLANDS OF SARGASSUM CAN STRETCH FOR MILES. THEY ARE A SANCTUARY FOR YOUNG FISH, A SOURCE OF SHELTER AS WELL AS A HOME TO OTHER SPECIES THAT JUVENILE FISH FEED ON.

DR. SHIPP

Sargassum is the sea grass, the marsh of the open ocean. It's the habitat, the crucial early life stage habitat for practically every mid-ocean organism that we know of.

RATHER (VOICE OVER)

SO WHAT HAPPENS WHEN THESE FISH NURSERIES COMES INTO CONTACT WITH OIL?

JIM FRANKS, SCIENTIST AT THE UNIVERSITY OF SOUTHERN MISSISSIPPI GULF RESEARCH LAB

I think the contact of young fish and oil is just not a good mix.

RATHER (VOICE OVER)

JIM FRANKS IS A SCIENTIST AT THE UNIVERSITY OF SOUTHERN MISSISSIPPI GULF RESEARCH LAB, WHERE HE STUDIES THE EARLY LIFE STAGES OF FISH IN THE GULF OF MEXICO. HE HAS BEEN PARTICULARLY INTERESTED IN SARGASSUM.

FRANKS

We've conducted studies for two or three years in the Northern Gulf of sargassum habitat. And we were able to document over 120 species of fish that actually live there, in one life phase or another. But we were primarily interested in the larvae.

RATHER (VOICE OVER)

ONE SPECIES OF LARVAL FISH THAT JIM FRANKS FOUND IN THE SARGASSUM WAS BLUEFIN TUNA.

FRANKS

To give you an idea of what the young tuna look like, this is from last year, from one of our samples from last year of about 50 bluefin tuna larvae, all of them somewhere between 5 and 10 days old. This is the young bluefin that reaches a size of over a ton.

RATHER (VOICE OVER)

BLUEFIN CAN ALSO MEASURE UP TO FOURTEEN FEET IN LENGTH AND LIVE FOR MORE THAN 30 YEARS. THE GULF OF MEXICO IS ONE OF ONLY TWO PLACES IN THE WORLD WHERE THIS FISH REPRODUCES. ADULT BLUEFINS ARE HIGHLY SOUGHT AFTER AS A SOURCE FOR HIGH GRADE SUSHI, AND OVERFISHING HAS CAUSED THE POPULATION TO PLUMMET. NOW THEY FACE ANOTHER THREAT. THE GULF GUSHER HAPPENS TO COINCIDE WITH THE PEAK SPAWNING SEASON FOR MANY SPECIES OF FISH, INCLUDING THE BLUEFIN.

DR. SHIPP

The only sargassum that will come through this is that that is in areas where the floating oil doesn't reach it. Because once the oil reaches it, it's going to adhere to it and it's going to knock it right out. And when the sargassum goes, everything that's bound to it, that's dependent on it, will go as well.

RATHER (VOICE OVER)

ON HIS EXPEDITION THIS YEAR, JIM FRANKS SAW THAT THREAT FIRST HAND.

FRANKS

Here's just a clump that I pulled out of the water and you can kinda see how that looks. This is the beautiful sargassum here but it's been totally infused with oil. It'd be hard to imagine that anything would do very well, any young marine life would do very well living in a situation like that.

RATHER (VOICE OVER)

WHILE SOME SCIENTISTS ARE STUDYING THE GUSHER FROM UP CLOSE, OTHERS ARE RUSHING TO STUDY THE BIG PICTURE.

RICHARD BROWN

Time to time the current does come through here and go between Cuba...

RATHER (VOICE OVER)

WE VISITED RICHARD BROWN AND DUANE ARMSTRONG AT THE NASA APPLIED SCIENCE AND TECHNOLOGY PROJECT OFFICE AT THE STENNIS SPACE CENTER IN MISSISSIPPI. NASA RAMPED UP ITS STUDY OF THE GULF OF MEXICO IN THE WAKE OF HURRICANE KATRINA, USING THEIR SATELLITE TECHNOLOGY AND EXPERTISE TO BETTER UNDERSTAND HOW NATURAL AND MAN-MADE FORCES WERE CHANGING THE REGION. WHEN THE OIL BLOWOUT HAPPENED, THEY WERE READY.

RATHER

Deep water horizon here, what is this long line?

BROWN

That's actually a streamer of sheen that's going out. It's probably caught in the current.

RATHER

Sheen as in oil sheen?

BROWN

Oil sheen. Correct, yeah.

DUANE ARMSTRONG

One of the first things that we did was we-- took all of the sensors that we had available to come in and make sure that we could get-- a solid baseline dataset before any oil made impact. And then, we're coming back periodically and getting more data, so that over time, we'll be able to detect changes and try to determine what part of that was due to the oil, and possibly, you know, how well remediation efforts work in the future.

RATHER (VOICE OVER)

THEY CAN TRACK WETLAND DESTRUCTION, CHART THE PATHS OF HURRICANES AND EVEN MEASURE THE OXYGEN LEVELS IN THE WATER.

ARMSTRONG

There's already been some preliminary indications that dissolved oxygen levels are starting to decrease.

RATHER (VOICE OVER)

THEY ALSO HAVE DATA ON ALL THE OIL DRILLING ACTIVITY IN THE GULF.

RATHER

All of this, these are wells?

BROWN

That's why looking from Louisiana coast at night, quite often you can see the lights out on the horizon.

RATHER (VOICE OVER)

BUT FOR ALL THEY CAN SEE AND MEASURE, THE OCEAN DEPTHS ARE A FRONTIER SCIENCE IS JUST BEGINNING TO UNDERSTAND. A LITTLE.

RATHER

This is like the exploration of space, and the study of space and the cosmos, sort of turned upside down and under water.

BROWN

Yeah, it's-- it's amazing. We-- you know have viewed the moon and Mars-- with telescopes and space born assets for so long. We know so much about 'em. Unfortunately-- well, satellites aren't able to look down in through to the bottom of the-- the ocean, or the Gulf, as it will here. So, we know a lot more about space than we know-- do about lookin' in the bottom of the oceans, so.

RATHER

Put an exclamation point on that. We know a lot more about space and the cosmos, than we do about what's below the surface of the ocean, and the Gulf. When you look down from space any thoughts as you look at these pictures day in and day out, hour in and hour out?

ARMSTRONG

Well, it sort of gives you a-- a broader perspective on how much is potentially at risk.

DR. SHIPP

It's devastating to someone, you know, not only a professional marine scientist, but my life here, my kids, my grandkids, our way of life is all oriented toward the water, that's why we live here. And -- and it's very difficult.

RATHER

You've lived here, what, quarter of a century?

DR. ASPER

Right.

RATHER

Did you ever think you'd live to see the day when this kind of thing happened?

DR. ASPER

No, no, certainly didn't. If-- our marine environment is tarnished is tainted, for a long time, that's going to affect not-- not just everybody's like-- livelihood, because BP will-- will pay. And you'll get-- you'll get money in your pocket. The fishermen and the-- and the-- and the restaurants, whatnot, they'll be compensated. But, it's more like the-- the social fabric of this area is dependent on the water. It's what we're all about. It's what our history is all about. And you take that away, and you're really-- you really hi-- hit us in the gut.

RATHER (ON CAMERA)

WHEN WE RETURN TO THIS SPECIAL REPORT ON THE ENVIRONMENTAL CATASTROPHE IN THE GULF, WE'LL GIVE YOU A DIFFERENT VIEW - A DIFFERENT PERSPECTIVE. SO STAY HERE WITH US.

RATHER (ON CAMERA)

ALL ALONG THE GULF COAST THIS ENVIRONMENTAL DISASTER IS RAISING COMPLEX QUESTIONS. WHAT CAN WE DO, WHAT SHOULD WE DO TO SAVE THIS FRAGILE LAND AND SEA, BUT BEHIND THAT IS AN EMOTIONAL CURRENT RUNNING THROUGH HERE THAT IS MUCH MORE RAW.

RATHER (VOICE OVER)

GO TO A COMMUNITY LIKE ORANGE BEACH, ALABAMA. IT'S A PLACE WHERE THE LOCAL ECONOMY IS TIED TO TOURISM, AND THE WATER. THERE ARE SOME FAMILIES TAKING IN THE SUN AND SAND, BUT THEY'RE NOT THE ONLY ONES HITTING THE BEACH. THE EFFECTS OF THE UNDER SEA GUSHER ARE WASHING UP ON SHORE. BUT OFFICIALS ARE MORE WORRIED BECAUSE THEY JUST FOUND SMALL AMOUNTS OF OIL THAT MADE IT PAST THE BOOMS PROTECTING PERDIDO BAY.

TONY KENNON

I do not understand how one tar ball got into our pass, and past our system. We've had five weeks to get ready for this. Five weeks.

RATHER (VOICE OVER)

TONY KENNON IS THE MAYOR HERE AND HE'S HOPPING MAD THAT BP AND THE GOVERNMENT COULDN'T GET THEIR ACT TOGETHER TO PREVENT OIL FROM GETTING THROUGH A PASS HE SAYS IS ONLY A THOUSAND FEET WIDE.

KENNON

I just don't get it. I can't figure out where the disconnect is with BP. BP seems totally incompetent to me. The experiences I'm having right here today, I feel like is -- is -- is absolutely abysmal. Coast Guard won't shut down the waterways. We have recreational traffic in the way of us cleaning up. And I -- my city depends on recreational traffic and tourism, but -- but what's more important is keeping our back ways protected.

RATHER (VOICE OVER)

WITHIN A MATTER OF DAYS, SIGNS OF PROGRESS. A MULTI-MILLION DOLLAR STEEL BOOM WAS BEING INSTALLED TO STOP THE OIL AT THE PASS, WHERE IT CAN BE EXTRACTED. THE GOAL IS TO PROTECT THE BACK BAYS AND MARSHES UNTIL THE DANGER HAS PASSED. WHENEVER THAT IS.

BUT GOOD NEWS IS HARD TO FIND ALONG THE GULF, ESPECIALLY FOR THE SEAFOOD INDUSTRY. STATE WATERS IN LOUISIANA, MISSISSIPPI, ALABAMA, AND EVEN SOME PARTS OF FLORIDA ARE NOW CLOSED TO COMMERCIAL FISHING. THAT'S IN ADDITION TO OVER 80,000 SQUARE MILES OF FEDERAL WATERS THAT ARE CLOSED. FISHING PROVIDES BILLIONS OF DOLLARS A YEAR AND MANY JOBS FOR THESE STATES, AND IT'S A WAY OF LIFE FOR TENS OF THOUSANDS OF FISHERMAN. FOR THE JOHNSON FAMILY OF HERON BAY, ALABAMA, IT'S BEEN A WAY OF LIFE FOR GENERATIONS. WE SAT DOWN ONE RECENT EVENING ON ONE OF THE JOHNSON FAMILY'S NOW-IDLE BOATS.

PAUL

Me and brother, we're six generations, fifth, fourth. They're seventh. Right here-- I mean our great-great-grandfather-- I might've missed a great, I'm not sure, but came over from Norway. We landed right here in Heron Bay. And the family has stayed here, worked seafood right on this piece of property every since.

RATHER (VOICE OVER)

PAUL, HIS BROTHER DANIEL, AND THEIR FATHER JOHN NOW RUN THE FAMILY BUSINESS. THEY CALL IT "THREE MEN AND A BOAT" AND THEY FISH, SHRIMP, CRAB, AND PACK AND SELL OYSTERS. THEY TOOK THE BUSINESS OVER FROM JOHN'S FATHER MILLER. AND THEY HOPE THAT DANIEL'S SON LITTLE MILLER, WILL ONE DAY TAKE IT OVER HIMSELF.

DANIEL

I would just ride down the Bayou a ways and let ya'll look. Me and a cousin of mine we was in spring beak with my daddy -- built us a little skiff a little small boat. We was running up and down this Bayou probably at about 12, 13 years old catching a few crabs making us a couple of spending dollars, you know spending money.

RATHER

Well, Big Miller tell me what-- what this was like 25, 50 years ago here?

MILLER

It was-- it was simple. It was simple. What you couldn't sell, you could eat. We-- ain't never go hungry. You could come down to the Bayou and catch you a mullet. You can go down the bay and pick you up a few oysters. If you couldn't sell 'em, you could make you a gumbo. You never went hungry, it was a simple life.

RATHER (VOICE OVER)

EVEN BEFORE THE OIL SPILL, LIFE HAD GOTTEN MORE COMPLICATED FOR THE JOHNSONS. FUEL COSTS KEEP GOING UP WHILE, THANKS TO IMPORTS, SEAFOOD PRICES KEEP GOING DOWN.

JOHN

I think back in '84 I caught the larger shrimp for three dollars a pound, for boat price. Fuel was 40 cent. Today fuel's four-- three dollars a gallon. And the shrimp are down, like, a dollar, dollar 25.

RATHER

Well, even I could figure that it puts a real squeeze on people's business.

JOHN

On top of that now we got to deal with the oil whether or not the shrimps are even gonna be there or if the health department will even open the shrimp season up.

PAUL

You feel like you're just-- like before a hurricane, when you start preparin', you've boarded up the windows. You're-- and now you're just waitin' on it to hit. And it just ain't hittin'. It's been goin' on for 50 or so days, just the continual waitin' on that hurricane.

RATHER

Waiting, waiting, waiting but the end is not in sight.

PAUL

Yeah. You don't know when it's gonna. It's that hurricane's just setting there and just-- you're just settin', watchin' it.

RATHER

You are collectively tough people and you are descendants of tough people but your brother is talking about being scared.

DANIEL

Yes, we all are scared. He's -- he's went shrimping with me he's done a little bit of seafood work with us.

PAUL

Was gonna be your deck hand this year.

DANIEL

Yeah, he was gonna be my deck hand this year, till all was hit.

RATHER

Well, little Miller, how much do you know about this big blowout in the Gulf

LITTLE MILLER

All I know is that there's a bunch of oil out there and now I don't even think I can grow up and do what my dad, poppa and uncle does.

RATHER

And that's what you wanna do

DANIEL

He wanted the opportunity to.

MILLER

No, that's what he wants to do.

DANIEL

Yeah, I told him I said, "You at least got to go to school son. I said, "I went to school and got a diploma." You know I can go out and do other things.

PAUL

He wanted us to call it, "Three and a half men" and me and Daniel told him one day, he has to graduate first, that's the stipulation. You gotta graduate high school.

DANIEL

Graduate high school and we'll change it to, "Three and a half men."

RATHER (VOICE OVER)

THE JOHNSONS TOOK US INTO THEIR OYSTER SHOP, WHICH HAS BEEN RUNNING SINCE THE 1920S. A SKELETON CREW WAS PROCESSING WHAT MIGHT BE THE LAST BATCH OF OYSTERS FOR A WHILE, MAYBE A LONG WHILE.

JOHN

I have twelve places there; they're usually all full. They shuck the oysters out, from there we put them in the trays, put them in the cooler. The oyster business has been a staple. We always fell back on that in -- in hard times because we could always go and get something to eat, to keep the family you know, at least in --in groceries.

RATHER (VOICE OVER)

THE JOHNSONS KNOW THAT AS MUCH AS THEY'RE HURTING, THERE ARE PEOPLE HURTING EVEN WORSE.

JOHN

I've got a lot of workers in there that calls me and asks do I think I'm gonna have work in-- in the next week. I have to tell 'em no. You know, I-- I just can't get any-- oysters in there for them to work.

RATHER

And these are the kind of people that shuck the oysters?

JOHN

That shuck the oysters for me. See, and-- and that's pretty much what they live on... And-- and now, with this stopped, none of them has work. It's-- it's put all of them out.

RATHER

Well, I know that you were hit hard by Katrina and Ivan, two really bad hurricanes. What did that do to the oystering, the crabbing and the shrimping?

JOHN

It would knock it down for-- a month or two. But then you--catch--

MILLER

Wouldn't be long, they'd come back.

JOHN

--shrimp pretty good. They'd come back. Crab's come back. We've had years like Frederick with-- really roll the oysters over and kill a lot of oysters. But within a year they'll-- they'll come back. Two years, start coming back.

RATHER (VOICE OVER)

AS DEVASTATING AS HURRICANES CAN BE, THEY ARE A NATURAL PART OF THE GULF AND ANYTHING THAT LIVES HERE HAS HAD TO LEARN TO ADAPT. BUT THE OIL BLOWOUT IS A MAN MADE DISASTER, AND AN UNPRECEDENTED ONE. IT HAS FISHERMEN ALL ALONG THE GULF COAST ASKING THE SAME QUESTION WE HEAR FROM THE SCIENTISTS: HOW WILL THE OIL CHANGE THESE WATERS? NO ONE KNOWS FOR SURE. ALL ANYONE CAN DO IS WAIT AND WONDER.

THE JOHNSONS HAVE MANAGED TO GET SOME WORK FROM BP AS PART OF THE CLEANUP EFFORT. THEY'VE ALSO BEEN TRYING TO NAVIGATE THE COMPLICATED CLAIMS PROCESS SO BP WILL COMPENSATE THEM FOR THEIR LOST INCOME. IN FRUSTRATION, THEY ENLISTED THE HELP OF STATE SENATOR BEN BROOKS.

PAUL

We've always worked as fisherman, you never wanted to get rich, you never thought you's gonna rich.

BEN BROOKS

Right

PAUL

But you could always provide for your family, and we always have. Now with this, I get to where I'm not sure.

BROOKS

Everybody I talk to, it feels -- it feels like we're getting ready for hurricane everyday, and it never comes, it just keeps coming and keeps coming.

JOHN

It's a little more like a death to me. It's almost like watching your -- your mom die. I've been through that. That's bad. And -- and it feels the same, that waters been my life, I've lived right in it.

BROOKS

I understand.

JOHN

It's hard.

BROOKS

I understand.

RATHER

Did you-- ever think you'd see this? I mean, you know they've been drillin' oil out in the Gulf--

JOHN

No.

RATHER

--going further and further around, deeper and deeper down.

JOHN

I mean, I always assumed there would be an oil spill, but something that could be contained. You know something you could clean up within a month. This is way worse than anything I've-- I've ever thought of.

MILLER

I knew I'd see a storm. I've always knowed that. We had to pack up our clothes and go to higher ground. But I never thought I'd ever see something that would kill the whole seafood business. Never -- never dreamed that.

JOHN

The water has fed you, you've been raised that way, it's the only way you know to make a living and it gets close to you it gets to where it kind of hurts you, when you thinks that something is about to happen to this water. You can see it in-- in true fisherman. I-- I didn't know if any of the other fishermen felt the way I do. But I seen some on-- in Louisiana speak about the oil spill. And-- and I could tell that-- that they're as connected to that water down there as what I am. It-- it means a lot to them fishermen too. It's-- it's like a part of your life. And you're about to lose it.

RATHER

Well, when you go to bed at night, after you turn out the lights before you go to sleep, and you think about this big deepwater oil gusher out there, tell me what you think, what you feel?

PAUL

We're fairly religious. I pray about it. I mean, I just-- I don't know what to pray for to happen, but I just pray.

RATHER (ON CAMERA)

MORE FROM THE GULF COAST AND ABOUT THE UNDERSEA BIG OIL BLOW OUT, IN JUST A MOMENT SO STAY HERE WITH US.

RATHER (VOICE OVER)

WE SEE AN EVENT LIKE THE UNDER SEA OIL BLOW OUT THROUGH THE LENS OF TELEVISION REPORTS, INTERNET POSTINGS AND NEWSPAPERS STORIES, THROUGH LIVE VIDEO FEEDS FROM THE OCEAN FLOOR AND RADIO DISPATCHES FROM HOVERING HELICOPTERS. BUT FEW THINGS INFORM OUR UNDERSTANDING OF SUCH MOMENTS AS WELL AS THE ICONIC STILL PHOTOGRAPHS THAT SEEM TO CAPTURE BOTH FACT AND MEANING IN A SINGLE INSTANT.

TED JACKSON

There's a lot of science going on down in a...

RATHER (VOICE OVER)

ONE OF THE PEOPLE TAKING THOSE ICONIC STILL PICTURES IS TED JACKSON, A PULITZER-PRIZE-WINNING PHOTOJOURNALIST FOR THE TIMES PICAYUNE NEWSPAPER IN NEW ORLEANS. HE'S BEEN COVERING THE OIL BLOWOUT FROM THE BEGINNING, AND WE MET TO DISCUSS HIS WORK AND A REGION STILL REELING FROM HURRICANE KATRINA, NOW FACING A NEW DISASTER...

JACKSON

What I've seen in this oil spill is that-- it's a lurking enemy out there. It's a monster sitting off the coast. We-- we don't really see it, yet. People talk about, "Where can I go to see the oil spill?" They-- they want to know what it looks like and-- and to experience it themselves.

RATHER

Well, Ted you're a journalist, you're a photo journal-- journalist. What are the chances, if any, that this is being overplayed?

JACKSON

Well, I don't think it's being overblown because it's-- it's-- it's bad. And it's going to be worse. You -- you --you know that there's a lot of oil out there. And you know it's a lot more than we thought it was. Sometimes, it's hard to keep things in perspective especially at the beginning of this-- whole ordeal. You go down and you try to find the pockets of oil that are coming onshore. And it's difficult. It's very difficult. And you find that one pocket that really looks bad and you photograph that to show the devastation that's happening and everybody can easily get the perception that the whole coast is coated in that. And the whole estuary's coated in that. And it's not yet. But it's looming and it's moving. And it's-- it's-- it's attacking in different areas and the more we go along the more you see that. And last Thursday, I flew in a sea plane down to Barataria Bay and that was the first day that the worst fears were realized, and I didn't have to look for the oil anymore. It was everywhere. It was attacking with a vengeance. And it's moments like that, that you realize the devastation that's coming. We fight back the tears. You-- you think about the people who are being affected. You think about the oyster men, you think about the shrimpers, the friends that you know that work in the oil field. That's when it hits.

Louisiana's a special place. I've grew up in Mississippi, but I came to love this place when I moved down here. And it's a beautiful city, it's a beautiful culture. It's a lot of passion for life. But the people have gone through a lot in the past five years, especially. When Katrina hit, I think people started to understand that there was very little to come back to. I've often thought that one of the greatest gifts that we have as human beings is the gift of anticipation, the gift of hope that drives us through a lot of hard times, a lot of-- devastation, a lot of-- sadness and bereavement, things like that. The Saints winning the Super Bowl last year was phenomenal for this city. It was a special moment. I was lucky enough to be on the field shooting that game. And it was fun to watch that, to watch the joy-- return.

RATHER

Well, no one could have foreseen, during those joyous hours and days after the Super Bowl that New Orleans and the Gulf Coast are gonna get hit so hard, so quickly after that.

JACKSON

Well, we're on that roller coaster and we're ridin' it highs and lows. Katrina hits us down. Then we build it back up, then we get on that high with the Saints, and then-- then you-- you hear this tragedy in the gulf. And you-- you know that-- this-- this is awful. This is-- terrible tragedy that-- that these men have lost their lives. And-- and then a few-- you know, just a short time later, the rig sinks. And you realize that well, it's gettin' worse. It-- it's just-- it's worse than we thought. And then we-- we hear that the oil is continuing to gush. And it's gushing. And-- and-- I mean, the-- the original estimates, as low as they were, sounded devastating. And-- it just-- it keeps gettin' worse and worse and worse. But-- you start seein' it in the eyes of the people. And you-- you start seeing the fear. And you start seein' the-- the dread of the sky is falling on us again.

RATHER

You've been photographing, as best you can, this environmental disaster from the very beginning. Talk to me about some of your photographs. And why you hope they convey something that perhaps the moving image can't

JACKSON

Well, first day I went out was in a helicopter. And we flew over the site itself to-- to see the oil itself. And-- and I remember I had-- the outdoor writer with me in the back seat, Bob Marshall's, our outdoor writer and-- as we flew over and we were doin' tight circles tryin' to-- to, you know, zoom in on the-- the oil itself and the boats that were out there working it, I remember Bob sayin' you know, "Look how-- how beautiful it is." In a bad way. The blues of the water and the oranges and the reds of the oil were just-- it was striking, visually. But it's that-- that beautiful monster that-- that-- you know, it's something that's very visual and powerful. And-- the boats in the picture, as they're trying to-- to run the booms through the oil, trying to capture the oil, looked extremely futile. They were so tiny, the sea was so large, the boats are so small. You just knew immediately that this is-- this is horrendous, because oil was everywhere. It-- the-- you could smell the petroleum in the helicopter. Going out with the-- the Governor down to-- Pasalutra was a dramatic day for me, I think. 'Cause-- you saw the oil hitting the marshes for the first time getting up into the grasses, and when you saw it in the grasses-- your heart sank. On the surface, it's just black. In-- in spots, where you kinda stir it up, it's orange. And it was-- once again, it was beautiful to photograph. But as the boats moved through it, it would swirl around. You could see the reflections of the Governor in-- in the oil. That was-- that was a powerful moment to me.

RATHER

Any other photographs come to mind that stick out that you think especially speaks to this in a special way?

JACKSON

We flew early over -- Grand Isle. The -- the --the attempts to try to block up the passes goin' through and to the marsh. And the helicopter's flying over dropping the sand bags into the -- to the --to the breaches in the -- in the coastline going into the wetlands.

RATHER

Given Katrina, Ivan, a terrible hurricane in its own right and what's looming here, is this Gulf Coast Louisiana, and Mississippi edging at least into Alabama-- is it finished compared to what it was and has been for all these years?

JACKSON

I hope it's not finished. I-- I think it's gonna be forever changed. What will happen when the oil gets deep into the estuaries is-- is-- is-- is sobering to think about. Because the-- the oil, if it-- if it kills the grass, it destroys the land under it-- erodes everything away. What happens to the-- the eco-system below it that feed the shrimp and the nursery that's there

that-- that-- grows all of our seafood, basically is where it begins. If that's destroyed, then a way of life is gone. One picture that really strikes me is very early on when the shrimpers got together in a meeting trying to decide, "What can we do, how can we help, you know? Get us involved, let us use our boats." I shot a picture from behind one of the speakers. The -- the faces in the crowd just said everything there was to say. It -- it expressed how everybody was feeling, but you knew that their livelihoods were on the line. Things like this oil spill-- can be devastating to-- to a psyche. And-- trying to-- to deal with that as a community is difficult. People kinda throw up their hands and say, you know, "What have we done so wrong? Why-- why does someone out there hate us so much?" And-- that-- that's what hurts the city-- more than anything, I think, is the loss of hope.

RATHER

The oil in Louisiana, there's a history here. Do you and do others who live here even longer than you have, see the history of the oil industry in Louisiana as a proverbial dance with the devil?

JACKSON

Yeah, it is. It is a dance with the devil. It's-- the oil industry supplies a lot for the state. The moratorium that has been put on the state right now to stop this-- stop the oil drilling is-- is going to have a devastating effect on the state.

RATHER

Well, beginning with knocking a lot of people out of work?

JACKSON

Oh, it's-- it's-- going be awful. It's devastating to the state. It's-- we supply so much to this country-- with oil. And-- and we can't do without oil right now. As much as we'd like to, it's-- it's-- it's part of everything that we do.

RATHER

So in a way, the dance with the devil continues?

JACKSON

And it will. It will for a long time, I think-- unless we're all shut down.

RATHER (ON CAMERA)

WHEN IT COMES TO THE CATASTROPHE IN THE GULF, WE ALL WANT ANSWERS. BUT ONE OF THE THINGS WE'VE HEARD TONIGHT IS WE HAVE TO START BY ASKING THE RIGHT QUESTIONS AND THE LEAD QUESTION IS WHOM TO BLAME. BP AND FEDERAL REGULATORS ARE OF COURSE EASY ANSWERS AND THE

RIGHT ANSWERS, UP TO A POINT. WE WEEP FOR THE OIL SOAKED PELICANS AND FOR THE FISHERMEN WHO ARE LOSING THEIR WAY OF LIFE. BUT UNLESS WE UNDERSTAND, AND UNDERSTAND CLEARLY THAT WE HAVE LIVED UNSUSTAINABLE LIVES IN AN UNSUSTAINABLE WAY, THEN ALL OF THE SCIENTIFIC STUDIES, THE BILLIONS IN AID AND THE GOVERNMENT VOWS WOULD HAVE BEEN IN VAIN.

THAT'S OUR PROGRAM FOR TONIGHT. FROM THE GULF COAST, FOR HDNET, DAN RATHER REPORTING. GOODNIGHT.