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What was responsible for the loss of a NASA space capsule deep in the mid-Atlantic?

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00:00:07,000 --> 00:00:12,000

It's not losing a needle in a haystack, it's like losing the head of the needle in a haystack.

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What is the underwater secret behind ship disappearances in the Devil's Sea?

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It is the Bermuda Triangle of the Pacific, and in many ways it is just as deadly.

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And is a ticking time bomb at the bottom of the Baltic Sea about to go off?

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00:00:30,000 --> 00:00:38,000

One can only imagine how horrifying that would be to be confronted with the spectacle of your impending doom.

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00:00:41,000 --> 00:00:46,000

The underwater realm is another dimension.

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00:00:46,000 --> 00:00:55,000

It's a physically hostile place where dreams of promise can sink into darkness.

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00:00:55,000 --> 00:01:04,000

I'm Jeremy Wade. I'm searching the world to bring you the most iconic and baffling underwater mysteries known to science.

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Shipwrecks can't just disappear, or can they?

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00:01:07,000 --> 00:01:12,000

It's a dangerous unexplored frontier that swallows evidence.

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We know more about the face of Mars than we do our deepest oceans.

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00:01:15,000 --> 00:01:20,000

Where unknown is normal and understanding is rare.

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00:01:33,000 --> 00:01:40,000

At the dawn of the space race, a pioneering suborbital flight is about to put the USA in pole position.

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00:01:43,000 --> 00:01:44,000

Boy, that sounds safe.

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00:01:44,000 --> 00:01:50,000

But things go horribly wrong when the capsule splashes down into the Atlantic.

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00:01:50,000 --> 00:01:56,000

American dreams, along with years of research and development, sink to the ocean floor.

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00:01:56,000 --> 00:02:01,000

Exactly what happened on that fateful day remains a mystery.

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00:02:01,000 --> 00:02:10,000

But can a fresh investigation by an amateur sleuth succeed where officials have failed, and finally reveal the answer?

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July 21st 1961.

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Returning to Earth after his pioneering suborbital flight, Commander Gus Grissom splashes down into the Atlantic Ocean in the Liberty Bell 7 capsule.

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00:02:33,000 --> 00:02:38,000

A recovery helicopter arrives to secure the capsule and take it back to base.

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00:02:38,000 --> 00:02:47,000

But suddenly, without warning, the spacecraft's emergency hatch blows off, leaving a gaping hole in its side.

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00:02:47,000 --> 00:02:51,000

Gus Grissom is in the capsule and water is now flooding in.

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00:02:51,000 --> 00:02:56,000

The astronaut holds himself out through the narrow hatch and into the sea.

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00:02:56,000 --> 00:02:59,000

But his ordeal is only just beginning.

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00:02:59,000 --> 00:03:07,000

The man's in outer space one minute, and the next minute he's on the surface of the Earth, and this is where he has the highest possibility of dying.

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00:03:07,000 --> 00:03:14,000

The retrieval helicopter focuses on the capsule, but it struggles to maintain control.

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00:03:14,000 --> 00:03:19,000

Liberty Bell 7 is taking on water and getting heavier by the second.

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00:03:19,000 --> 00:03:23,000

The helicopter is dragged downwards.

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00:03:23,000 --> 00:03:28,000

Inside emergency lights come on, the engine is close to failing.

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00:03:28,000 --> 00:03:36,000

As the chopper's propeller creates a churning wash of air and water, Grissom, beneath, struggles to stay afloat.

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00:03:37,000 --> 00:03:41,000

And there's, you know, all this prop wash coming down on Gus.

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00:03:44,000 --> 00:03:48,000

They're not paying any attention to him, they're concentrating on getting the spacecraft.

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00:03:48,000 --> 00:03:53,000

He's in his space suit, and his space suit starts filling up with water.

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00:03:53,000 --> 00:03:58,000

He's taking on water, and he's losing points.

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00:03:58,000 --> 00:04:04,000

With the capsule now weighing a thousand pounds more than the retrieval helicopter can handle,

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00:04:04,000 --> 00:04:08,000

the pilot is forced to make a tough, split second decision.

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00:04:10,000 --> 00:04:12,000

He cuts the cord.

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00:04:16,000 --> 00:04:20,000

Liberty Bell 7 sinks to the bottom of the ocean.

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00:04:22,000 --> 00:04:26,000

Nearby, Gus Grissom is facing a similar fate.

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00:04:27,000 --> 00:04:34,000

He's fighting to keep his nose above the water, literally, until the backup recovery helicopter comes in.

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00:04:34,000 --> 00:04:46,000

And then there's the iconic picture that everybody remembers about Liberty Bell 7 of Gus, like a dead fish being hauled up into the backup recovery helicopter.

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00:04:49,000 --> 00:04:55,000

Why the mission goes so badly wrong is one of NASA's greatest unsolved mysteries.

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00:04:55,000 --> 00:04:58,000

And for some, a blemish on its reputation.

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00:04:58,000 --> 00:05:01,000

To lose Liberty Bell 7 in the moment was horrible.

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00:05:01,000 --> 00:05:07,000

It represented the high point of NASA's space program.

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00:05:07,000 --> 00:05:11,000

It was an emblem of America itself.

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00:05:11,000 --> 00:05:21,000

So to have it in one's grasp and to lose it, it was seen as a real loss of pride in the American space program.

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00:05:22,000 --> 00:05:27,000

The public want answers. What went wrong and who was to blame?

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00:05:29,000 --> 00:05:33,000

You know, was it a human error? Was he scared? Did he have some kind of nervous reaction?

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00:05:33,000 --> 00:05:36,000

Was it mechanical error? Did the engineers do something wrong?

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00:05:38,000 --> 00:05:44,000

With the physical evidence lost deep under the Atlantic, people look to Grissom for answers.

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00:05:44,000 --> 00:05:48,000

But the astronaut can shed little light on those fateful moments.

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00:05:49,000 --> 00:05:53,000

Only two moves I remember making.

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00:05:53,000 --> 00:05:56,000

And grabbing the instrument panel and pulling myself out.

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00:05:56,000 --> 00:06:01,000

NASA's initial investigation finds no fault in Grissom's actions.

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00:06:01,000 --> 00:06:04,000

But some are skeptical.

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00:06:04,000 --> 00:06:08,000

Highland error is, of course, a potential. There's always a potential.

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00:06:08,000 --> 00:06:12,000

It's very easy to blame the organic matter in the cockpit.

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00:06:13,000 --> 00:06:19,000

Gus Grissom's reputation as a flyer with the right stuff is called into question.

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00:06:19,000 --> 00:06:23,000

An astronaut hero falls to Earth.

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00:06:27,000 --> 00:06:33,000

Grissom's mission was part of Project Mercury, the United States' manned spaceflight program.

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00:06:33,000 --> 00:06:37,000

The space race with the Soviet Union is in full flow.

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00:06:37,000 --> 00:06:41,000

Expectations are great and the stakes are high.

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00:06:42,000 --> 00:06:45,000

Rockets are exploding left and right.

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00:06:45,000 --> 00:06:49,000

And these guys have to figure out how to fix them and ride them and not get killed.

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00:06:49,000 --> 00:06:55,000

The race to the moon is on, so every mission needs to drive progress.

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00:06:55,000 --> 00:07:03,000

Grissom's flight tests several innovations, including significantly a quick-release emergency hatch.

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00:07:03,000 --> 00:07:10,000

The hatch is sealed with 70 titanium bolts embedded in an enclosed explosive casing.

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00:07:10,000 --> 00:07:15,000

The push-button plunger detonates the charge and releases the hatch.

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00:07:15,000 --> 00:07:20,000

For safety reasons, detonation is a multi-step process.

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00:07:20,000 --> 00:07:28,000

The hatch must first be armed before pressure is applied to the plunger to detonate the charge.

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00:07:28,000 --> 00:07:35,000

Although Grissom's memory of the Splashdown disaster is hazy, there is one thing he remembers with clarity.

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Grissom claims that he armed the explosive bolts but that he didn't, in fact, detonate them.

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But not everybody is convinced.

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00:07:46,000 --> 00:07:56,000

But there are rumors immediately after this happened that Grissom panicked and that he prematurely detonated the hatch.

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00:07:56,000 --> 00:08:03,000

Later astronauts who detonate the plunger suffer bruises. One even suffers a laceration.

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00:08:04,000 --> 00:08:06,000

Grissom didn't have those bruises.

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00:08:06,000 --> 00:08:10,000

But the damage to Grissom's reputation is done.

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Grissom was victimized because of the loss of Liberty Bell 7 and was really almost shamed as a result of it.

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00:08:21,000 --> 00:08:25,000

And he really never recovered from that.

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00:08:25,000 --> 00:08:30,000

And it was the defining moment of his career.

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00:08:30,000 --> 00:08:33,000

To lose that spacecraft really hurt.

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00:08:33,000 --> 00:08:40,000

He was dogged for the rest of his life over what he referred to as the hatch crap.

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00:08:40,000 --> 00:08:51,000

In 1967, Gus Grissom is killed in the Apollo 1 launch fire, with the mystery of what happened in the Liberty Bell capsule still unsolved.

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It's now 1999.

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00:08:57,000 --> 00:09:08,000

Salvage expert Kurt Newport is armed with cutting-edge technology and an unerring desire to find Liberty Bell 7 and bring her home.

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00:09:08,000 --> 00:09:17,000

The mission to recover Liberty Bell 7 brought together the best marine recovery people in the world at the time.

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00:09:17,000 --> 00:09:25,000

Newport gets all of the tracking data, all of the telemetry he can find about the flight of Liberty Bell 7.

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00:09:25,000 --> 00:09:31,000

And he begins to sort of zero in on an area where he thinks it might be.

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00:09:31,000 --> 00:09:39,000

Operating at depths of up to three miles, the team's submersible uses sonar to locate objects on the seabed.

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00:09:39,000 --> 00:09:46,000

But can it spot a nine-foot high capsule in a search area which covers 24 square miles?

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00:09:46,000 --> 00:09:54,000

These capsules are unbelievably tiny. To lose a space capsule in the middle of the ocean, it's not losing a needle in a haystack.

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00:09:54,000 --> 00:09:57,000

It's like losing the head of the needle in a haystack.

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00:09:57,000 --> 00:10:00,000

But they're very systematic. They call it mowing the lawn.

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00:10:00,000 --> 00:10:06,000

You go back and forth in grids and you look for your best possible targets.

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00:10:06,000 --> 00:10:12,000

He decides to start with target 71.

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00:10:12,000 --> 00:10:18,000

The controllers send their submersible towards it. They point their video cameras at it.

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00:10:18,000 --> 00:10:24,000

Kurtz says that things got some height to it. Let's keep moving in.

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00:10:24,000 --> 00:10:33,000

And as they slowly move in through the darkness, the words of the United States appear on the side of this object.

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00:10:34,000 --> 00:10:41,000

And he has found Liberty Bell 7 after 38 years.

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00:10:41,000 --> 00:10:51,000

But will the capsule provide the key to the mystery of what happened and restore the reputation of astronaut Gus Grisson?

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00:10:52,000 --> 00:11:10,000

The loss of the Liberty Bell 7 capsule deals a severe blow to the American space program and leaves her commander's reputation in tatters.

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Finally, in 1999, the lost capsule is raised from the ocean floor. But can she help solve the mystery of what went wrong?

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It was an opportunity to finally look at the physical hard evidence of the condition of the capsule and to understand what happened.

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00:11:30,000 --> 00:11:42,000

However, crucially, the hatched door is not found. And despite extensive investigation, the capsule does not provide definitive answers to the many questions that remain.

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00:11:42,000 --> 00:11:51,000

The investigations are wound up, but some people are still determined to find answers.

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00:11:51,000 --> 00:12:00,000

Years pass before NASA agrees to open up its archive to writer and Grissom biographer George Leopold.

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00:12:00,000 --> 00:12:07,000

I think that the loss of Liberty Bell 7 is probably one of the great mysteries.

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00:12:07,000 --> 00:12:14,000

With the passage of time, he's hoping that a cold, objective eye will unearth some fresh clues.

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00:12:15,000 --> 00:12:23,000

One piece of eyewitness testimony stands out. Lieutenant John Reinhardt, one of the retrieval team, is first on the scene.

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00:12:23,000 --> 00:12:31,000

His job is to remove the capsule's antenna before attaching the winch hook from the helicopter.

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00:12:31,000 --> 00:12:43,000

He was in the helicopter opening with a hook and a snipper, and he said that when he touched this ungrounded spacecraft,

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00:12:43,000 --> 00:12:45,000

he saw an arc.

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00:12:45,000 --> 00:12:50,000

A powerful electrostatic discharge.

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00:12:50,000 --> 00:13:00,000

You've got a helicopter hovering over a spacecraft and there's vortex that's got a lot of energy in it.

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00:13:00,000 --> 00:13:09,000

And when metal touches metal, some of that energy is probably going to get transferred, and that's what John Reinhardt thought he saw.

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00:13:09,000 --> 00:13:17,000

He was the closest person to the spacecraft when he sees this arc, and at that moment, the hatch blows.

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So that leaves us with, you know, the possibility that maybe it was the electrostatic discharge that blew the hatch.

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Upon further investigation, Leopold learns that in sea helicopter rescues, static electricity discharge is a common phenomenon between surface water and hoisting devices.

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00:13:40,000 --> 00:13:44,000

What's more, he finds evidence that NASA was aware of this.

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00:13:44,000 --> 00:13:55,000

The procedure that the Coast Guard of the US Navy uses is that you would never touch something in the water with a helicopter over it until it's grounded.

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00:13:56,000 --> 00:14:04,000

And in fact, during the practice sessions, the recovery guys used to joke around with the NASA guys who'd come out with them and say, you want to try it?

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00:14:04,000 --> 00:14:06,000

And they get zapped.

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00:14:06,000 --> 00:14:12,000

NASA's procedures should really have included grounding the spacecraft before anybody touched it.

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00:14:13,000 --> 00:14:23,000

Over the years, other theories have been put forward for the premature detonation of the Liberty Bell 7's hatch bolts and the subsequent loss of the capsule.

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00:14:24,000 --> 00:14:27,000

But NASA didn't reach a definitive conclusion.

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00:14:28,000 --> 00:14:31,000

They were in a hurry. They wanted to get on the next flight.

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00:14:31,000 --> 00:14:36,000

So they basically reproduced as many scenarios as they could think of, and then they moved on.

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00:14:38,000 --> 00:14:43,000

So in the end, you really don't know exactly what happened.

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00:14:45,000 --> 00:14:52,000

But with the final piece of evidence, the hatch door itself, still under the sea, the mystery endures.

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00:14:52,000 --> 00:15:03,000

But one thing seems clear. With what we now know, surely it's safe to conclude that astronaut Gus Grissom had the right stuff all along.

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00:15:03,000 --> 00:15:10,000

Conflicts fought out on our seas leave behind a potentially lethal legacy.

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00:15:10,000 --> 00:15:19,000

Discarded mines and all kinds of other dumped hardware and unexploded ordnance often hidden deep beneath the waves.

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00:15:19,000 --> 00:15:24,000

Can new technology be used to make the world a better place?

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00:15:24,000 --> 00:15:32,000

Can all kinds of other dumped hardware and unexploded ordnance often hidden deep beneath the waves?

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00:15:32,000 --> 00:15:40,000

Can new technology find a way of locating and diffusing this underwater time bomb before it's too late?

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2005, the Baltic Sea.

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00:15:48,000 --> 00:15:58,000

A Dutch fishing vessel is trawling the relatively shallow waters of this semi-enclosed, brackish body of water between Scandinavia and Europe.

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00:15:59,000 --> 00:16:07,000

They're basically scouring the sea floor and they're pulling up in addition to fish. They're also pulling up anything that's on the sea floor.

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00:16:07,000 --> 00:16:13,000

The trawlers crew are hauling in their catch when they notice something strange in the nets.

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00:16:13,000 --> 00:16:19,000

Their nets were arrayed on the seabed catching fish as normal but they caught something very unusual.

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00:16:19,000 --> 00:16:26,000

The details of what happens in the next few minutes remain unknown but the conclusion is clear.

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00:16:27,000 --> 00:16:32,000

An explosion rips through the boat, killing three men.

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00:16:33,000 --> 00:16:40,000

Elsewhere on the Baltic coast, beachcombers find what they think are pieces of amber in the sand.

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00:16:41,000 --> 00:16:50,000

They're picking them up and putting them in their pockets and the heat of their body is warming these up and it's causing people to have very serious chemical burns.

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00:16:51,000 --> 00:16:59,000

Around the same time, scientists studying fish in the Baltic find some specimens containing cancerous tumours.

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00:17:01,000 --> 00:17:08,000

Multiple mysterious incidents in the same body of water are caused for alarm but are they linked?

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00:17:08,000 --> 00:17:13,000

And if so, what's going on under the cold surface of the Baltic Sea?

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00:17:15,000 --> 00:17:27,000

Surrounded by nine different countries and a historical boundary between Eastern and West Europe, the Baltic Sea has been the front line in conflicts from the Crimean to the Cold War.

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But it was World War II that really set fire to this region.

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There was a non-stop mine warfare going on. Millions of mines were laid in these waters.

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00:17:41,000 --> 00:17:45,000

But they were not the only munitions dropped into the Baltic.

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00:17:47,000 --> 00:17:56,000

At the end of the war, an estimated 300,000 tonnes of ordnance, bombs, shells and ammunition were dumped into the depths.

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00:17:57,000 --> 00:18:06,000

The immensity is really unthinkable. We don't have accurate maps as to where this was dumped or by who.

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00:18:07,000 --> 00:18:11,000

So really it's anybody's guess as to the extent of this problem.

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00:18:12,000 --> 00:18:26,000

Now, 75 years later, this explosive underwater legacy is thought to be responsible for dozens of deaths and serious injuries every year.

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00:18:29,000 --> 00:18:35,000

A new evidence reveals that there's an even greater danger at the bottom of the Baltic.

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00:18:42,000 --> 00:18:58,000

Hidden in the depths of the Baltic Sea are hundreds of thousands of tonnes of World War II munitions, with a combined explosive force capable, it is estimated, of flattening a city.

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00:19:01,000 --> 00:19:04,000

We know these ticking time bombs are there on the seafloor.

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00:19:05,000 --> 00:19:11,000

There's a high risk of fishermen ringing up this unexploded ordnance from the seafloor.

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00:19:12,000 --> 00:19:18,000

This, it turns out, is exactly what the unlucky Dutch crew hauled up in their nets.

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00:19:20,000 --> 00:19:28,000

One can only imagine how horrifying that would be to be confronted with the spectacle of your impending doom.

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00:19:29,000 --> 00:19:37,000

But in addition to this obvious volatile danger, there's something more insidious going on.

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00:19:38,000 --> 00:19:45,000

Some describe these unexploded ordinances, or UXOs, as weapons that wait.

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00:19:46,000 --> 00:19:56,000

In the ocean, these metal canisters can degrade over time. That leads to the potential for toxic materials to leak into the environment.

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00:19:56,000 --> 00:20:04,000

The beachcombers who suffered serious burns unwittingly picked up pieces of phosphorus used in incendiary devices.

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00:20:05,000 --> 00:20:12,000

And the Baltic marine life displaying abnormalities tested positive for the chemical compound TNT.

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TNT is one of the most common explosives used in the world today and certainly was used in the 20th century in the context of the First World War and the Second World War.

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As well as being highly explosive, TNT is poisonous.

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00:20:30,000 --> 00:20:41,000

It's toxic to life. It can cause cancer. It can bioaccumulate in the environment, meaning small organisms take it in, larger organisms eat those.

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00:20:42,000 --> 00:20:51,000

These materials can then be transmitted up the food chain to the animals above them. And so this is how it's ending up in fish.

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00:20:54,000 --> 00:20:59,000

We're talking about the potential for a biological catastrophe.

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00:21:00,000 --> 00:21:11,000

The massive quantities of World War II munitions hidden on the bottom of the Baltic Sea now pose a multifaceted threat.

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The extent of the problem is phenomenal. Where is this stuff? It's everywhere, but nowhere.

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00:21:20,000 --> 00:21:27,000

How do we find them? How do we neutralize them? How do we keep them from causing any kind of environmental damage?

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00:21:27,000 --> 00:21:32,000

Specialist divers are normally at the heart of such clean-up operations.

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00:21:33,000 --> 00:21:39,000

They're bomb disposal experts, but they're also divers. They combine these two very, very high skill sets.

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00:21:40,000 --> 00:21:43,000

Their work is complex and hazardous.

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00:21:44,000 --> 00:21:55,000

A traditional method was that once a mine was found, it would either be hoisted aboard a ship if it was considered safe and disarmed on the ship, or it would be disarmed in the water.

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That's very complicated. It's very expensive. It's also very dangerous.

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00:22:03,000 --> 00:22:11,000

Over the years, dozens of military divers have been killed in mine-clearing operations. So a different approach is needed.

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Operation Open Spirit is an international maritime mission to clear the Baltic, led by the navies of Lithuania, Latvia and Estonia.

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00:22:22,000 --> 00:22:31,000

It's using the latest technology, like the Rimac Autonomous Underwater Vehicle, specially developed to search out mines.

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The Rimas 600 is one of the most advanced of the AUVs available. It has great imaging equipment, it has great sensory equipment to find mines.

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00:22:44,000 --> 00:22:51,000

And it's very, very maneuverable. But what they do mainly is they keep divers out of the water.

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00:22:52,000 --> 00:22:56,000

The self-piloting mini-submarine uses sonar to locate mines.

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00:22:57,000 --> 00:23:02,000

They can literally survey miles and miles of seabed per day.

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00:23:03,000 --> 00:23:09,000

Once a mine is found, the Rimas AUV can destroy it using a directed explosive charge.

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00:23:10,000 --> 00:23:14,000

It's a significant advance on using divers.

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But with hundreds of thousands of pieces of dangerous munitions on the sea floor, even with the latest tech, this deadly task could take years.

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00:23:28,000 --> 00:23:50,000

The latest underwater technology is being used to find and destroy World War II weaponry on the Baltic sea floor. This painstaking process could take years.

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00:23:51,000 --> 00:23:58,000

But recently a team of scientists at Kiel University in Germany has made a remarkable breakthrough.

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00:23:59,000 --> 00:24:12,000

They have come up with an ingenious way of neutralizing TNT, the most abundant explosive in the Baltic and one that is starting to poison the environment, by employing the services of a mysterious microscopic organism.

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00:24:12,000 --> 00:24:21,000

There are microorganisms that can take energy or metabolize TNT. They exist. Scientists have found them.

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00:24:22,000 --> 00:24:28,000

The bacteria essentially consume the TNT, breaking it down into its component elements.

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00:24:29,000 --> 00:24:33,000

We call it biotransformation because it's taking energy and it's transforming it into something else.

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00:24:34,000 --> 00:24:47,000

Basically, the idea is that you enclose the munitions with some sort of membrane that has this bacteria and the bacteria will transform the TNT into non-toxic materials.

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00:24:48,000 --> 00:24:57,000

So far, the microorganism has only been tried out in the laboratory. How it will work in the sea itself is still unknown.

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00:24:57,000 --> 00:25:04,000

It's super hard. This is not easy science. We have to redesign the experiment and figure out what this looks like in the field.

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00:25:05,000 --> 00:25:08,000

There's a lot of unknowns, but the potential is there.

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00:25:10,000 --> 00:25:23,000

Introducing a new bacteria into the sea has risks. So whether this turns out to be the silver

bullet for a dangerous wartime legacy or another environmental time bomb, we wait and see.

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00:25:28,000 --> 00:25:47,000

The reputation of history's most famous pirate, Blackbeard, has long been debated. For some, he's a brilliant leader of men, a generous captain who commanded great loyalty.

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00:25:48,000 --> 00:25:55,000

For others, he's a ruthless brute who exploited his crew and stole their share of the treasure.

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00:25:56,000 --> 00:26:04,000

Can the latest research into the wreck of his flagship shed light on the mystery of the true character of this ultimate pirate?

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00:26:07,000 --> 00:26:17,000

June 1718. For months, Blackbeard and his pirate fleet have been terrorizing the Caribbean and the east coast of the American colonies.

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00:26:17,000 --> 00:26:28,000

With his famous flagship, the Queen Anne's Revenge, in need of maintenance, Blackbeard sails his flotilla north up the coast from Charleston in search of a place to lie low.

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00:26:29,000 --> 00:26:37,000

Blackbeard has just mounted a highly successful raid on Charleston, so his fleet, which includes the Queen Anne's Revenge, is fully loaded with all the things he's captured.

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00:26:38,000 --> 00:26:47,000

At the end of 18 months of raiding, his ships are probably in need of repairs, refitting, and they're looking for a place to dock up their ships.

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00:26:48,000 --> 00:27:01,000

Led by the fleet's smaller ships, the Queen Anne's Revenge heads for the secluded port of Fishtown. The flotilla sails in through a series of narrow channels known today as the Beaufort Inlet.

212

00:27:01,000 --> 00:27:08,000

Blackbeard's fleet enters Beaufort Inlet and they're going at full speed, full sail.

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00:27:09,000 --> 00:27:21,000

As the pirates navigate the tight waterway, something happens to Blackbeard's flagship. The 100 foot fighting ship crashes at speed into a shallow sandbar.

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00:27:22,000 --> 00:27:35,000

The main mast cracks and some of the ship's timbers rupture, so from that point onward, on the sandbar the ship is not seaworthy, but it is still fully laden with all his plunder.

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00:27:36,000 --> 00:27:44,000

The treasure on board is transferred to smaller vessels in the pirate flotilla. But there's no room for the majority of the crew.

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00:27:45,000 --> 00:27:51,000

So Blackbeard selects a few essential personnel and leaves the rest on a nearby island.

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00:27:52,000 --> 00:28:01,000

The basic facts of what happened to Blackbeard's ship and his crew have never been in dispute, but the same can't be said of the pirate captain's motives.

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00:28:02,000 --> 00:28:10,000

There is no debate that what happened is the Queen Anne's Revenge runs aground. The debate is on whether or not it was intentional or whether it was unintentional.

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00:28:10,000 --> 00:28:21,000

So was this an accident? Or part of a plan? One rare eyewitness account strongly suggests a pirate plot.

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00:28:22,000 --> 00:28:28,000

David Herriot is a guy who was captured by Blackbeard and later became a very important member of his crew.

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00:28:29,000 --> 00:28:34,000

He says that Blackbeard deliberately ran his ship aground and this is in the historical record.

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00:28:35,000 --> 00:28:43,000

Putting his flagship out of action would have given Blackbeard the excuse to leave behind many of his crew. But to what purpose?

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00:28:44,000 --> 00:28:56,000

In a pirate crew, as in any crew, there's shares that get divided up. If a captain cuts crew in half, that all of a sudden means more spoils for the captain and the people that he chooses to share the spoils with.

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00:28:57,000 --> 00:29:06,000

But what Blackbeard gained in treasure he would surely lose by leaving behind his famous ship? Or would he?

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00:29:07,000 --> 00:29:16,000

One thing to bear in mind here is that this ship was very, very recognisable up and down the eastern seaboard of what is now the United States and the various navies that were coming for him.

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00:29:17,000 --> 00:29:30,000

The question for Blackbeard was always how long would the Queen Anne's Revenge continue to be an advantage? How long before she attracted so much attention that the Royal Navy was forced to send

out larger ships to fight him?

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00:29:31,000 --> 00:29:40,000

For almost 300 years Blackbeard's flagship and the pirate captain's true intentions are lost to history.

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00:29:43,000 --> 00:29:52,000

But then in 1996 underwater archaeologists exploring the Beaufort Inlet make an astounding discovery.

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00:29:53,000 --> 00:30:08,000

The Queen Anne's Revenge was found. The really interesting thing is what will this site tell us? Will it really tell us what happened on that fateful day? Did he mean to destroy his ship or was it an accident?

230

00:30:09,000 --> 00:30:31,000

Did the notorious pirate Blackbeard deliberately run his ship aground in a ruthless bid to downsize his crew and make off with a larger share of the loot?

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00:30:32,000 --> 00:30:39,000

Off the coast of North Carolina the scattered remains of the Queen Anne's Revenge could hold the answer.

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00:30:40,000 --> 00:30:47,000

The Queen Anne's Revenge is the only pirate ship that we've ever found that has been archaeologically identified as a pirate ship.

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00:30:48,000 --> 00:30:55,000

The site of the wreck has been studied continuously since it was found and it turns out to be an absolutely extensive site. It's absolutely huge.

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00:30:56,000 --> 00:31:04,000

The discovery of the ship's anchors proves particularly significant and could help unravel the mystery of what happened to Blackbeard's flagship.

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00:31:05,000 --> 00:31:14,000

One of the key things we're looking for is the positioning of the anchors where they've used them to try and pull the ship off, to try and pull the ship away from the banks.

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00:31:15,000 --> 00:31:21,000

The largest anchor was found directly astern and in a position where you could literally pull the ship back on it.

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00:31:22,000 --> 00:31:31,000

The location of the anchors on the seabed suggests that the sailors mounted a complex mission to heave the Queen Anne's Revenge off the sandbar.

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00:31:33,000 --> 00:31:39,000

That does beg the question, why did they take so much trouble to try and get the ship hard aground off the sandbar?

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00:31:40,000 --> 00:31:44,000

Why would you do this if you were actually purposely trying to destroy your ship?

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00:31:45,000 --> 00:31:54,000

And it's not just the anchors. Experts think that the positioning of the ship's heaviest cargo is further evidence of an attempt to save the stricken vessel.

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00:31:55,000 --> 00:32:05,000

The evidence on the seafloor shows that the crew might have been actually moving the goods and cargo and the cannon within the boat to try to move the weight around to refloat the Queen Anne's Revenge.

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00:32:06,000 --> 00:32:15,000

If Blackbeard was trying so hard to save his flagship, surely he had no intention of running her aground, but how else did she end up on the sandbar?

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00:32:16,000 --> 00:32:20,000

To my mind, what we have here is an absolutely massive maritime screw-up.

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00:32:23,000 --> 00:32:32,000

You have to remember in this period they don't have the charts we have these days. They don't have the understanding of the depths and moving the sandbanks, which we have regularly charted by oceanographic vessels.

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00:32:32,000 --> 00:32:40,000

Sandbars in this area shift, which means that depths change and that you really kind of have to be on a constant, vigilant look out.

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00:32:41,000 --> 00:32:43,000

More likely he was navigating blind.

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00:32:43,000 --> 00:32:51,000

Unfamiliarity with the inlet's dangerous shallows might not have been the only factor. Blackbeard's flagship was also in poor condition.

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00:32:51,000 --> 00:33:00,000

The Queen Anne's Revenge has been at sea for a year. She's got a lot of barnacles on her. This is not a ship you want to be taking this close inshore at this speed.

249

00:33:00,000 --> 00:33:08,000

If the running aground was accidental, it's likely that the decision to maroon the crew wasn't a selfish act, but an unavoidable one.

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00:33:10,000 --> 00:33:20,000

He's faced with a situation where he knows now he can't remove the ship from the sandbar. He's also not got the space on the slips and brigs left to remove all the crew from the Queen Anne's Revenge.

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00:33:21,000 --> 00:33:27,000

Perhaps Blackbeard had no choice, but leaving the crew did mean keeping the gold.

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00:33:27,000 --> 00:33:32,000

The odds are it was unintentional, but he certainly did turn it to his advantage.

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00:33:32,000 --> 00:33:41,000

It's a tantalising theory, but what other evidence could still be found? For many, the site holds more secrets.

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00:33:42,000 --> 00:33:57,000

Through modern archaeology, the hope is we can find out the answers to all these questions. The hope is we can discover the information that's necessary to tell us what happened to the Queen Anne's Revenge and what Blackbeard was thinking when his ship went down.

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00:33:58,000 --> 00:34:16,000

Fire breathing sea dragons are the stuff of ancient legends. But where do these myths originate?

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00:34:17,000 --> 00:34:28,000

Stories from an area of ocean south of Japan renowned for the disappearance of many ships suggest a dramatic new interpretation of this age-old mystery.

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00:34:31,000 --> 00:34:42,000

August 1944, the Philippines Sea in the western Pacific Ocean. A Japanese fighter aircraft is returning from a routine mission.

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00:34:43,000 --> 00:34:54,000

A Japanese pilot sorting what looked like some sort of large dragon-like creature, fire-breathing creature swimming in the water.

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00:34:55,000 --> 00:35:03,000

Could there be some kind of sea dragon out there? And could it be linked to multiple ship disappearances?

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00:35:13,000 --> 00:35:23,000

An area of the western Pacific known as the Devil's Sea or Dragon's Triangle is notorious for ship disappearances.

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00:35:24,000 --> 00:35:30,000

And in 1944, an eyewitness account describes something strange in the water.

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00:35:31,000 --> 00:35:41,000

The pilot's official report describes a serpent-like monster navigating through wildly churning waters, emitting huge flames.

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00:35:42,000 --> 00:35:47,000

It's a part of the ocean that we don't have a clear understanding of what's going on there.

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00:35:48,000 --> 00:35:53,000

The extraordinary sighting takes place in an infamous section of the Pacific.

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00:35:54,000 --> 00:36:01,000

The Devil's Sea is located to the south of Japan, skirting the coast of Taiwan and extending into the Philippine Sea.

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00:36:02,000 --> 00:36:05,000

For a thousand years, it has been notorious.

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00:36:06,000 --> 00:36:10,000

This is an area where ships have gone missing for a very, very long time.

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00:36:11,000 --> 00:36:16,000

The Devil's Sea has been swallowing ships since at least the 13th century.

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00:36:16,000 --> 00:36:25,000

During the reign of Kubla Khan, who was the grandson of Genghis Khan, the Chinese embarked on a period of exploration.

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00:36:26,000 --> 00:36:34,000

Kubla Khan's navy was lost in this area and potentially as many as 40,000 sailors drowned as a result.

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00:36:35,000 --> 00:36:41,000

Across the region, scholars attempted to come up with explanations for this unfathomable tragedy.

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00:36:42,000 --> 00:36:50,000

One of the founding theories was that they were being swallowed by a sea dragon, and that's early Chinese mythology, of course.

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00:36:52,000 --> 00:36:58,000

These ancient cultures, when they see things, how do they explain them? What is it? It's a sea monster.

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00:36:59,000 --> 00:37:07,000

Over the centuries, the Devil's Sea's lethal reputation has grown as the number of ships that have been lost in its waters has increased.

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00:37:08,000 --> 00:37:14,000

It is the Bermuda Triangle of the Pacific, and in many ways, it is just as deadly.

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00:37:15,000 --> 00:37:23,000

Some cases have involved enormous vessels, including the largest British ship ever lost at sea, the MV Darbyshire.

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00:37:24,000 --> 00:37:32,000

Huge ships like the Darbyshire twice the size of the Titanic being lost. How in the world is that possible in any part of the world?

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00:37:32,000 --> 00:37:38,000

Many argue that high numbers of disappearances simply reflect high volumes of traffic.

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00:37:39,000 --> 00:37:45,000

It's a very active part of the ocean. There's a lot of transit that occurs in that particular part.

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00:37:46,000 --> 00:37:54,000

And when historic cases have been investigated, the culprit for many vanished ships in the region turns out to be one thing.

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00:37:55,000 --> 00:38:02,000

It's an area that's prone to typhoons, and some shipwrecks are known to have been the victim of severe typhoons.

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00:38:03,000 --> 00:38:09,000

But these tropical cyclones can't explain away all the disappearances in the Devil's Sea.

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00:38:11,000 --> 00:38:17,000

In 1953, a Japanese research vessel is sent to study the area.

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00:38:18,000 --> 00:38:27,000

She's equipped with the latest in oceanic surveillance technology, and expectations are high that she might shed light on the Devil's Sea phenomenon.

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00:38:29,000 --> 00:38:31,000

But she too vanishes.

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00:38:32,000 --> 00:38:40,000

I guess that's a little irony there. It's an out to look for lost ships. Itself is lost.

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00:38:41,000 --> 00:38:52,000

The research ship disappears in good weather conditions, but a crew member on one of the vessels sent to search for her reports something remarkable.

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00:38:53,000 --> 00:39:02,000

He states that a section of sea in the area where the research ship is thought to have vanished appeared to boil and spew smoke.

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00:39:03,000 --> 00:39:15,000

An incident over 30 years later, a nearly 6,000 miles away of Tahiti could hold the key to this mystery.

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00:39:16,000 --> 00:39:22,000

The Oceanographic Research vessel Melville is studying atmospheric nuclear testing in the Pacific.

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00:39:23,000 --> 00:39:28,000

The scientists on board have already noted some unknown intermittent underwater rumblings.

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00:39:29,000 --> 00:39:33,000

Then, all of a sudden, the ship starts to shake violently.

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00:39:34,000 --> 00:39:44,000

The sea around the ship becomes a boiling soup, spitting and churning, and the crew are absolutely terrified.

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00:39:45,000 --> 00:39:51,000

Speculation is that what it may have been observing was actually volcanic activity.

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00:39:52,000 --> 00:39:59,000

They may have been floating above the epicentre of a new volcano forming.

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00:40:05,000 --> 00:40:12,000

Miraculously, the underwater volcano does not sink the Melville, and her crew live to tell the tale.

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00:40:13,000 --> 00:40:20,000

But could what they experience shed light on some of the mysterious ship disappearances elsewhere in the Pacific?

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00:40:21,000 --> 00:40:29,000

The Devil's Sea straddles four major tectonic plates, and it turns out is dotted with underwater volcanoes.

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00:40:30,000 --> 00:40:33,000

This entire region is part of the Pacific Rim of Fire.

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00:40:34,000 --> 00:40:41,000

So there's this very active system that exists right beneath the waters where these events occurred.

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00:40:42,000 --> 00:40:49,000

So in geologic terms, the edges of the Devil's Triangle, at least the eastern edge of the Devil's Triangle,

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00:40:50,000 --> 00:40:53,000

is an area that is very seismically and volcanically active.

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00:40:56,000 --> 00:41:01,000

So could underwater volcanoes be the real phenomenon behind the Sea Dragon legend,

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00:41:02,000 --> 00:41:09,000

which started with the loss of Kubla Khan's navy and which was still inspiring reports centuries later during World War II?

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00:41:10,000 --> 00:41:15,000

If you're a pilot and you see underwater volcano, you might call it a fire-breathing dragon,

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00:41:16,000 --> 00:41:19,000

especially if lava is being spit into the air.

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00:41:20,000 --> 00:41:26,000

Underwater volcanoes could be the culprit, but catching them in the act is an elusive science.

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00:41:27,000 --> 00:41:35,000

So whether subsea eruptions are a factor in all the disappearances in the Devil's Sea may never be known.

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00:41:36,000 --> 00:41:43,000

As more and more research is done in the coming years, we will start to understand what is going on

in that particular part of the Pacific.

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00:41:46,000 --> 00:41:52,000

In my experience, there is often a real phenomenon behind even the most extraordinary legend.

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00:41:53,000 --> 00:41:58,000

And maybe underwater volcanoes do play a part in the Sea Dragon myth,

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00:41:59,000 --> 00:42:03,000

but there's rarely a single answer to a complex mystery.

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00:42:04,000 --> 00:42:07,000

So in the case of the Devil's Sea, we keep on looking.