Pocket Desert

confessions of a snake killer

Every outlaw needs an enemy, and for a young girl growing up on a ranch in the last corner of the Canadian wild west, the rattlesnake takes centre stage as the perfect demon for her childhood imagination.

In the dry interior of British Columbia, the south Okanagan and Similkameen valleys form the scenic bio-region known as Canada's "pocket desert." As settlers' dreams of creating an agricultural Eden erase fragile desert lands that support a breathtaking array of wild species, the narrator and her snake-hunting neighbours are forced to examine their environmental attitudes.

Superb wildlife cinematography and rare archival film clips combine with dramatic personal stories in this compelling documentary.

Recommended for use with Grades 7 and up, in the areas of biology, ecology, history, Native studies, social studies and geology.

Directors/writers:
Teresa Marshall, Craig Berggold

Producer: George Johnson

24 minutes, 10 seconds Order number: C9199 043

Closed captioned. A decoder is required.

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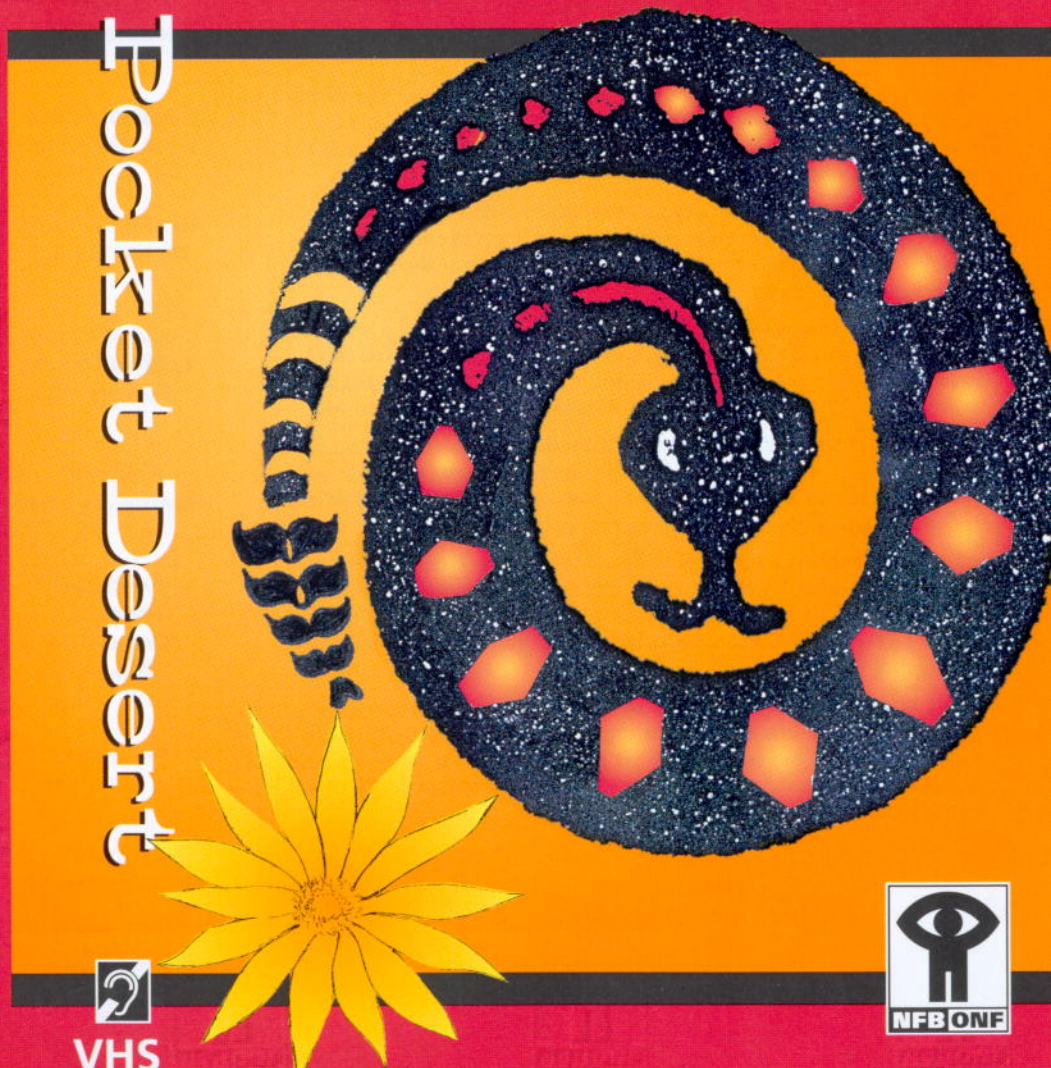

VHS

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BACKGROUND

In the south Okanagan and Similkameen valleys of BC, summer temperatures boil the mercury in an arid landscape of sand, sage and cacti — home to rare desert grassland creatures such as scorpions, rattlesnakes and burrowing owls.

The pocket desert is part of a larger ecosystem. It forms the northern tip of the Western Great Basin Grasslands, the farthest reach of the vast Sonoran Desert zone that starts in Mexico. Scientists regard this small Canadian portion as a valuable, major migratory corridor, for its incredible bio-diversity, and because many desert species — birds, bats, insects and others — have evolved hardy traits that strengthen the collective gene pool.

Though First Nations peoples have inhabited this region for more than 8,000 years, European settlers viewed the desert as a wasteland and since the late 1800s have worked to turn it into an agricultural paradise that now produces much of Canada's wine and fruit.

Less than 10% of the original desert grasslands remain. Due to hunting, habitat loss and fragmentation (the isolation of species due to human development), some 250 species are now identified as rare, endangered or extinct.

The persecution of wild creatures is a familiar story in colonial history. Spurred by the death of a boy from a rattlesnake bite in 1927, and Bible stories that depict the snake as an agent of evil, the Rev. Austin Mackie hunted down 3,647 rattlesnakes in the Okanagan over several decades.

The pocket desert has become one of the most endangered habitats in the country. In a dramatic reversal of events, the narrator and her neighbours realize that the snake they had seen as ugly and evil may be, in fact, a beautiful and necessary part of this ecosystem.

After observing the tragic effects of a toxic dump, Teresa becomes an "eco-geek freak," while biologist Michael Sarell works to save the rattlesnake and its habitat. Inspired by the teachings of St. Francis of Assisi, snake-hunter Carleton MacNaughton earns a new reputation as a naturalist.

Many scientists have made dire predictions about the exponential decline of the world's ecosystems and loss of bio-diversity that will continue through the next century. It is imperative that we examine our cultural attitudes towards nature. Community stewardship is one positive conservation initiative.

Directors/Writers
Teresa Marshall, Craig Berggold

Cinematographers
Craig Berggold, Glen Winter

Editor
Heather Frise

Original Music
Ellen McIlwaine

Additional Writer
Margo Harper

Sound Design
Velcrow Ripper, Dieter Pilts

Producer
George Johnson

Executive Producer
Svend-Erik Eriksen

24 minutes
10 seconds

Order number:
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LEARNING ABOUT A BIO-REGION

QUESTIONS AND SUGGESTED ACTIVITIES

A. What are the seasonal cycles of your bio-region?

1) Annual precipitation in the pocket desert ranges as low as 25 cm (10"). *What was the rainfall in your area last year? Was it high, average or low? Have you ever experienced a bad dry spell or drought? What happened to crops, plants and animals? What can people do to conserve water?*

2) Winter brings the most precipitation to the Okanagan, carried by storms from the Pacific Ocean and the Arctic. *What are the origins of winter storms in your region? What are they like? Write a short essay describing a recent severe storm and its effects on people, plants and animals.*

3) Up to 260 frost-free days per year have been recorded in the south Okanagan. *How long is the growing season where you live? What crops and trees grow best there?*

4) In the Western Great Basin Grasslands, fire is an essential element of desert renewal. *When was the last time a wildfire burned in your area or province? What kind of ecosystems were affected by the fire? Research what species lived there.*

B. What is the natural history of your area?

Take a walk with your class, family or friends through the "wild" area closest to you. Through personal observation and research, investigate and prepare reports on the following:

1) As the last snow melts, the Sagebrush Buttercup appears in the pocket desert. *What spring wildflowers or trees are the first to bloom where you live? What insects are the first to appear?*

2) In the desert grasslands, parts of the Bitterroot Rockrose, Arrowleaf Balsamroot Sunflower, Wild Currant, Nodding Onion and Prickly Pear Cactus are edible. *Name and describe five edible wild plants in your region and when they are available. What dishes might they be used in?*

3) The valleys and hillside steppes of the pocket desert and surrounding mountains have been formed through millennia of volcanic, glacial and tectonic activity. Antelope-brush, Bunchgrass and Ponderosa Pine trees, which grow in coarse sand and gravels anchored by a fragile layer of lichens and moss, are common plants in this desert. *What is the geological history of your region? What are some major native plant species? What foreign or 'introduced' plant, animal and bird species have spread into local wild areas, and with what effects?*

4) Large lakes created from mountain streams form essential riparian zones in the arid lands in the Okanagan and help moderate temperatures. *Trace the water you drink, from source to tap. What human interventions are there in the flow (dams, irrigation)? What effect do these have on the ecosystem? Research a riparian zone near you. What plants and animals live there?*

5) The Black-billed Magpie, Raven and Canyon Wren are resident birds of BC's southern interior, while the Western Meadowlark, Western Kingbird and Swainson Hawk migrate south several months each year. *Name and identify three resident and three migratory birds in your area. Are they indigenous or introduced species? What conditions do they need to thrive (eg, nesting sites, food, water)?*

C. Describe the impact of human activity on wild lands/life in your region.

1) Human habitation in the Okanagan/Similkameen started with the First Nations at least 8,000 years ago. European cattle ranchers settled there in the latter 1800s, followed by farmers and orchardists. Now urban and suburban development is growing. *What is the land use history of your region? How much has the population grown over the past 20, 50 and 100 years? Have you seen wild spaces disappear to development? How did it make you feel? Ask long time residents about favourite natural spaces that are no longer there and describe what has replaced them. Are the effects of the new developments beneficial or negative? Explain why.*

2) As more people move into the pocket desert, dealing with their waste is a growing problem. *How are your garbage and sewage treated for final disposal? Where does your garbage go? Is there a recycling program in your community? How does it help? What can you do to reduce your family's garbage?*

3) The Pygmy Short-horned Lizard, White-tailed Jackrabbit, Burrowing Owl, Northern Leopard Frog, Sharp-tailed Grouse and Sage Grouse have disappeared from the south Okanagan. *Research species that are extinct or endangered in your area. What habitats do they need to survive? What human activities have put them in such danger? Why is it important to try to save them? What can be done to protect them?*

SNAKE LORE

- A traditionally Chinese belief holds that if a snake lives for a thousand years, it will be transformed into a dragon.
- In traditional Egyptian, Hindu, Aztecan and Mayan religions, the snake is revered as a symbol of life, fertility, childbirth and wisdom.
- Quetzalcoatl, a Mexican deity also known as rattlesnake, is worshipped as the god of civilization.
- In many countries, Christian influences have banished the snake from an exalted role into that of a demon.
- In many societies, snakes are closely associated with water (eg, as guardians of springs).
- Because they dine on rodents and insects that destroy crops, snakes are a farmer's best friend.
- An Okanagan First Nations story tells how a man once crossed paths with a rattlesnake and killed it. He and his family were later drowned when their canoe capsized. The story warns that if you harm the rattlesnake, harm may come to you.

GLOSSARY

Bio-diversity The variety of genes, species and habitats in nature. Conserving bio-diversity is essential to sustainable development.

Bio-region The area connected by a shared watershed.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC) ranks the status of plants and vertebrates. Coordinated through Environment Canada.

Community stewardship Citizens and governments taking responsibility for the care and renewal of natural areas and resources.

Cryptogamic crust The fragile layer of mosses and lichens that anchors the sandy soils of the desert. It builds up proteins for animals to eat, and collects valuable moisture.

Desert An area with less than 254 mm (10") of annual precipitation.

Endangered species are close to extirpation or extinction.

Extinct species are those that have vanished forever.

Extirpated species are no longer found locally, but may live elsewhere.

Habitat fragmentation occurs when development breaks habitat zones into smaller parts, causing species isolation or islanding, weakening genetic diversity and long-term survival.

Migratory corridor A critical biological "highway" that species use for seasonal movements between ranges.

Noxious weeds Invasive foreign weeds, such as purple loosestrife and knapweed, that compete with native plants and crops.

Riparian zone The area beside a stream, river or lake.

Threatened species Those likely to become endangered without efforts to save their habitats.

Vulnerable species Those at risk due to declining numbers, limited range or other factors.

RELATED RESOURCES

For a list of NFB films on the environment, ecology and related issues, check out the NFB Web site at **www.nfb.ca** and the Pocket Desert page at **www.nfb.ca/pocket**.