

The Anza-Borrego Pleistocene

Segment 1: Looking Out on the Morning Plain

EDTECH 561

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VIDEO	AUDIO
XLS OF BORREGO VALLEY FROM THE VISITOR'S CENTER	Music
CAMERA BACKS UP AND WE LOOK OVER THE SHOULDER OF THE RANGER AND STUDENT IN THE FOREGROUND, THEIR BACKS TO US	Music fades
TRANSITION TO EITHER AN OVER THE SHOULDER SHOT OR AN XCU OF THE RANGER'S HAND HOLDING A MAMMOTH TOOTH AND POINTING TO IT	<p>STUDENT: So this is that mammoth tooth you've told me about?</p> <p>RANGER: Yes Jenny, this mammoth tooth was excavated just recently. Its "owner" lived here over one million years ago. Maybe insert a small piece here about elephants and how mammoths are another elephant-like critter. As a matter of fact we've discovered over XXX mammoth locations here.</p>

DISSOLVE TO A MAP OF WESTERN NORTH AMERICA AND ZOOM IN TO A-B

STUDENT: But how is that possible? How could they live in such a desert? I thought mammoths lived in cold climates?

TRANSITION TO XLS OF PARK PANORAMA

NARR: It's true that today the Anza-Borrego landscape is a desert badlands...but it wasn't always this way.

DISSOLVE TO PANORAMA OF PLEISTOCENE LANDSCAPE

NARR: This was once a lush landscape.

CAMERA PANS THE MURAL (LANDSCAPE 5) AND HIGHLIGHTS AREAS FROM THE NARRATION.

NARR: An environment made up of rivers and streams...lakes... forest and savannah.

FX SUPERIMPOSE TIMELINE EXPANDING BACK FROM THE PRESENT TO 3 MILLION YEARS AGO (MYA)

NARR: At that time mammoths lived all over the northern hemisphere and many mammoth fossils have been found here. Some go back almost 2 million years ago.

SUPER OF TIME LINE HIGHLIGHTED FROM .5 TO 1.5 MYA

NARR: But most of the mammoth finds in the park show that here they occupied the late Pleistocene time period, from half a million to 1 and a half million years ago. Throughout most of North America they lived up 10,000 years

ago, we just don't have fossil beds
that young in the Park.

FADE MAMMOTHS INTO
LANDSCAPE

NARR: Two types of mammoths existed over that
time

SUPER THE MAMMOTH
IMAGES OVER THE
MAMMOTHS IN THE
LANDSCAPE

NARR: The Southern Mammoth and the
Columbian Mammoth.....

Can talk more about mammoths here if we want

SUPER MAMMOTH
IMAGES FADE AND
ONLY MAMMOTHS IN
THE LANDSCAPE ARE
SEEN

NARR: But mammoths weren't the only animals
we'd find if we roamed the Anza-
Borrego Pleistocene landscape.

DISSOLVE IN CAMELS
FROM LEFT

NARR: This landscape was the original home for
two families of camels... the Lamini,
now the llamas of South America,
and the camels, Camelini, only found
today in the Old World—Africa and
Asia.

CONTINUE TO
DISSOLVE IN CAMELS
TO INCLUDE THE
ENTIRE GROUP.

NARR: We know this because Anza-Borrego has an
exceptional and diverse fossil record
that spans millions of years. Not only
are plants, shells or bones and teeth

preserved, but in some places, also animal tracks.

NARR: An in the case of camels there have been nine different camelids discovered in Anza-Borrego....more than from any other area in North America!

NARR: The other large mammals found in the Pleistocene Anza-Borrego landscape...

DISSOLVE IN HORSES

NARR: are horses. [We need to add some horse info here.]

NARR: But, if we walked this area during the Pleistocene we'd also see birds, reptiles, amphibians and carnivores like wolves or possibly saber-toothed cats.

SUPER BIRD FOSSIL OR BONES.

NARR: In general, bird fossils are very rare. Their bones are hollow with thin walls and are fragile. This reduces their weight and is an adaptation for flight. But they get crushed when sediments are deposited on top of them in rivers or streams. And they usually disintegrate

with minimal water flow and movement.

TAKE AWAY BONES TO SHOW LANDSCAPE.

NARR: But over 300 bird fossils have been recovered from Anza-Borrego Desert State Park®.

DISSOLVE IN BIRDS AS THEY ARE MENTIONED

NARR: Water birds are the most common found here. These include ducks, geese and swans, a pelican and an extinct flamingo.

(Most of these are not well shown in Landscape #5 so if we have to cut we can drop this or bring in images from other sources.)

NARR: Like their modern relatives they were migratory and have been found near the locations of rivers and lakes.

NARR: The ground dwelling and nesting birds found here include the extinct Anza turkey, and two species of quail. The abundance and nesting habitats of such ground dwelling birds leads us to believe there were abundant

brushland habitats.

NARR: There raptors, eagles and hawks that also flew over this landscape, but the most amazing bird has a name that translated to the "incredible wind god bird".

DISSOLVE IN FLYING RAPTOR

THIS IS NOT REPRESENTED IN THE MURAL SO WE WILL HAVE TO BRING IT IN FROM ANOTHER SOURCE AND LAY IT INTO THE LANDSCAPE.

NARR: This bird, *Aiolornis incredibilis*, stood four feet tall and probably had a wing span of between 16 and 17 feet. IT WAS THE LARGEST BIRD EVER TO SOAR THE SKIES OF THE NORTHERN HEMISPHERE. *Aiolornis* must have been an impressive sight as it stalked its prey on the ground.

NARR: Possibly some of the prey *Aiolornis* hunted were the many different reptiles found here.

DISSOLVE REPTILES AS THEY ARE DISCUSSED

NARR: Twelve fossil lizard taxa and five types of fossil snakes have been found in Anza-Borrego

NARR: There is a diverse and rich collection of

lizards. In comparison to other North America sites of similar age, over twice as many genera are known from Anza-Borrego. Many seem to represent sub-tropical habitats, like the iguana.

SUPER *HELODERMA* IF
AVAILABLE

NARR: Some lizards, like *Heloderma*, the Gila Monster, have only been found here and no where else in California.

NARR: But of the five varieties of snakes all but one, a garter snake, can be found on the desert floor today.

NARR: Unlike the fossil mammals from Anza-Borrego, most of the fossil lizards and snakes belong to the same genera as those now present in the region. This suggests that the desert reptiles developed in this general area rather than through immigration from outside of the region.

NARR: And rounding out the animals we would see on the plains are the small carnivores.

DISSOLVE IN

NARR: Coyotes, their ancestors, small wolves and extinct cats are the most abundant small carnivores discovered here.

IMAGES?

NARR: But if we were to look into the rivers, streams and forests we'd find different animals: bobcats, gray foxes, spotted skunks, weasels, otters, grisons, badgers, ringtails, coatis, raccoons and several types of bears.

FULL LANDSCAPE

NARR: As we look over the Pleistocene Anza-Borrego landscape we can see that it has given up its record of ancient life and shows us that it is one of the richest records of ancient life found in North America, or anywhere in the world.

SUPER GRAPHIC
EXTENDING TIME LINE
TO 6 MILLION YEARS
AGO

NARR: In fact, here we have a continuous record of life that starts about _ million years ago and continues into the past another 5 _ million years, when there was an inland sea in the valley.

TRANSITION TO
CURRENT DESERT
LANDSCAPE

NARR: Paleontological research and discoveries over the past 150 or years have

over the past 150 or years have
shown us this and much more.

CAMERA DRAWS BACK
SO WE SEE THE RANGER
AND STUDENT
LOOKING OUT OVER
THE LANDSCAPE AND
HEAR THEM TALKING.
RANGER POINTS INTO
THE DISTANCE.

RANGER: There was a rich variety of life that lived
on the plain. But on the far side of the
valley, straight ahead, there was a
lake and to the left a river and
streams.

STUDENT: And what kinds of animals lived there?

RANGER: Come back tomorrow and we'll talk
about the plants and animals that
have been discovered in those
locations.

MUSIC COMES UP,
CLOSE UP TO
LANDSCAPE AND FADE
TO BLACK.