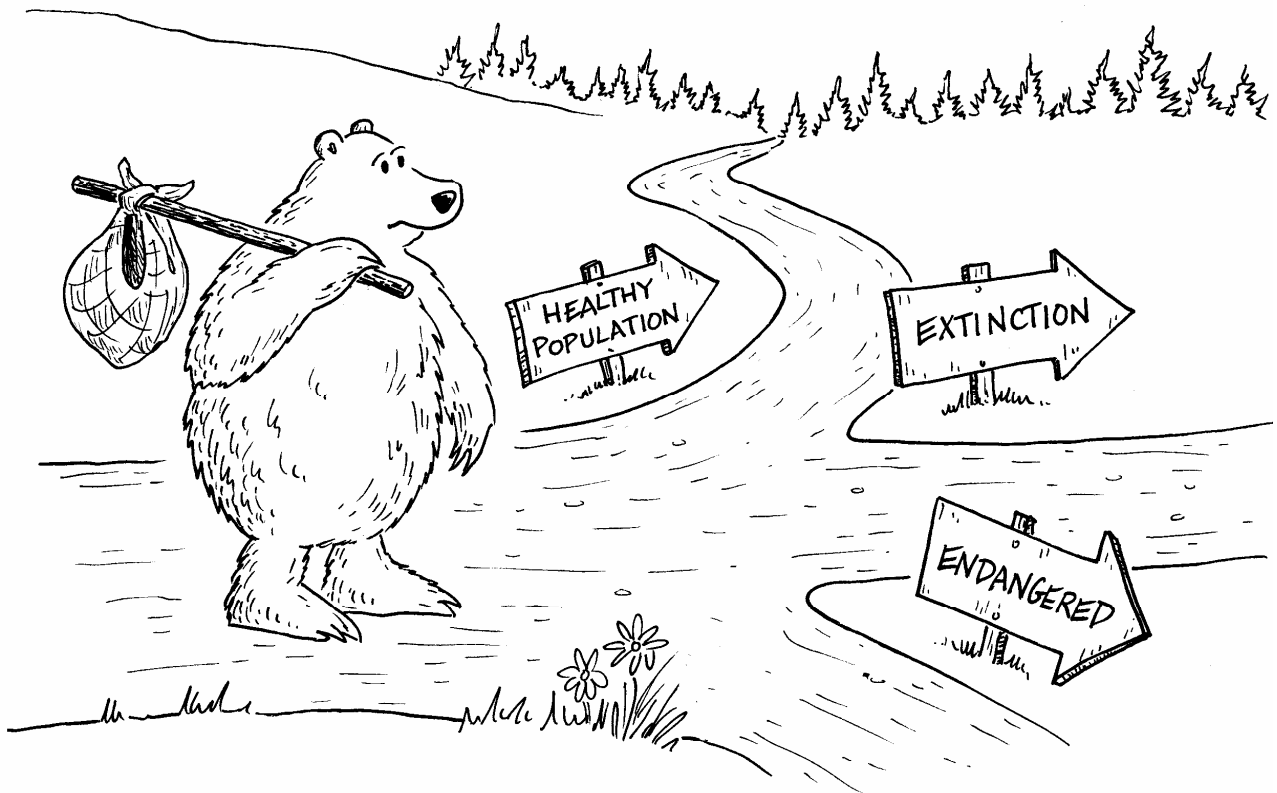


# Grizzly Bears Forever!



**a teacher activity guide  
for Science 7, 8 and 9**



CANADIAN  
PARKS AND  
WILDERNESS  
SOCIETY

# Welcome!

This guidebook is a living document and is one of the vital components of the Canadian Parks and Wilderness Society's new education program, *Grizzly Bears Forever!* We welcome all feedback and will incorporate suggested changes. Please fax us your feedback using the form on the following page at 403-232-6988. For comments, questions and inquiries, please contact [education@cpawscalgary.org](mailto:education@cpawscalgary.org).

With *Grizzly Bears Forever!*, we have tried to create a relevant, exciting, and informative resource that carefully examines the present day challenges we face in the field of large mammal conservation. We have collaborated with the *Eastern Slopes Grizzly Bear Project* (ESGBP) to provide factual, science-based activities that meet current curriculum needs. CPAWS wishes to thank the ESGBP, without which many aspects of *Grizzly Bears Forever!* could not have been created. The mandate of the ESGBP is restricted to research and education, and suggestions within *Grizzly Bears Forever!* on how to help grizzly bears are offered by CPAWS alone.

**Written and Researched by Gareth Thomson, Jennifer Grant and Kim Kiel.**

**Illustrations by Ed Carswell.** Thanks to Colleen Campbell, Elizabeth Surridge, Derek Ebner and Rob Osiowy for providing their comments, feedback and thought on this guide.

## About the Canadian Parks and Wilderness Society (CPAWS)



The Canadian Parks and Wilderness Society was founded in 1963 and is Canada's true grassroots voice for wilderness. Our mission is to establish new parks and make sure nature comes first in their management. CPAWS has played a key role in saving almost 300,000 km<sup>2</sup> of Canada's spectacular wildlands. Built from the ground up, we have eleven chapters across the country, where people passionate about nature can get actively involved.

The CPAWS Calgary-Banff Chapter is the only CPAWS chapter to have a full-time education office. Our education program delivers customized workshops and programs about biodiversity, ecosystem management, wilderness, and other concepts relevant to the CPAWS mission. For more information about CPAWS visit our website, [www.cpawscalgary.org](http://www.cpawscalgary.org).

**For more information about our ordering or booking teacher kits, in-class programs and hikes in Kananaskis Country, visit:**

**[www.cpawscalgary.org/education](http://www.cpawscalgary.org/education)**

# Grizzly Bears Forever!

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*Please note that activities in this guide are placed in an order that allows for concept building; working through the guide from beginning to end is recommended.*

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*The Canadian Parks and Wilderness Society would like to thank the following organizations for their support of this program.*

**The J.W. McConnell  
Family Foundation**



**ChevronTexaco**



# Why Study the Grizzly Bear?

People are interested in grizzly bears. The grizzly bear (*Ursus arctos*) is one of the most loved, feared, and misunderstood of Canada's wild animals. As a result, the grizzly bear serves as an excellent entry point into learning about larger issues such as ecosystems, interactions and biological diversity.

As well, the long-term persistence of the grizzly bear in our province is uncertain. Ever-expanding development, recreational, and resource extraction pressures continue to increase while wildlife populations dwindle and habitat quality decreases. Since European settlement, Alberta's grizzly bear population has fallen from 6000 bears to an estimated 800 today. If this trend continues, a local or even a global extinction of the grizzly bear may occur.

Should we care? Will the loss of the grizzly bear affect us? Biologists and wildlife managers consider the grizzly bear to be:

- an indicator species used to assess ecosystem health
- a surrogate for land-use planning
- a habitat effectiveness indicator

We need the grizzly bear not only for ecological reasons but also for ethical reasons; all living things have intrinsic value and the right to exist.

## CPAWS Educational Principles

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>▪ <b>Science-Based</b><br/>Our education is based on sciences such as conservation biology; it is grounded in fact.</li></ul>   | <ul style="list-style-type: none"><li>▪ <b>Curriculum-Tied</b><br/>Programs for students are closely tied to Alberta curriculum content areas such as science and social studies.</li></ul>   |
| <ul style="list-style-type: none"><li>▪ <b>Student-Centered</b><br/>All activities are learner-centered and experiential in nature.</li></ul>   | <ul style="list-style-type: none"><li>▪ <b>Empowering</b><br/>Educational programs lead participants through the process of awareness and understanding, and allow them to take action through personal lifestyle changes or through democratic, citizenship-building processes such as letter-writing.</li></ul> |
| <ul style="list-style-type: none"><li>▪ <b>Bias-Balanced</b><br/>Our education programs are bias-balanced. Although the CPAWS point of view is clearly expressed, other points of view are discussed and respectfully considered.</li></ul> |   |



Based on our five educational principles, *Grizzly Bears Forever!* has:

- Well defined learning outcomes that are linked to current curriculum
- Variety of learning approaches; lessons for teacher-led material and ideas for independent study
- Activities that appear in a sequence that reflects students' learning styles
- Interesting, interactive activities
- Local (Alberta) content
- Evocative yet simple lessons

## Curriculum Connections

All of the activities in *Grizzly Bears Forever!* were designed to address the latest **junior high science** curriculum. For example, over 80% of the grade 7 science unit, *Interactions and Ecosystems*, and the grade 9 unit, *Biological Diversity*, can be taught using this guide.

**Grade 7: *Interactions and Ecosystems*** – STS Outcome 1: Investigate and describe relationships between humans and their environments. Outcome 2: Interpret flow of energy and materials within ecosystems (a/biotic factors, producers and consumers). Outcome 3: Monitor a local environment, assess impacts and reproduction of organisms. Outcome 4: Describe relationships in maintaining environments (human impacts, decision making, analyze local issue).

**Grade 8: *Freshwater and Saltwater Systems*** – STS Outcome 3: Analyze productivity and species distribution. Outcome 4: Analyze human impacts on aquatic systems, and identify the roles of science and technology in addressing related issues.

**Grade 9: *Biological Diversity*** – STS Outcome 1: Investigate diversity among and within species (niches, variation, dependencies). Outcome 2: Nature of reproductive processes (sexual reproduction, genetic variation). Outcome 4: Identify impacts of human action on species and variation, and analyze issues for personal and public decision making.

In addition to achieving knowledge outcomes as defined by Alberta Learning, the activities in *Grizzly Bears Forever!* meet the **skills outcomes**. The activities allow students to identify questions and data, conduct research, analyze and communicate data, and work collaboratively. As well, *GBF* encourages development of the **attitude outcomes**: interest in science, mutual respect, scientific inquiry, collaboration, safety and stewardship.

Social Studies, Mathematics and Language Arts knowledge outcomes are also acknowledged within this guide. It is an excellent fit with Environmental and Outdoor Education programs. ***Please share this resource with teachers of other subjects.***

The following page provides detailed information on the activities and their cross-curricular potential. Curriculum links are also noted at the beginning of each activity for the new grade 7, 8 and 9 science curriculum (1999/2002).