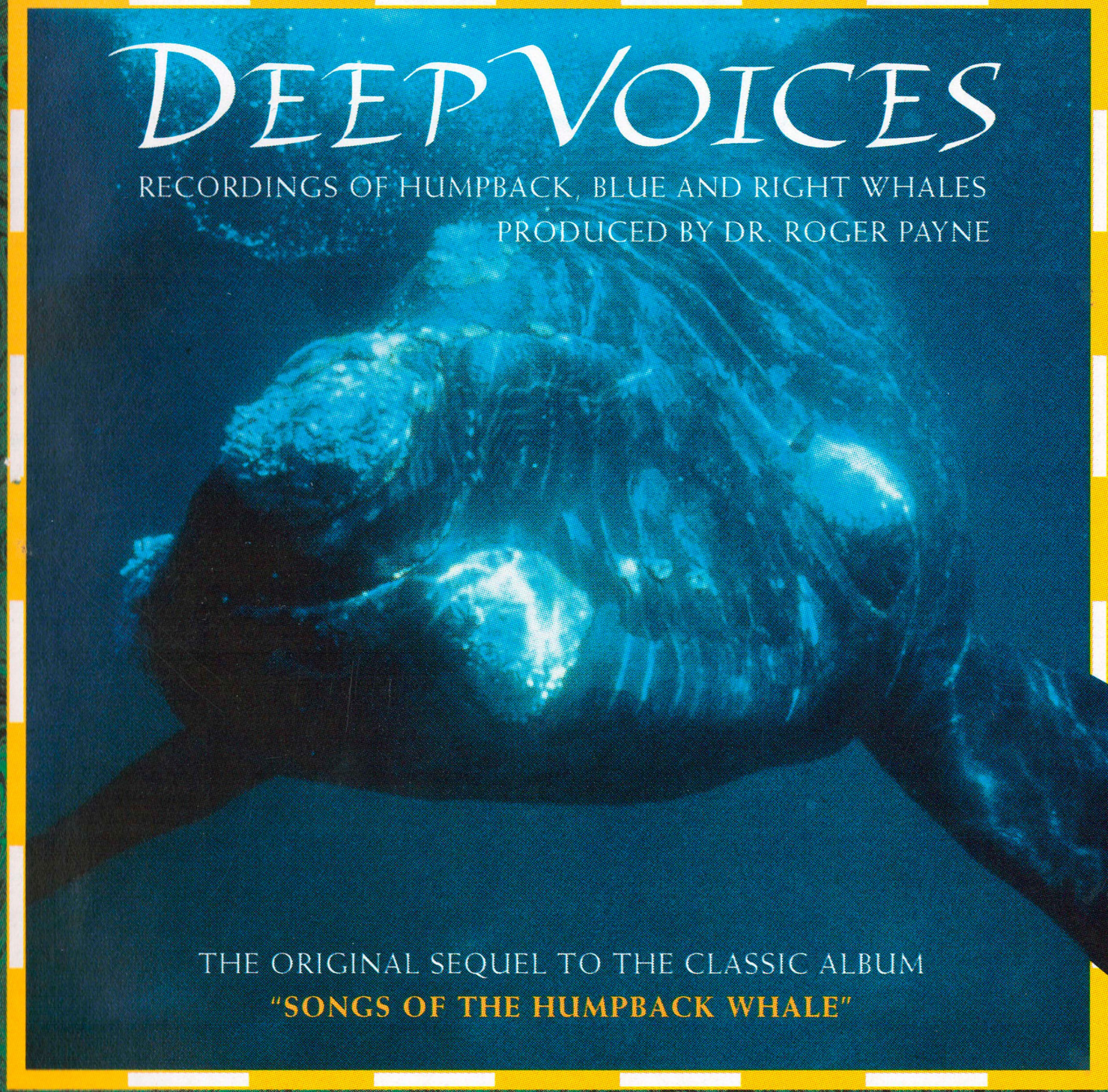
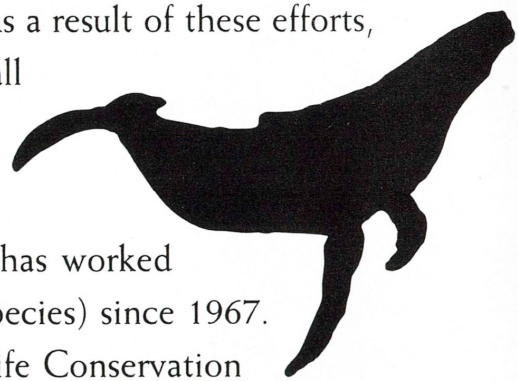

DEEP VOICES
RECORDINGS OF HUMPBACK, BLUE AND RIGHT WHALES
PRODUCED BY DR. ROGER PAYNE
THE ORIGINAL SEQUEL TO THE CLASSIC ALBUM
"SONGS OF THE HUMPBACK WHALE"

DEEP VOICES

INTRODUCTION This is the second whale record, the original sequel to *Songs of the Humpback Whale,* which was released in 1970 and is still in print. *Songs* has had a surprising success; over 200,000 copies have been sold, more than any other recording of natural sounds in history. Since humpback whales are the recording artists, they receive the artist's royalties, the money being split between Wildlife Conservation International (formerly the New York Zoological Society) and the Whale Conservation Institute. Thus for every record purchased, a contribution is made to saving whales. The same is true of this record. These groups have used the funds from the first record to promote whale conservation throughout the world. They can claim a major role in stopping the importation of whale products into the United States and in establishing a whale refuge in Argentina and the Antarctic Ocean, as well as a number of other projects which have brought the plight of whales to the attention of the world. As a result of these efforts, and the many efforts of other conservation organizations, people all over the world have become aware of the grave danger that whales face at the hands of the modern whaling industry.



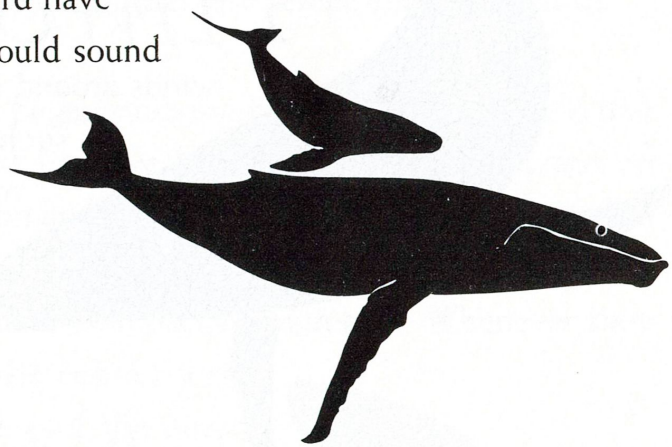
Roger Payne, who made most of the recordings on this record, has worked continually with humpback and right whales (both endangered species) since 1967. His work has been supported by such organizations as the Wildlife Conservation International, the National Geographic Society, the World Wildlife Fund, the Marine Mammal Commission and the National Science Foundation.

Roger's work has been covered in a series of television films, most recently in three Discovery Channel specials: *In the Company of Whales, The Last Whale,* and *Finite Oceans*, as well as in an hour long, Emmy-winning interview with Charlie Rose. His book *AMONG WHALES* was published by Scribner's in May 1995.

Roger's former wife Katy Payne discovered that all humpback whales in the same herd sing the same song (rather like hit tunes with people), but change it slightly until by the next year it is a different song. Only a few animal species are known to change songs each year, and there is still no satisfactory explanation for why humpbacks do such a bizarre and fascinating thing.

This recording includes two humpback songs that are entirely different from any on the first whale record. If you have both records, you will see that the differences are as great as the differences between a classical and modern composer.

Except as noted below, none of the sounds on this record have been changed in any way. They are exactly as they would sound to the whales. They were recorded with a hydrophone (a fancy term for an underwater microphone) which makes it possible for our ears, designed for listening in air, to hear underwater.

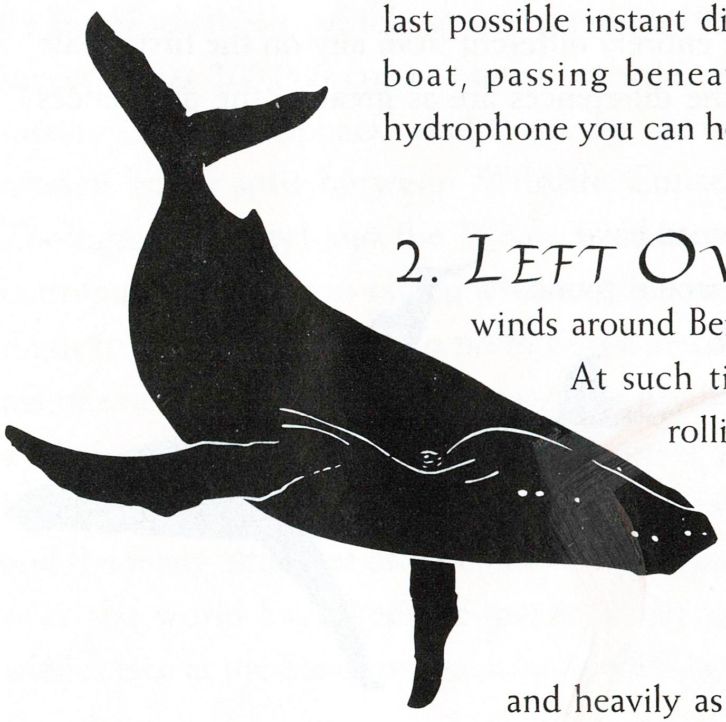


The following notes were written by Roger Payne:

HUMPBACKS

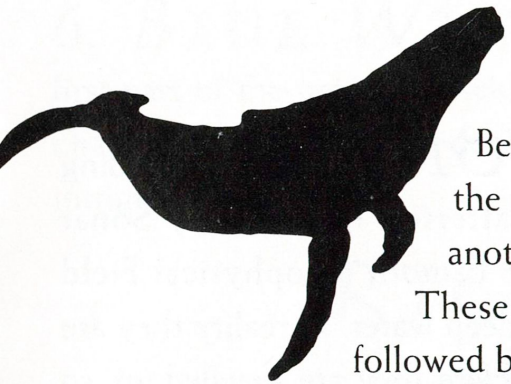
1. WHALES CHARGING A BOAT Sometimes humpback whales form small, tight groups like packs of dogs that move fast at the surface, breathing nearly in synchrony and with much cavorting and social interaction. Some of the groups are males in competition for females, but the composition of others is less clear. When they encounter a boat they often stop and approach cautiously and then silently withdraw, milling about for several minutes. At times like these they seem not to know what to do, and they keep close together, pressing against one another and maneuvering, so as constantly to touch each other's bodies. On a

few occasions these groups have become bold and ended their stay with us by making a mock charge at the boat. This was such an incident. They grouped about 100 yards away, trumpeting and grunting alternately, then turned and plowed towards us, howling loudly, and coming so fast and unswervingly we were convinced we were going to be rammed and sunk. Only at the last possible instant did they change direction and dive deftly under the boat, passing beneath us in complete silence, but so close to the hydrophone you can hear the gurgling water from their wakes.



2. *Left Over Sea Running* The spring winds around Bermuda often blow for long periods and without let. At such times the seas build and build until everything is rolling and reeling and toppling, and all one can do is hang on and wish it would quit. Sometimes the wind dips abruptly and when it does there's no press of air on the sails to hold the boat steady, and so it pirouettes and bows and curtsies clumsily and heavily as though drunk. It's very uncomfortable aboard. The old sailors call this a "left over sea running."

We made this recording on such a day in April. We had been out all through a very rough night, and by morning were very tired, and about ready to return when the wind quit all at once. I put down the hydrophones right away and started listening. The contrast was amazing. Beneath all that wildly gyrating surface whitened by bursting waves, undulating and twisting and heaving about, were the sweetest, serenest, loveliest sounds one might ever hear. Clearly the whale cared not one fig for the moods of the ocean, and had its own mood which transcended whatever chaos of motion the weather might throw at it. You can hear the whale clearly in this recording, but you may barely notice the sea.

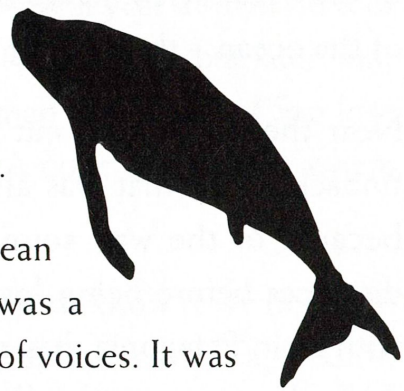


3. Herd Noises

Every spring, as if from nowhere, the humpback whales mysteriously appear and pass by Bermuda. During the three or four months that the parade goes on, the ocean is seldom silent. It is filled with their songs. But they also have another vocabulary which includes sounds that we never hear in songs. These are social sounds, herd noises that are made in little bursts and followed by long silences. They are often frantic and close together as though there was some momentary squabble in their otherwise serene and gliding lives.

4. Drifting Off

When we first began studying humpback whales we didn't realize that they sing all through the night. The first time we heard a night chorus it was an accident. We had been drifting far off shore all afternoon and the weather being fair, we decided to stay out over night. We were out of sight of land over Argus bank, a shallow plateau that rises from deep water about 30 miles from Bermuda – a place where humpbacks congregate. Whenever they sang in deep water suspended far above the abyss the echoes were distinct and one got the sense of vast, vaulted spaces as if the ocean were a great cathedral, but now we could tell that they were up on the bank as there were no echoes, and their voices sounded flat and lackluster.



As darkness fell, the wind died and we were carried only by the slow ocean currents. We passed that night immersed in the sound of whales. It was a strange and lovely sound as if of sleepers singing, a mingled, mazy drone of voices. It was as if they sang as they drifted off to sleep, right through from consciousness to unconsciousness.

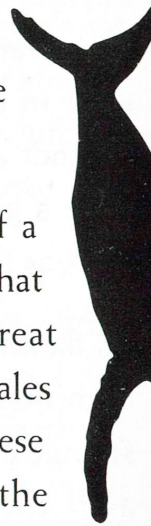
The selection here was made during the time our boat was being carried by currents off the bank and out over deep water. You can hear the sound of the whales go from dull and leaden to echoing and spacious and full as the boat is drifting off the bank.

BLUES

5. DEEP VOICES

This recording was made by Brian Patterson of the Navy Sonar Laboratory in Bermuda (now called the Lamont Geophysical Field Station). He heard these sounds from a hydrophone far off shore in deep water. In reality they are so low they would be inaudible to most people if played normally. Here they are speeded up, so that they are an octave higher. Even so, you must use a good audio system to hear them at all, and when you do you will more feel than hear them.

These are the sounds of a blue whale (blue whales are the largest animals that have ever lived). At the time Patterson made the recordings he wasn't sure what they were and labeled them "long pulses" because his recording apparatus so compressed time that these slow moans had the appearance of pulses. To me they evoke a feeling of great sorrow, as if they were the voice of the ocean itself: heard only rarely and far from shore. Perhaps they *are* pulses – the pulse of the ocean – the beating of its heart.

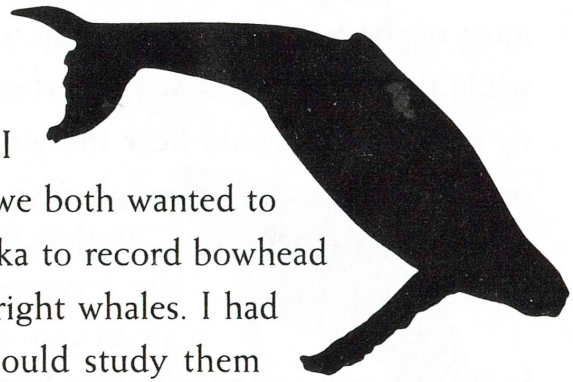


Near the end of this cut you can hear some shorter low sounds. These are the calls of a finback whale that was also in the area. Some years ago Doug Webb and I suggested that because of the way sound propagates underwater, finback sounds might travel for great distances before being lost in ocean noise. Chris Clark, who started his research on whales with us in Patagonia, has recently demonstrated that our theory appears to be correct. These days all oceans are polluted with ships' traffic noise, which is particularly loud at the frequencies at which finback whales and their relatives make sounds. But ships have only been around during one ten thousandth of the time that large whales have, and before ship noise some of the sounds made by whales may have travelled even further than they do today, making it possible for the deep-voiced whales to keep in touch with each other across entire ocean basins.

6. Blue Whales in Range

This cut merely speeds up the first part of the preceding selection to bring it more into the range of human hearing, giving us a chance to hear that the deep voices are not constant tones but slowly descending moans of intriguing complexity.

RIGHTS



Introduction

When Scott McVay and I became aware that humpback whales sing songs, the first thing we both wanted to see was whether other species did too. Scott went north to Alaska to record bowhead whales while I went to the southern hemisphere to learn about right whales. I had found an area where right whales live so close to shore we could study them without the major expense of ocean-going vessels. It was Peninsula Valdez in Argentina, an enormous cape enclosing two bays, about halfway between Buenos Aires and Tierra del Fuego on the windy Patagonian coast. In this region for five months of each year a small herd of right whales (the rarest of the large whale species) is resident. At first we lived in tents but later built a field station with modest living quarters to supplement the tents. We named our corner of San Jose Bay (the northernmost bay on Peninsula Valdez) Camp Bay. A cove to the west where whales often congregated became Whale Bay.

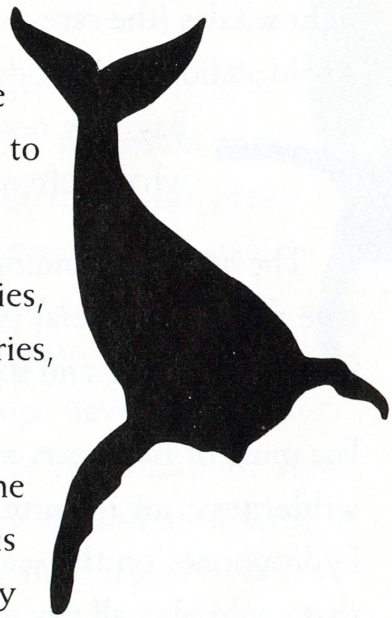
The area surrounding camp is a lovely fragile semi-desert, and as we got to know it we began to give names to special places: First Look, Second Look, Children's Slide, Splash Rock, Eagle Cliff, October Flowers, and so on. They appear on no map but in my memory.

For most of five years my family and I lived on Peninsula Valdez surrounded by a million acres of wilderness, an infinite ocean, but in the midst of a tiny band of right whales. We installed hydrophones on the sea bottom near camp and led the wires ashore to where we had a loudspeaker that could play all day and bring the voices of the whales into our lives. Sometimes we heard distant

cries, haunting and all but lost against the hiss of the waves out in the bay. At others the sounds were close and immediate as the whales swam and courted in front of camp.

7. RIGHT WHALES These are underwater sounds. I made this recording on a nearly calm morning when there were ten whales in front of camp: four mothers with calves, a lone adult and a yearling. As mothers, calves, and yearlings don't say much, the lone adult probably made most of these sounds. I suspect it was a male, but I have no idea what the sounds mean. For a long while the loner stayed at the surface right over the hydrophone (once dragging its tail right across it) and then we could hear the waves lapping against the whale's flanks. This was the first time it occurred to me that on rough days whales must experience a dramatic contrast between the relative calm beneath the ocean surface and the deafening wash and crash of waves against their heads when they surface to blow.

In this cut you can hear breaths from underwater, and a calf slapping the surface far off, answered by one slapping nearby. This seems to be a very primitive form of communication in right whales, perhaps a way of finding out where the other is. In the background you can hear a hissing surge. These are pebbles on the beach being dragged back by each retreating wave. The beach in front of camp is composed of tiny polished pebbles of every subtle and vibrant color like a heap of gems. The children often made collections – no two alike – and a single square foot could take all morning to explore properly.



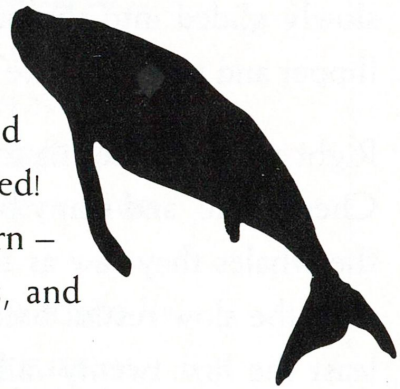
Though this selection has only a few types of sounds, we often heard whinnies, growls, moans, chuckles, chirps, gurgles, snickers, creaks, burps, groans, cries, keens and so on ad infinitum. We found all this variety, but no songs.

A long time later I saw Scott McVay and learned with disappointment that he had not heard songs from bowheads either. In recent years, however, Chris Clark has finally heard songs from bowheads near Point Barrow as they

migrate north in spring. Chris has since figured out what some of the unbelievable array of sounds from the right whale mean ("I'm approaching", "come here", some threat sounds and a sound made in excitement when porpoises are nearby), although we would all love to know whether their sounds contain deeper meaning.

8. Surrounded by Snoring

This recording and the next were made with ordinary microphones in the air. This gives some idea of how it is to be right up in the middle of a group of whales, where you can hear the wavelets breaking against their bodies and sometimes feel their breath.



On calm days such as this one, whales often slept (or appeared to), getting so log-like, unresponsive and unmoving that they no longer opened and closed their nostrils cleanly, but let the air leak in and out, so that they snored! The very first sound on this recording – which sounds like a distant foghorn – is in fact a snore. Then there are some sounds from more awake whales, and finally snores again from nearby whales.

In these recordings the microphone was within a few inches of the whales' nostrils. There were three lying very close together, asleep, and we managed to come in close, record, and withdraw without them ever waking up or realizing the boat was there. It was a strange experience to be so close to such deep and gargantuan sleep.

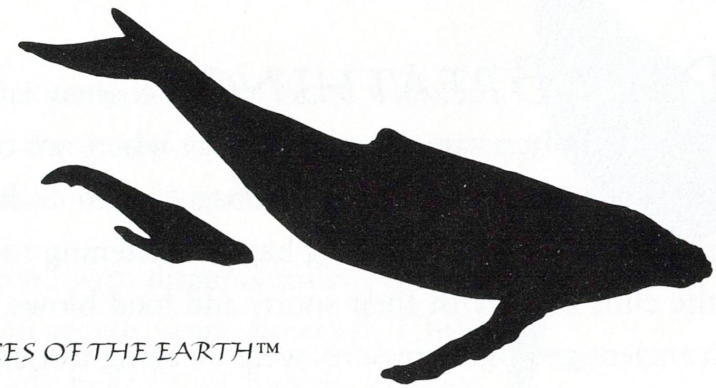
9. Deep Breathing

(courtesy Survival Anglia Limited and Les Bartlett) On calm nights the herd often came into Camp Bay where we could hear them breathing quietly or blowing loudly depending upon their mood. Often I woke, to lie in the dark tent staring at the slack ceiling, feeling the warmth of the sleeping bag and listening to them. Courting whales stirred the water and made the cliffs echo with their snorts and loud blows, but sleeping whales gave long, soft sighs as though ancient geologic pressures were escaping through long-dormant fumaroles.

There was no peace like this peace. I had tried many times to record it but the conditions were never right. Then one morning when I was away from the Peninsula, Les Bartlett, a young cinematographer who worked with us, woke early to find the day perfectly still. He climbed the cliffs overlooking the bay, set a recorder on the ground, walked away, and made this remarkable recording. It is uncut and just as it sounded on that lovely day.

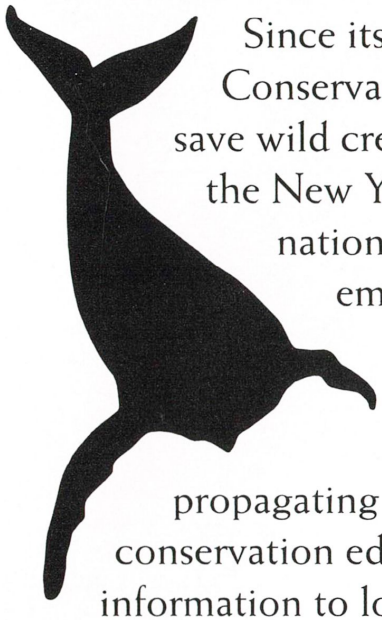
At the start you can hear a courting group blowing loudly, interspersed with sighs from sleeping whales that are scattered about nearby. During silences between breaths you may hear a distant group of gulls calling and slapping the water as they bathed together. A mother whale and her calf slowly glided into the bay, the calf in a playful mood repeatedly slamming the surface with his flipper and tail (these are the muffled thumps you hear).

Right whales once filled many of the bays and inlets on earth. They were in Delaware Bay, the Chesapeake, and many bays on the European coast line. Diarists from the Mayflower marvelled at the whales they saw as they entered Massachusetts Bay. The surfaces of all these bays were alive with the slow restful breathing of whales. This is how the shores of the world sounded during at least the first twenty million years of the existence of whales. It is only in the last two hundred years that the scene has changed, so that now children whose great-grandfathers must have delighted in hearing these sounds cannot even imagine what life was like such a short time ago. We could return to these sounds, however, by simply leaving whales alone and allowing their numbers to recover.



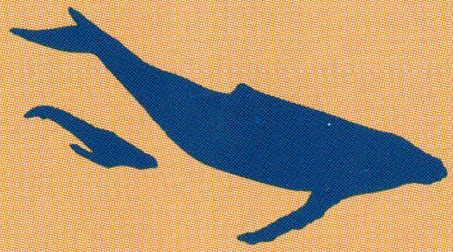
VOICES OF THE EARTH™

The Wildlife Conservation Society Celebrates Its One Hundredth Anniversary



Since its founding in 1895 the Wildlife Conservation Society (WCS) has been working to save wild creatures where they live. Formerly known as the New York Zoological Society, WCS operates the nation's largest system of urban wildlife parks and employs more international field conservation scientists than any other non-governmental organization. It also leads in creating wildlife reserves and sanctuaries, propagating endangered species, and in the area of conservation education, providing science-based information to local decision-makers to protect wildlife and increasing the public's awareness of the dangers faced as the result of natural resource destruction.

Wildlife Conservation Society
185th Street & Southern Boulevard
Bronx, NY 10460-1099



There are over 5 billion of us humans on the planet.
We have a choice: either to be the greatest heroes
in the history of life on earth – remembered for longer
(probably forever)
than any other generation before
for having made the effort and roused ourselves in time
to heal the world around us, or we can be the greatest villains
in the history of life on earth – remembered for longer
than any other generation before
(and probably forever)
for having sat on our hands and done nothing
while the consequences of both our action and our inaction
destroyed the natural world.
This recording is offered in hopes that when you hear the whales
you will take up the cause of life on earth."

- Roger Payne

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LIVING MUSIC