



CORDELL BANK: Blue Water Oasis SCRIPT

NOAA/National Marine Sanctuary logo

VIDEO/MUSIC	DIALOGUE
Music and underwater breathing to build suspense and tension Diver's view of underwater bubbles. Schools of fish And more fish	Jack Marshall: <i>When we first arrived at the Bank // having never dove there before, I had no clue as to what was underneath me. //</i> <i>We're sliding on down into deep dark blue. // 3 minutes maybe// and wondering where's the bottom? And then pretty soon we start to see an outline of fish. And we get down a little farther and there are absolutely incredible schools of fish. // millions of fish.</i>

Jack Marshall OC Schools of fish Label: on screen: Jack Marshall: Cordell Expeditions Diver <i>Super Title : Cordell Bank: Blue Water Oasis</i>	<i>It is so hard to describe. I wanted to scream. I wanted to yell. I wanted to do something, but I didn't want to spit my regulator out of my mouth either.</i> Jack Marshall: <i>Unbelievable. // Just fell in love with the place. Absolutely fell in love with it.</i>
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San Francisco life-Trolley, Golden Gate Bridge Cargo Ship heads out to sea Point Reyes Lighthouse aerial Pacific open water aerial On Cordell Bank boat	Start with the hustle and bustle on the trolley Narration: Not far from the hustle and bustle of the big city hidden from coastal views nearly 20 miles west of Point Reyes lighthouse, lies an underwater oasis that has only recently been explored . . . it's name is Cordell Bank National Marine Sanctuary. (this should be over the boat section)
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<p>Dan Howard <i>Superintendent</i></p>	<p>Getting here isn't easy. And for scientists it poses a host of challenges.</p> <p>Dan Howard: <i>Cordell Bank is a very difficult place to study because of the off shore nature of the site.</i></p> <p><i>And our ocean in this area is typically really rough. So we have a couple months a year, typically September and October, when we can get out there and study the off shore environment. //</i></p>
<p>On Delta Boat, see Dan board DELTA Submersible</p>	<p>Dan Howard: <i>All of this combines to make studying Cordell Bank a pretty challenging adventure.</i></p> <p>Narration: For scientists like Dan Howard, the rewards of working at Cordell Bank far out weigh the obstacles</p>
<p>Delta POV- underwater descent</p> <p>Rockfish</p>	<p>Dan Howard: <i>The thrill of going down in one of these manned-submersibles and exploring Cordell Bank is unique every single time that you go there. For instance, in 2001 our first exploration, the top of the Bank was absolutely covered with juvenile rockfish. Young-a year rockfish;</i></p>
<p>Rockfish</p> <p>Octopus</p>	<p><i>tens of thousands of young-a year rockfish. The next year we went down expecting to see all the young-a year rockfish very few young-a year rockfish, but we were surprised to see Giant Pacific Octopus all over the reef going through mating behaviors that was absolutely unbelievable. The following year we went down</i></p>



<p>Humboldt Squid</p> <p>Dan Howard OC</p>	<p><i>expecting to see the octopus. Low and behold what did we come upon, hundreds of Humboldt Squid. All over the deeper reaches of the Bank.</i></p> <p><i>So we are coming to realize that Cordell Bank is just this phenomenally, dynamic area. We never know what we are going to see. We are always fascinated with the biological surprises that we see year after year exploring the Bank.</i></p>
<p>Animation of the Bathymetry and the California Current</p>	<p>Narration: Cordell Bank is perched on the continental shelf.</p> <p>Its western edge plummets more than a mile.</p> <p>This 4x9 mile rocky oasis rises up from the seafloor—and at its highest point reaches to within 115 feet of the surface.</p> <p>The rich California Current washes over the Bank, continuously supplying nutrients to the bounty of life here.</p> <p>This same current bathes the nearby Gulf of the Farallones National Marine Sanctuary [20] miles to the south.</p>
<p>Animation of Cordell Bank plate tectonics shifting</p> <p>Farallon Islands- aerials</p>	<p>A favorite haunt among sealions and elephant seals, these craggy peaks mark one of the world’s foremost destinations for white sharks.</p> <p>The islands also boast the largest concentration of breeding sea birds in the entire continental United States,</p>



<p>great white shark</p> <p>sealions, elephant seals</p> <p>Seabirds take flight</p> <p>Farallon Island Aerial Open water Aerial</p> <p>Gold Rush footage and Period Music</p> <p>Historic Maritime images (these are due to be replaced)</p>	<p>Narration: While the first documented discovery of the Farallons was in the 1500s,</p> <p>Cordell Bank was formally discovered during the California Goldrush when the US Coast survey undertook a series of offshore expeditions.</p>
<p>Portrait of George Davidson</p> <p>Historic Maritime/fog images</p> <p>notice to mariners</p>	<p>During one expedition, the ship of expert hydrographer, George Davidson, became mired in a dense fog. Dropping a lead line to determine his position, he found a shocking surprise. His depth registered a mere 30 fathoms (or 180 feet) half the depth he expected. He made a vow to return and conduct a proper survey.</p> <p>That survey, however, would fall to another man, Edward Cordell . . . several years later.</p> <p>The Bank would later bear his name.</p>
<p>Old film of CB Expeditions</p>	<p>Narration: It was not until 1978, more</p>



On boat in Pacific Ocean	<p>than 100 years after its discovery that the first humans actually saw Cordell Bank for themselves.</p> <p>Bob Schmieder: <i>After talking with quite a few people and finding out that this place was really unknown,</i></p>
<p>Bob Schmieder <i>Founder of Cordell Expeditions</i></p>	<p><i>I made a personal decision to try and go there and learn something about it. And so I pulled a team together, a group of people who also wanted to do this. We worked for over a year before we succeeded in making our first dive.</i></p>
Old film – boat in open ocean	<p>Bob Schmieder: <i>We didn't have any good survey data and so we had trouble even finding Cordell Bank. // We were guided there as Edward Cordell was guided there, by birds sitting on the water // and sure enough we found a place that measured about 120 feet deep.</i></p>
Old film- diver jumps into water	<p>Narration: Along with Schmieder was veteran diver Jack Marshall</p> <p>Jack Marshall:</p>
Jack Marshall	<p><i>There were no landmarks anywhere. And I am wondering, is this boat going to be here when I get back from underwater. I swam over to the buoy, grab a hold to the line, put my mask on, and I poke my head under the water to take a look</i></p>
Old film- diver descent	<p>Jack Marshall: <i>and all I see is this yellow rope going down about 100 feet. That is all I could see is it just disappearing into the blue.</i></p> <p><i>STOP JACK there</i></p>
Diver bubbles	



Schools and schools of fish	
<p>Old film- reveal the Bank</p> <p>Colors of the Bank</p>	<p>Bob Schmieder: <i>And suddenly they parted and we could see, almost if you like, horizon to horizon this beautiful landscape. // And the thing that struck us most was the red colors at these great depths. At 120, 130, 140 feet</i></p>
<p>Old film- underwater life and divers</p>	<p>Jack Marshall: <i>Every rock was covered with marine creatures and all kinds of colors, in yellows, in reds. The fish are darting in and out of all the rocks. // It's almost indescribable. To do a dive on, what has to be, one of the most beautiful dive sites in the world.</i></p>
Jack Marshall	
<p>Old film- return to boat after dive</p> <p>Map of National Marine Sanctuaries Somehow we need to pan a little quicker so that all the sanctuaries and monument can be seen in this shot, it's a little slow right now. <i>Go to Cordell Chart</i></p> <p>Put full mission statement at the end of the film.</p>	<p>Narration: In recognition of its unique qualities, Cordell Bank became a National Marine Sanctuary in 1989.</p> <p>Watched over by the National Oceanic and Atmospheric Administration, NOAA, Cordell Bank is one of 13 national marine sanctuaries and one marine national monument.</p> <p><i>These vital sanctuaries work to conserve, protect and enhance the nation's marine protected areas.</i></p>



Sanctuary research boat- Deploy PHANTOM ROV	Narration: Today the exploration continues and a new generation of explorers are recognizing the significance and beauty of this place.
ROV underwater footage- bottom of Bank	Dan Howard: <i>We've used things like remotely operated vehicles, ROVs, and Manned Submersibles to explore the mid and bottom parts of the bank which is anywhere between 180 to 280 feet.</i>
<p>ROV underwater footage- top of Bank</p> <p>Basket star (deep) Hagfish, muddy sediment, spot prawn, rockfish, dark Need tight shot of sponge and sea stars (ghostly even)</p> <ul style="list-style-type: none"> • Close up of crabs atop coral atop sponges etc. • Lingcod <p>Giant Pacific Octopus</p> <ul style="list-style-type: none"> • 6 gill shark- moving around on the bottom, curious • Sandy waved channel habitat • Close ups of sand and biogenic material • Krill swarming around the sub • Close ups of large fish, juvenile fish, and 	<p>Narration: Layers of life have colonized, crumbled and coalesced adding to the foundation of the Bank.</p> <p>And atop this rocky necropolis, new life has sprung.</p> <p>From animals like sponges and sea stars, to crabs and curious octopus</p> <p>nearly every major group of animal is represented on this isolated oasis.</p> <p><i>Mola footage here</i></p> <p>Space to live can be a limiting factor with each organism fighting for its foothold in</p>



<p>invertebrates, beautiful shots of these critters at depth.</p> <p>shots of critters getting knocked off</p>	<p>the current.</p>
<p>footage: dramatic whale blow</p>	<p>Stacked living, can sometimes offer the best . . .or only solution for survival.</p> <p>And with this bustling crowd of life, even more visitors are attracted to the party</p>
<p>Blue Whale blow</p> <p>Rissos Dolphins</p> <p>Pacific White sided dolphins</p> <p>Black-footed Albatross</p> <p>Leatherback Sea Turtle</p> <p>Humpback whales blow and fluke</p> <p>Humpback whale cow/calf underwater</p>	<p>Narration: From the far reaches of the Pacific, Cordell is a migratory destination for a myriad of sea life.</p> <p>Dan Howard: Cordell Bank not only provides a home for rockfish and seastars it also is a feeding destination for a variety of migratory animals,</p> <p><i>Like // blue whales from Costa Rica, leatherback sea turtles // and // black-footed albatross from the Hawaiian Islands, // all of these animals come to Cordell Bank to feed on the rich bounty that thrives in the area."</i></p> <p>Narration: Above and below the waves, life of all shapes and sizes is attracted to these rich feeding grounds. And for millennia, it was only the creatures of the sea who bore witness to this secret bounty.</p>
<p>John Calambokidis on tagging boat</p>	<p>Narration: John Calambokidis, a world authority on blue and humpback whales, has been studying this Pacific population for years</p> <p>Calambokidis and his team have</p>



Photos of Whale Fluke Shots	<p>photographed over 1500 whales, identifying individuals from their unique tail fluke and back markings.</p> <p>John Calambokidis <i>Both Humpback and Blue Whales // range widely along the west coast. // But there are</i></p>
<p>John Calambokidis Whale Researcher</p>	<p><i>a few key areas that we've found where they regularly go to feed. These are productive areas where there is upwelling. In the case of blue whales, there are lots of krill. In the case of humpback, there's either krill or fish.</i></p>
Humpback Whales and Blue Whales	<p>John Calambokidis: <i>Cordell Bank, especially in the fall months, we see spectacular concentrations of Humpback and Blue Whales in some years.</i></p>
<p>John Calambokidis</p> <p>Humpback footage</p>	
Underwater beauty (schooling fish over Cordell Bank reef, blue water)	<p>Narration: There is still much to learn about Cordell Bank, and many more species yet to be discovered.</p> <p>And while this oasis may seem far removed from civilization, its inhabitants lie at the mercy of our everyday actions. Its vital we stay mindful of how our daily habits can influence the life here . . . and farther out to sea.</p>



<p>Sunset over coastal beach</p> <p>Sunset over open water with Risso's dolphin</p> <p>Dolpins in ocean at sunset</p>	<p>Most of us may never see Cordell Bank with our own eyes but knowing that these rainbowed reefs exist -- perched on the edge of the Western world -- sets fire to the imagination.</p> <p>And inspires the explorer in each of us.</p> <p>For more information about Cordell Bank National Marine Sanctuary please visit our website.</p> <p>Rolling Credits</p>
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