A Humane Teaching Guide for Project WILD

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Humane Teaching Guide for Project WILD
# A HUMANE TEACHING GUIDE FOR Project WILD

Developed by
The National Association For the Advancement of Humane Education

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INTRODUCTION

This guide to balancing and correcting Project WILD is designed for educators who are concerned about the biases, inaccuracies, and omissions in evidence throughout the Project WILD activity guides.

In distributing this guide, The Humane Society of the United States (HSUS) is in no way endorsing Project WILD or advocating the use of the Project WILD activity guides. To the contrary, The HSUS has recommended that the guides not be used until the inaccurate and biased material is corrected. However, in some schools, Project WILD has been irrevocably accepted. In those schools, it is hoped that through the use of this humane teaching guide for Project WILD concerned educators will become more aware of the problems inherent in Project WILD, and voluntarily cease using many of the Project WILD activities, if not the entire guide.

Quality wildlife education materials which can be used in place of Project WILD are listed in “Resources from the National Association for the Advancement of Humane Education.”

Using This Guide

To find comments on an elementary or secondary Project WILD activity, look for the title. Titles are listed alphabetically. Only the activities of greatest concern are listed.

For the elementary Project WILD activities, correlations are given for NAAHE’s People & Animals: A Humane Education Curriculum Guide. This field-tested curriculum guide contains teaching activities on humane topics, with one-fourth of the guide focusing on wildlife. The lessons are designed specifically for use in language arts, social studies, math, or correcting the information and concepts contained in each Project WILD activity and recommendations for deletion of many of the activities. No comments address the appropriateness of the grade-level assignments. The guide contains only a few scattered remarks about the appropriateness of specific educational strategies and does not fully address this. No attempt is made to balance or correct the Project WILD glossary, nor are comments made concerning the Project WILD curriculum framework. In addition, no attempt is made to point out all the gaps in Project WILD — important topics concerning wildlife which are accorded little or no treatment. For information on filling in these gaps, please see the section on “Resources from the National Association for the Advancement of Humane Education.”
The Guide To Balancing and Correcting Health/Science. The guide is available as follows:

Level A—preschool and kindergarten .............. $7
Level B—first and second grades ................. $7
Level C—third and fourth grades .................. $7

Complete Guide, Levels A-D ........................ $25

Discounts are available for quantity orders. Order from NAAHE, P.O. Box 362, East Haddam, CT 06423.

Key to Abbreviations:

E — Found in Project WILD, Elementary Activity Guide.
S — Found in Project WILD Secondary Activity Guide.
P & A — correlations (for elementary Project WILD lessons) for People & Animals: A Humane Education Curriculum Guide.
LA — language arts lesson in People & Animals. Page number for locating the lesson is given.
SS — social studies lesson in People & Animals. Page number for locating the lesson is given.
MA — math lesson in People & Animals. Page number for locating the lesson is given.

H/S — health-science lesson in People & Animals. Page number for locating the lesson is given.

NOTE: The correlations contain page numbers for the lessons in People & Animals: A Humane Education Curriculum Guide. These page numbers can be used to determine the designated grade level for the lesson. Simply compare the page number to the information below:

Pages 1–35 are in Level A of People & Animals (for preschool and kindergarten)
Pages 36–70 are in Level B of People & Animals (for first and second grades)
Pages 71–105 are in Level C of People & Animals (for third and fourth grades)
Pages 106–140 are in Level D of People & Animals (for fifth and sixth grades)

End the lesson by classifying animals into appropriate and inappropriate pets. Wild animals are not appropriate pets. Highlight the reasons wild animals, even when “tamed,” make poor pets. The keeping of wild, or exotic, pets is inconsistent with respecting natural ecosystems, is usually cruel to the animal involved, and is sometimes detrimental to whole populations or species. One usual result is the pet’s death; another is human suffering due to sorrow, disappointment, guilt, or injury. Sometimes, fines are imposed on humans who keep illegal pets. Human disease and death can also result from the keeping of wild animals as pets.

Under Evaluation, make it clear to students that a species can be both “wild” and “domestic” only in rare instances. For example, some species of canaries have been captive-bred for hundreds of generations and are considered domestic. Yet, the same species can be found in the wild.

ANIMAL CHARADES

In the first two editions of Project WILD, in defining domestication, make clear that it involves genetic manipulation through selective breeding and that it is a process that takes place over a long period of time. (That is, a tame animal is still considered wild unless its ancestors have been tame for at least hundreds of generations and have become fully acclimated. An animal born in captivity is nonetheless wild unless its ancestors going back for a minimum of hundreds of generations were also born in captivity).

ANIMAL POETRY
ANIMAL RESEARCH

This is a complex, value-laden subject. This lesson should be deleted. If you must use the lesson, however, focus on the pros and cons of research only in the areas of wildlife biology and behavior. This topic is itself controversial because of research techniques that may harm or kill the animals being studied. Also, the benefits of some research to the species under study are questionable.

Be sure to have students contact organizations with contrasting points of view about wildlife research. (See our Organizations List to obtain information on the animal welfare/rights perspective.)

For your use, two informative brochures published by NAAHE about dissecting and experimenting on animals in elementary and secondary school biology classes are enclosed: Does the Idea of Dissecting or Experimenting on Animals in Biology Class Disturb You?, for students and The Living Science: A Humane Approach to the Study of Animals in Elementary and Secondary School Biology, for teachers. Be aware that the National Science Teachers Association statement in Project WILD concerning experimentation on animals allows for practices, such as pitting of frogs, that are illegal in some states (California, for instance).

BEARLY BORN E, S

Item 2 under Extensions should be deleted, or a discussion should be added about the realistic limiting factors that would affect the growth of a bear population. Such factors might include (1) decreased food supplies, leading to delayed age of first breeding in adult females, smaller litter size, and fewer cubs surviving to maturity; (2) cubs killed by adult males; (3) emigration; and (4) accidents such as drowning in a flooded den during spring thaw. For further discussion on limiting factors, see comments for "How Many Bears Can Live in This Forest?"

CARRYING CAPACITY S

This lesson should be deleted. If you must use the game in this lesson, however, stop after item 5 under Procedure. Then help students analyze what is inaccurate and misleading about the simulation.

Provide students with information on natural limiting factors, such as old age, predation, disease, emigration, weather, accidents, and reproductive responses, as well as social behavior (for example, within a wolf pack, only dominant male and female wolves will breed, although the other wolves are capable of breeding). Students should learn, for example, that as food supplies become scarce, birds and mammals may emigrate. Students should also be aware that, by far, the greatest influence on population size is birth rate. Birth rate is density-dependent in many animals, especially vertebrates. That is, as the population size increases and the animals find less quality food available, they begin relying more heavily on their secondary food sources which are often less nutritious than the primary food sources. Often, when animals are in poor condition or are stressed from lack of an adequate diet, there are a number of reproductive responses, such as failure to breed, resorption of fetuses, beginning breeding at a later age, having young, and possibly more male than female births, all of which limit population growth. Stress from poor nutrition may also cause fewer young to survive to breeding age. The applicability of these consequences may vary from species to species. Generally, however, decreased availability of preferred food usually results in a lower reproductive rate, among other things, rather than simply in adult deaths as portrayed in the game. It should be made clear to students that the type of radical imbalance demonstrated in this game rarely occurs in the kinds of animal populations of concern to wildlife managers. Such imbalances occur only in certain species that do not emigrate and/or that tend to exhibit characteristics more common of insect populations (for example, existence in unstable habitats, large numbers of offspring). Hence, such occurrences are infrequent for most vertebrates.
...tality rate, and then begins building again. In all these cases, the population fluctuations are normal and an important part of the ecosystem.

After students understand that most natural systems are capable of maintaining dynamic equilibriums without continual, catastrophic changes in habitats and wildlife populations, they should examine whether human manipulation of wildlife populations and habitats is usually necessary and what the results are of such interference. Students should learn that artificial reduction of herds (accomplished, for example, by instituting a hunting season) can stimulate reproduction for the following years so that another "artificial reduction" becomes necessary. For more explanation, see comments for "The Hunters." Students should also discover that hunters traditionally kill the larger and healthier "big game" animals, leaving the weaker to reproduce to the detriment of the genetic health of the species.

Students should also question whether it is important or desirable to have natural systems manipulated so as to encourage artificially high reproductive rates as well as artificially high populations of "game" animals. (This is the goal of some state departments of wildlife as they "manage" "game" herds. See comments for "The Hunters.")

Having access to the above information will equip students to evaluate better the realism of the simulation game in this activity. To assist students in this evaluation, pose questions such as: How often would food suddenly and totally run out in the wild? How do animals respond to a lowered food supply? How often would there be a need for consideration of the options discussed in item 5 under Procedure. Have students create a more realistic version of the simulation. For example, put beans and peanuts on the table, with beans being the primary food and peanuts, a less nutritious secondary food source. As the rounds continue, add more peanuts to the table, but add only a few more beans. Always allow enough food for all the students. When a student has twice as many peanuts as beans, she/he should drop out of the herd to represent emigration to a new area or a decrease in the reproductive rate in response to the lack of the primary food.

Item 7 under Procedure should be deleted. As discussed above, the reproductive rate would decrease in times of severe food shortage or young would not survive. Thus, the five- or sixfold increase in the herd as called for in item 7 is unrealistic. The Evaluation should be deleted. The description of the Kaibab deer herd misrepresents what actually happened. (See Ecology 51: 53–72 for an accurate explanation.)

Note: In the third edition of Project WILD, a paragraph (beginning with "Populations of living things . . .") has been added to the Background describing population fluctuations around a dynamic equilibrium. This paragraph is misleading in its statement that any fluctuation above carrying capacity "inevitably results in a high mortality rate." First, there will be no unnaturally high mortality rate unless populations fluctuate far above carrying capacity (or carrying capacity is suddenly reduced drastically), a situation rare for most mammal and bird species — the groups most commonly used as examples by Project WILD. Second, this statement assumes no other adjustments, such as emigration or lowered reproductive rates, are possible when populations fluctuate above carrying capacity. Such adjustments would result in lowering or eliminating mortality. Because of this misleading statement, this paragraph leads to the conclusion that intervention and manipulation are preferable to natural regulation. Other statements in the Background of all three editions also give implicit support for the alleged necessity for intervention. We suggest you do not share the Background with your students because of these biases and inaccuracies.

CARTOONS AND BUMPER STICKERS

Throughout this lesson, wildlife is referred to as a natural resource. Remind students that some people object to this term being applied to animals. 

P & A: Correlations not applicable.

CHANGING ATTITUDES

Share the following (taken from the first edition of Project WILD) with your students. (This material was deleted from the Background in the second edition.)

"For example, 50 years ago in the United States, predator control was more or less taken for granted, especially in the western United States. Grizzly bears, cougars, coyotes, wolves, and hawks were all hunted. There was even a bounty on many of these animals, as they were considered a threat to domesticated animals and human safety.

"Today, there is still much controversy around predator control. However, it is now more generally recognized that these animals have an important place in the overall health and balance of ecosystems. At the least, they are not perceived as the threat they once were thought to be. And, much of the fear of these animals and their effects was based on myth and misinformation. Cougars and wolves, for example, are most apt to successfully kill the weak members of a deer, elk, or moose herd serving as a ceiling factor. Most predators are now protected by law, rather than being subject to intentional destruction."
CHESTS AND
BALANCES

This lesson is one of the most inaccurate, from a biological standpoint, and should be deleted. The inaccuracies are so interwoven that almost a complete rewrite would be needed to correct this lesson.

"Checks and Balances" inaccurately suggests that if not managed by humans (especially through hunting), all wild species would continue to reproduce far beyond the capacity of their habitat to support them and would be brought under control only by starvation caused by their complete destruction of the habitat. This may be true of insects, but it is not true of most "game" species. In addition, the activity implies that criticism of wildlife managers is merely the result of conflicting politics. No discussion of the validity of critics’ arguments or the ethics of managing wildlife for human sport is included in the first editions of Project WILD.

The condition cards reinforce misconceptions because they represent dramatic or catastrophic increases or declines in overall animal population numbers. None (except a few cards in the third edition) depict more realistic situations: some old or some sick animals die; others are born; some are killed by predators; some emigrate; some do not reproduce in response to declining food availability; and so on. The condition cards, as designed, make it almost impossible for a student to stay in the game if she/he chooses not to allow hunting of the herd. The game would best be improved by deleting all references to hunting and wildlife management. In addition, the condition cards would need to be changed to allow for natural decreases in herd population, such as, predation; fire and accidental deaths; emigration; disease; old age; and a lowered birth rate as the herd begins to use lower-quality food, which, when combined with a natural mortality rate, would result in a decrease in herd size. (See comments for “Carrying Capacity.”)

Under Variation, a monetary aspect is added to the game, stating that students who allow hunting might have more available revenue for projects such as habitat enhancement based on income from sales of hunting licenses. This should be deleted. It suggests that only through hunting can we obtain funds to benefit wildlife. For an alternative viewpoint, see comments for “Who Pays for What?” For comments on maximum sustainable yield under comments for “The Hunter.”


CLASSROOM CARRYING CAPACITY

This lesson should be deleted. However, if you must use this lesson, in grades K–3, under Procedure, discuss which animals live closely together (sow bugs, bees, for instance). Rather than discussing the complex concept of carrying capacity, emphasize human responsibility for providing animals, including farm and zoo animals, with a comfortable amount of space in which to live and play.

For older students, delete the lesson or use the above suggestions. Add a discussion of how animals indicate discomfort when they don’t have enough space. (For example, chickens in battery cages will peck each other, which leads farmers to “debeak” them. Pigs will bite each other’s tails. Zoo animals will pace or nervously bite themselves.)

If you must use the original lesson, under Procedures, for grades 4–6, item 2, add a discussion of how animal populations are regulated by natural limiting factors. For example, as many animals find less quality food available, they have lower birth rates, and may tend to breed at a later age, may fail to breed, may resorb fetuses or unborn young, and may give birth to more males than females, all of which contribute to the population growth of a particular group of animals. (See comments on “Carrying Capacity” for details.) Other limiting factors are disease, predation, old age, social behavior (such as territoriality in birds and bears) and so on. Point out that it is a rare occurrence for animals to exceed the carrying capacity of a habitat suddenly and dramatically (or for carrying capacity to be reduced suddenly in ways which cause unnaturally high mortality.) Also point out that factors such as those just described help keep animals from exceeding carrying capacity. Such population imbalances occur only in certain species that do not emigrate and/or that tend to exhibit characteristics more common of insect populations (for example, existence in unstable habitats, large numbers of offspring). See comments on “Carrying Capacity” for a more thorough explanation.

Let students know, however, that if a habitat is suddenly decreased greatly in size because of human destruction or natural disaster, death of animals is inevitable unless the animals are transported to another area or can emigrate on their own.

Procedure for grades 4–6, item 2, asks students how they might increase the carrying capacity of a wildlife habitat. Correct answers to this question would include planting food crops, putting out nesting boxes, setting up artificial feeding stations and watering holes, and so on. Please note that the first and second editions of Project WILD inaccurately state that killing or moving animals will increase the carrying capacity of a given habitat. This is not correct. Although these actions can reduce the numbers...
of animals to a point below the limits of a habitat’s natural carrying capacity, it will not change that capacity. In addition, students should know that although killing (hunting) animals will decrease the population temporarily, it often serves to stimulate the birth rate of the animals that remain alive. That is, after a hunt, there is more food available per animal than before the hunt, which tends to result in more births, larger numbers of young at birth, and the initiation of breeding at an earlier age; all of which tend to increase the population. (See comments for ‘‘The Hunters.’’)

P & A: LA, SS, H/S 66; LA, SS, H/S 101; H/S 133; LA, SS, H/S 136

DRAWING ON NATURE S

Under Development, add Other people said the animals have a value above and beyond their usefulness to humans.

DEADLY LINKS E, S

Under Edc, items 3 and 4, have students conduct research about various poisons or other toxic substances such as Compound 1080 that have in the past been used by state and federal wildlife agencies for predator control. Have students investigate questions such as: What are the risks of such poisons? The effects on the animal poisoned? How necessary are the poisons? What are the alternatives to their use? Students should learn that the risks of 1080 include the killing of ‘‘nontarget’’ animals (animals that were not the ‘‘target’’ of the poison), such as domestic cats and dogs. In addition, the ‘‘target’’ animal may not receive the 1080 at all. Students should also be aware that 1080 brings on an extended and painful death. In exploring alternatives, make sure students learn about the use of guard dogs and taste aversion techniques. (Taste aversion refers to the practice of ‘‘teaching’’ predatory animals that a certain prey animal tastes bad. This is done by lacing a prey carcass with lithium chloride. When the predator tastes the lithium chloride, it experiences a temporary nausea, but it is not killed.) See our Organizations List for resources on this subject. In particular, The Humane Society of the United States and Defenders of Wildlife have information on this topic.


DEER CROSSING S

Under ‘‘Deer Crossing,’’ students are asked to consider if it would be effective and appropriate to ‘‘issue hunting permits to reduce the size of the herd in the area.’’ Remind students that allowing hunting might ultimately increase the size of the herd. (See comments for ‘‘The Hunter’’ and ‘‘Oh Deer!’’)

ENVIRONMENTAL ETHICS E, S

This is a worthwhile activity. However, to be consistent with its use in a wildlife-focused curriculum, add questions about the impact of personal actions on wildlife, not only on species but on individual animals as well. It would also be useful to have students gather information from various organizations on guidelines for consumer choices. The Humane Society of the United States publishes a guide listing cosmetic companies that do not test their products on animals and a guide explaining the impact of our eating choices. The American Humane Association publishes a humane rating of movies that use animals. These two organizations and many other animal welfare/rights organizations have brochures about the impact of wearing fur or owning captive wildlife. Students could also send to these organizations for policy statements on various forms of recreation, such as sport hunting, visiting roadside zoos, and rodeos. Without such research, students may never be fully aware of their options and the consequences of their choices.


ETHICAL REASONING E, S

More than one-fourth of the dilemma cards in the first and second editions deal with hunting, and all presuppose an acceptance of the practice. Add dilemma cards that depict people opposed to hunting. You might also want to consider cards that address the issue of whether subsistence hunting and sport hunting are subject to different ethical judgments. (Make clear to students that most illegal hunting is not done for subsistence reasons, as portrayed on one of the dilemma cards.) Another card might deal with the appropriateness or inappropriateness of trapping.

In order to make the best use of the dilemma card as a teaching tool, the following should be kept in mind: (1) it is best for all dilemma cards to pose situations with which children might be confronted; (2) the cards should not make the reader part of the dilemma, but should ask the reader to decide what a particular character in the situation should or should not do; (3) the question asked of the reader should pose an ethical problem, (e.g., what should John do?) rather than pose a question that simply asks the reader to predict behavior, (e.g., what will John do?).

Here is an example of a well formulated dilemma card: ‘‘Sam’s favorite uncle wants to take him out to learn all about trapping. His uncle says it will be a great way for Sam to make some extra money in a few years. Sam’s father says that trapping is cruel to animals but that it is up to Sam to decide what to do. Sam has witnessed animals suffering in his uncle’s traps, but he also knows how much extra money his uncle makes by trapping. What should Sam do?’’ See Moral Reasoning: A Teaching Handbook for Adapting Kohlberg to the Classroom by Ronald E. Galbraith and Thomas M. Jones, Greenhaven Press, 1976, for additional guidelines on writing moral dilemmas. Or write to NAAHE for Some Guidelines for Writing Moral Dilemmas.

SPECIAL NOTE: A dilemma card was added in the third edition that
depicts a starving deer herd. Please remind students that such occurrences are relatively rare. There are limiting factors that tend to keep a deer herd from increasing to the point that it becomes damaging to the habitat. One such limiting factor is that when the primary food source is low and the deer begin to eat lower-quality food, they tend to start mating at a later age, have fewer births, have reduced survival of young to adulthood, and may give birth to more males than females. All these factors serve to reduce the population and keep it from doing further damage to the habitat. Only in an unusual circumstance, such as a very severe winter, does the kind of situation depicted in the proposed dilemma actually occur. (See comments for "Oh Deer!")


EVERYBODY NEEDS A HOME

If sharing the Background information with students, remind them that some animals, such as cats and dogs, do share our houses with us. These animals come to depend upon our houses for their shelter.


FIRE ECOLOGIES

Add to the lesson a discussion of the impact of fire on individual animals that must experience it as well as the impact on species. In addition, point out to students that while fire can leave behind good habitat for animals such as moose, it destroys needed habitat for animals such as spotted owls, red-cockaded woodpeckers, some species of thrushes, and turkeys, which all need mature second growth or old growth forest sites with tall, older trees.


ETHI-THINKING

Under Procedure, item 1, it is appropriate for students to list legal hunting and trapping among recreational activities that can harm animals.

Under Evaluation, in addition to having students list five things people do that harm wildlife habitat, have students list five things people do that harm animals, either as individuals or as a species.

Under Extensions, item 1, it is suggested that one or more live animals be brought into the classroom. This practice is discouraged unless it is possible to meet fully the guidelines for the study of animals in the classroom outlined in the enclosed NAAHE brochures The Living Science: A Humane Approach to the Study of Animals in Biology Class Disturb You?

If you do decide to bring an animal into the classroom, discuss with students which animals are appropriate and which are inappropriate for study in the classroom. Ask students to consider the importance of factors such as: (1) Is the animal domestic or wild? (2) Will the animal be frightened in the classroom? (3) What kind of temperament does the animal have? (4) Is it an animal that can be easily captured without harm and then easily released within 24 hours to the exact same spot where it was first captured? (A spider might be one such example.) (5) Can the animal be properly housed in the classroom? (6) Will the animal be subject to undue stress? (7) Can the animal behave naturally in the classroom? (8) Is the animal comfortable with people? Discuss the responsibilities humans have for animals captured for our benefit. For example, do humans have a responsibility to provide a natural setting for captured animals? In addition, discuss the ethics of capture. For purpose, is it right to capture wild animals for entertainment; for education; for research?

Under Procedure, item 5, Extens, item 2, and Evaluation, point out to students that animals can have an intrinsic value apart from their value to humans or the environment.

HABITAT LAP SIT E, S

After students have completed item 9 under Procedure, remind them that severe and debilitating droughts and natural food shortages, leading to the death of a very large number of animals, are rarely experienced by most adult birds and mammals. Such droughts and natural food shortages are most often experienced by certain species that do not emigrate and/or that tend to exhibit characteristics more common to insect populations (for example, existence in unstable habitats, large number of offspring).

Discuss with students which animals can survive without water for extended periods of time (most reptiles, desert bighorn sheep, and so on). Discuss which animals can survive without food for extended periods of time (for instance, fleas; ticks — for two years! — snakes; turtles; bears; squirrels; hibernating animals, such as bats, frogs, and woodchucks).

Ask students what people could do to help animals in their neighborhood survive if there were a very unusual and severe food shortage or drought. (Some possibilities include putting out water dishes and, during the winter, bird feeders, which must then be maintained faithfully all winter long so that the animals depending on the food in the feeder will not suddenly experience a food shortage or reduction in carrying capacity.)

Explain to students that animals sometimes respond to food shortages in ways that help increase the survival rate. For example, as less high-quality food is available, deer tend to have
fewer fawns, which conserves food for the herd. (See comments for "Oh Deer!"

Point out to students that although reproductive responses to a decrease in available food can help keep an animal population from overpopulating, such responses cannot save the animals from a sudden large decrease in food, such as when a major portion of their habitat is destroyed by people or by a natural disaster.

Under Procedure, item 10, add this main idea: Many animals respond successfully to small or gradual changes in their habitat.

In the first two editions of Project WILD, the last item under Evaluation should be deleted. This item may lead students to conclude that shooting all the deer would not be such a regrettable incident and that farmers want only do the things described. In using the third edition, under Evaluation, remind students that severe winters that kill many animals are rare.


HERE TOMORROW E, S

The Background fails to mention that commercial and recreational hunting and trapping are factors that have contributed to or caused the extinction or near extinction of animals such as the great auk, Labrador duck, bison, passenger pigeon, Carolina parakeet, beaver, wolf, rhinoceros, and most species of whales. This can be brought out when using item 4 under Procedure. (Note: The first three editions do mention "overexploitation" as a cause of species extinction.) You may wish to add an extension activity in which students find out why some animals have become extinct.

Under Extensions for younger students, item 3, help students realize (in simpler terms) that some people believe animals have intrinsic worth, apart from their value to humans.

In the first two editions of Project WILD, under Extensions for older students, item 4, it is suggested that you explore the concept of unendangered species. This is a term used by hunting groups to differentiate "game," or hunted, animals from those animals that cannot be legally killed to imply that it is “acceptable” to kill animals such as deer and turkey for sport because their populations are healthy.

The term unendangered species should not be used.


HISTORY OF WILDLIFE MANAGEMENT S

If you choose to share the Background with your students, corrections are needed. In the first two editions of Project WILD, the Background states: "Other management practices may depend upon carefully calculated intervention, e.g., limiting hunting permits to reduce or increase a wildlife population in an area." It is inaccurate to imply that limiting hunting permits would reduce the wildlife population in an area. In addition, this statement and a similar one in the third edition reinforce the incorrect view that hunting is an activity undertaken solely for the purpose of controlling growing populations of animals.

It should be made clear to students that in addition to state fish and wildlife agencies, the Federal Government plays a large role in protecting and/or managing major portions of our nation's wildlife (for example, wildlife on public lands, migratory birds, marine mammals, endangered species, and so on).

Add to the Procedure a discussion about the ethics of contemporary wildlife management, which is primarily designed to meet the needs of human use of wildlife. Management practices may include especially controversial practices such as habitat manipulation, predator control, and game stocking. Contrast the philosophy of contemporary wildlife management with the alternative management philosophy of "humane stewardship," in which animals and their habitats are managed or protected for their own sake and manipulation is limited to those cases in which it is demonstrably beneficial to the animals.

In the first two editions of Project WILD, item 1 under Extensions fails to list major critics of traditional and contemporary management among the groups to contact for contrasting points of view on the philosophy and practices of wildlife management agencies. (See our Organizations List for possible groups to contact.) Note: Some students may not realize that humane societies are actively involved with wildlife and are often good sources of information on wildlife.

Under Evaluation, the third question, remind students that humane societies and other animal welfare organizations are good sources of assistance.

HOW MANY BEARS CAN LIVE IN THIS FOREST? E, S

Despite the fun this activity provides for students, it should be deleted or changed drastically. The activity is inaccurate in what it teaches children. The bears' habitat in the activity is inaccurately portrayed as a system in which the bears have continued to expand in number in spite of limited food. In the game in this activity, several bears starve to death. This type of situation is particularly unlikely in territorial animals such as bears. It is far more likely that population pressure would make such animals emigrate elsewhere in search of suitable habitat. In the unusual case in which a bear would starve to death, it would be most likely that the bear would die while denned up for winter sleep, or "hibernation." Such a death would most likely be the result of the bear's inability to find adequate food because
of an unusual failure in its food supply due to weather or some other factor. It would be almost unheard of for the food shortage to result from an excess of bears. Most large predators, including bears, are limited not by starvation but by human disturbance; their need for large areas of relatively undeveloped land; and their own reproductive characteristics and feedback mechanisms, which include, for example, a later age of first breeding and smaller numbers of cubs when food supplies are low. In addition, this lesson erroneously reinforces that starvation is the only natural limiting factor for all wildlife populations. There is no instruction under Procedure that informs children of other natural factors, such as juvenile mortality (other than from starvation), predation, death from disease, injury, accidents, or severe weather; or territorial, behavioral, and reproductive needs/adjustments.

If you must use this activity, change the game. Under Procedure, item 4, designate that the crippled bear was injured by a hunter or a hunter’s dog pack, for (as stated under Procedure, item 6) bears seldom fight. Under items 8 and 9, ask students to total the amount of food each day. Explain that students who have more than enough food for the ten days that have gone by represent bears that need to increase the size of their territories or seek out new territories. For adult bears, this would not be a problem, unless a natural disaster suddenly greatly reduces the bears’ habitat (or people cause such a reduction by chopping down a large wooded area, for example). For young bears, it could mean that they would not be able to find suitable habitats of their own in time to prevent starvation or that they might be killed in a territorial fight with larger bears. However, stress to students that this situation does not arise often because when food is scarce, females are less likely to mate successfully and cubs that are born may not survive. These are some ways in which populations stay in balance without mass starvation, even in times of food shortages.

Also discuss with students the unrealistic aspects of the simulation. For example, bears would not be compacted together in one area to hunt for food; the rate of movement would not be frantic; and bears, unlike the players in the game, would know what type of food they were gathering.

In item 10 under Procedure, the carrying capacity of a habitat is compared with the carrying capacity of a bucket. To make this analogy more applicable to a greater number of vertebrate species, inform students that a group of animals (such as a herd of deer) will slow down its reproductive rate as it nears the carrying capacity of a habitat. This is not done consciously by the group, but rather it is the result of an interplay of a number of factors (called feedback mechanisms). For example, when a population of animals such as deer increases to the point that primary food sources are becoming scarce, the animals begin relying on secondary food sources. These secondary food sources may not be as nutritious as the primary food sources. When animals are in poor condition or are stressed from lack of an adequate diet, there may be a number of reproductive responses— including failure to breed or ovulate, resorption of fetuses (in which some fetuses are reabsorbed, not aborted, in response to the decreased nutritional supply to the mother), beginning breeding at a later age, having fewer young, and possibly having more male than female births. And the establishment of larger territories, (established as the search for food becomes more difficult) may result in fewer opportunities to mate. In addition, there may be a higher mortality rate in the first year or two of life. For young children, it is enough that they know that for many animals (but not insects), as preferred food supplies drop and the animals begin relying more heavily on secondary food sources, usually fewer babies are born and fewer of those born actually survive. In the analogy with the bucket, this would be like the flow of water going into the bucket slowing to a trickle as the water gets closer to the top. Students should also realize that at all times, even when the bucket is not full, there is a slow leak in the bottom. Deaths occur whether or not the population is at carrying capacity. Dead animals, of course, become food for scavengers. Without such food, the scavengers would die. Students should also be helped to realize that in this analogy, the size of the bucket keeps changing a little bit every day. In fact, no one can say for sure just what size the bucket is. Carrying capacity does not remain constant in any given habitat. Finally, students should remember that when the carrying capacity suddenly changes (as when a large wooded area is cut down), many animal deaths will occur. Such a change is usually too sudden and too dramatic for all the animals to respond successfully.

In the third edition, under Extension, item 2, not enough information is provided in the game to indicate to students what is or isn’t a realistic survival rate. Delete all but the last question. Discuss the natural limiting factors mentioned above. Discuss cultural practices such as hunting; trapping; capture for zoos, circuses, etc., that threaten the lives of individual bears.

P & A: LA, SS, H/S 66; LA, SS, H/S 101; H/S 133; LA, SS, H/S 136

THE HUNTER,
THE HUNTERS E, S

This lesson should be deleted. “The Twins” and “The Hunter” (secondary level, deleted in the third edition) are highly romanticized stories about the symbolism and mysticism some people attach to hunting. Neither portrays sport hunting, although it is clearly the most common type of hunting in North America. If you must use the stories, however, discuss the romanticization that occurs in the stories, much as television shows romanticize certain occupations.

In the discussions about hunting, try
to give students a clear picture of objections to hunting. To balance the positive treatment accorded in the story or stories. Unfortunately, the Background in Project WILD provides little information on this. Indeed, there are some inaccuracies in the Background information. For example, hunting is not recognized by all as a critically important tool for use in maintaining wildlife populations. Populations are often managed to serve the needs of hunters, though no more than 8 percent of the American public hunts and major segments of the public oppose sport hunting. Deer populations, for example, are often managed to give hunters the kind of hunting situation they prefer. In some areas, the deer are hunted annually and fairly heavily. This tends to result in more deer for hunters to aim at, but slightly smaller deer. In some areas, hunting is not allowed as intensely. This tends to result in fewer deer for hunters to aim at, but slightly bigger deer. Frequently, wildlife managers aim for maximum sustainable yield (or maintaining artificially high populations that can sustain a “maximum” kill), which means achieving a high number of game animals for hunting and trapping in a given area. This is sometimes achieved by “improving” habitat for game species, usually at the expense of habitat loss for at least some nongame species.

In the third edition of Project WILD, it is stated in the Background that hunting “used to control populations of large ungulates, like deer, which tend to overpopulate and destroy their habitats.” However, deer have reproductive responses that help prevent this. (See comments for “Oh Deer!”) Hunting deer tends to stimulate reproduction, which can cause an unnatural increase in herd size. That is, the killing of some of the population results in plenty of food for those animals remaining alive, which tends to stimulate an increase in reproduction. In addition, hunters often kill the largest and healthiest animals, weakening the genetic constitution of the species and stimulating future population growth by preventing the conditions that trigger natural reproductive limiting factors. Thus, as a tool for desirable management, hunting has significant shortcomings. A scarcity of food, on the other hand, would, over time, result in a lowered reproduction rate, thereby conserving food supplies and helping to prevent starvation. (For clarification, see comments for “Carrying Capacity.”) Hunters also wound many animals. According to a West Virginia University study, one-third of the animals wounded (rather than instantly killed) are not successfully tracked or recovered by hunters. These animals usually die slow, painful deaths from infection, blood loss, and/or starvation. The other wounded animals, though tracked and eventually killed by the hunters obviously do not have an instantaneous death.

Students should be made aware of the fact that virtually all hunting done in the United States today is done, not for management purposes or as subsistence hunting (hunting for survival), but for sport and recreation. Even when hunting is purportedly done to supplement the family food supply, it is often a very expensive source of meat because of the cost of transportation, equipment, ammunition, etc. Students may want to write to various organizations to obtain information on their views about hunting.

Extend item 1 under Extensions to address the appropriateness of the current system of funding wildlife programs. In this system, sport hunters and trappers are the predominant influence on wildlife management policies in North America. It is a system that excludes most of the public from participating in decisions about wildlife. (See comments for “Who Pays for What?”)

P & A: LA, SS, H/S 135; LA, SS, H/S 136

IMPROVING WILDLIFE HABITAT IN THE COMMUNITY E, S

An additional resource for this activity is the National Institute for Urban Wildlife Research, 10921 Trotting Ridge Way, Columbia, MD 21044.


INTERVIEW A SPIDER E, S

The “caution” under Background should include the fact that most animal behaviorists agree that animals other than humans can experience fear, stress, sadness, and other emotions; often reacting with the same or similar physiological responses as those of humans. Appropriately ascribing these traits to animals is not anthropomorphism.

Under Procedure, item 2, students should be reminded that accurately conveying the perspective of some animals may include recognition of emotional states that we share with these animals.


KNOW YOUR LEGISLATION: WHAT’S IN IT FOR WILDLIFE? S

In the first two editions of Project WILD, under Procedure, item 2, encourage students to also contact some of the groups on our Organizations List. You may also wish students to contact a nearby humane society or check with other animal welfare/rights groups in your area.
LITTER WE KNOW E

In the first two editions of Project WILD, no suggestion has been made that animal welfare/rights organizations should also be contacted for information on animal-related problems resulting from litter. See our Organizations List or contact a nearby humane society. Each year, local shelters handle thousands of cases involving wild and domestic animals that have been injured by litter.


LOBSTER IN YOUR LUNCH BOX E, S

Under Procedure, after students have traced each animal back to dependence on plants, explain to students that a meat-based diet requires huge quantities of plant protein to be grown in order to obtain relatively small amounts of animal protein. For example, it takes 8 to 10 pounds of grain, which humans can use directly, to make 1 pound of beef. Tremendous amounts of land are thus used in meat production, which results in habitat loss for wildlife and less grain for human consumption.

Under Procedure, item 3, point out that domestication is a process that takes at least hundreds of generations. And when discussing “What are some of the consequences of domestication?” add an exploration of the systems under which food animals are raised and the effects of these systems on animals and the environment (for example, the need to use large amounts of land to produce grain or fodder for livestock; intensive modern livestock confinement systems that cause animal suffering and require excessive energy use and substantial use of hormones, drugs, and other food additives; competition between wildlife and livestock on rangelands; destruction of tropical forests to create land for ranches to raise beef for fast-food restaurants and other food uses in the U.S.)

Under Evaluation, one question focuses on wild animals used for food. If this is to be used, a discussion should be added under Procedure, item 3 about the consequences of using wild animals for food, just as the consequences of using domestic animals for food are discussed. Consequences include endangerment of species, such as various whales; pollution of waterfowl habitat from lead shot used in waterfowl hunting; and injury to animals; etc. (See comments for “The Hunters” for additional information.)


MAKE A COAT E

This lesson should be deleted. If you must use it, however, the following changes are suggested. In the first two editions of Project WILD, under Procedure, item 1, do not ask students to discuss the use of wild animals or ranch-raised animals to make fur coats.

In the third edition, do not ask students to discuss the use of renewable and nonrenewable sources of material until you first provide students with background information on this highly controversial topic. (See our Organizations List for sources of information on the animal welfare/rights perspective. Request information on trapping and ranch-raised furs). Point out that many people raise ethical questions about the use of animals for their fur. Discuss the difference between a necessity and a luxury. Which is a fur coat? Help students explore the impact of clothing choices on animals (both as individuals and as species) as well as on the environment. How is fur obtained? What suffering is involved for an animal in a trap besides the pain of the trap itself? Is food available? Water? Shelter? How are most ranch furs raised? In cages? In naturalistic settings? What genetic defects result from being bred exclusively for a “beautiful coat”? How are the animals killed?

Under Procedure, item 1, to correct the lack of a plant/animal distinction divide the “renewable” group into plants and animals. Then divide the animals group into those products that require the killing of animals versus those that do not. (NOTE: This is similar to Extension, item 1 added in the third edition of Project WILD. To avoid a judgmental situation, suggest that children sort cards labeled fur, wool, etc., rather than their own coats as suggested in Project WILD. Discuss with students the fact that some people object to the term renewable resources applied to animals. Explore why. What kinds of things are referred to as resources? How are animals different from these resources?

Under Procedure, item 4, remind students of the plant/animal distinction and the objections to the use of the term renewable resources. Be alert to the possibility that some students’ motivation for choosing certain materials for their coats might include concern for the suffering of individual animals or for wildlife preservation in general.

For grades 2–6, under Evaluation, have children sort the renewable group into plants and animals. Reemphasize that some people object to referring to animals as renewable resources.

In the first two editions of Project WILD, for grades 4–6, under Evaluation ask students why some people choose not to wear or buy fur items.

P & A: MA 1; LA 27; LA, SS, H/S 43; H/S 66; LA, SS, H/S 78; SS, H/S 101; LA, SS, MA, H/S 113; LA, SS, H/S 136

MUSEUM SEARCH FOR WILDLIFE E

Be aware that some children or their parents might be disturbed by a visit to a natural history museum, preferring that wildlife be represented only through art, song, literature, photographs, etc.

Correct the sample work sheet by removing the parenthetical words tame and untamed. These terms are not synonymous with domestic animals and wildlife, as implied. (For further clarification, see comments for “Animal Charades.”)

Under Evaluation, include the por-
trayal of some people who want to protect the animals because of their intrinsic right to inhabit Earth.

**MUSKOX MANEUVERS**  E, S

Under Procedure, item 7, point out to students that this simulation does not illustrate all the complexities of the predator-prey relationship. (For example, the wolves would have alternate sources of food, such as other prey, carrion, etc.). Also remind students that the prey tends to “control” the predator population, more than the predator tends to control the prey population. (See section on hare/lynx in comments for “Oh Deer!”)

You might wish to share with your students the fact that muskoxen (sic) (which once populated much of Alaska, northern Canada, and Greenland) were almost extinct in 1920 because they were extensively hunted for food and hides by explorers, big game hunters, and Eskimos. With only a few muskoxen left, hunting them was banned. A herd was captured in Greenland and taken to the University of Alaska for rearing. Today, the worldwide population is more than 25,000, and this beautiful animal has been saved from extinction.

**MY KINGDOM FOR A SHELTER**  E, S

Children should be instructed to avoid harming animals as well as to avoid damaging the environment.

**NOISY NEIGHBORS**  S

In the first two editions of *Project WILD*, under Procedure, item 3, add to the list of human-made noises that disturb wildlife the sound of gun blasts from hunters.

Under Procedure, item 4, in discussing the effects of noise on pets, remind students to keep their pets safely confined at noisy, frightening times, such as on the Fourth of July.

**OH DEER!**  E, S

Despite its popularity, this game should be deleted because of the inaccuracies promoted by the lesson. However, if you must use the game, it should be changed to make it a more accurate model. Increases and decreases in the deer herds are often the result of changes in the reproductive rate. As deer find less high-quality food available to them and begin to rely more heavily on secondary food sources, they begin breeding at a later age; they tend to have single births rather than twins; and they exhibit other responses. (See comments for “Carrying Capacity” for more explanation.) All these factors combine to slow population growth. Hence the herd size increases at a slower rate as food becomes scarce, thereby conserving food for the herd. These facts are not reflected in the game as it is written.

To make the game more realistic, the deer in the game would better be called potential yearlings. (NOTE: potential yearlings is an awkward concept, because it refers not only to how many deer are born but also to how many survive to be a year old. Thus, the “potential yearling” students represent fawns and deer not yet born. Rather than using such terms, which are necessary to make the game more accurate) we again suggest simply deleting the game, especially if you teach younger students.

If a potential yearling finds the habitat component it is looking for, the birth rate increases, which is represented in the game by the potential yearling returning to the deer side. If the potential yearling does not find what it is looking for, the birth rate decreases, which is represented in the game by the potential yearling not returning to the deer side. Thus, students can correctly conclude that when habitat components become plentiful, the birth rate increases. As habitat components become scarce, the birth rate drops.

Whether playing the above version of the game or the old version, discuss with students what is not realistic about the simulation. Obviously, habitat components do not magically turn into deer or potential yearlings. But, more important, inform students that for deer, the limiting factor is almost always food. Rarely do deer lack water or shelter and yet have ample food. Also make clear to students that winters that cause severe food shortages resulting in the death of a large percentage of the population are rare. Usually, the change in a food supply is more gradual, and the herd can adjust over time with a lowered reproductive rate and other responses, such as emigration.

Students should also realize that the figures arrived at in the game are not realistic. For example, deer populations near carrying capacity simply do not double in size in one year just because they have a “good habitat.” Also remind students that death is a natural part of life in the wild, occurring even when habitat components are plentiful.

At *Project WILD* workshops, sometimes the “habitat components” are told that it is a drought year and that they are all to be “shelter.” This causes a huge crash in the deer population.

This adaptation (which *Project WILD* states is “okay”) but then also states “don’t encourage it”) should not be used. Such an adaptation does not accurately depict the normal relationships within animal-plant communities. In nature, a variety of factors usually interact to prevent catastrophic change.

Another, easier adaptation of the “Oh Deer!” game is possible. It could be retitled “Oh Lemming!” The game in “Oh Deer!” is a more accurate representation of how a lemming population fluctuates than of how a deer population fluctuates. Even for lemming, the model has some limitations and inaccuracies (for example, food, water, and shelter are not all equally limiting factors). If you use this adaptation with your students, be sure to point out that lemmings are unusual in that they have dramatic population fluctuations based on destruction of a food source. This is not typical of
most species, especially vertebrates. Students should also be aware that these dramatic fluctuations in population are normal for lemmings, cyclic over time, and unavoidable.

Under Extensions, item 1, when discussing the Hudson Bay trappers, remind students that today the use of fur for coats is no longer a necessity and that many people object to the trapping of animals for their fur.

Under Extensions, item 1, point out to students that the tables are inaccurate in that they suggest a one-to-one relationship between the number of lynx and the number of snowshoe hares. Moreover, students should know that the great fluctuations in populations experienced by these lynx and hares are mainly typical of some species in extreme habitats, such as those found near the polar areas or in deserts. Although all populations fluctuate, many bird and mammal populations simply do not exhibit unnatural “boom and bust” (extreme) fluctuations. Students should also note that even for hare and lynx, these fluctuations are predictable, natural, and cyclic over time.

In the third edition of *Project WILD*, it is noted under Background that quail populations cycle annually. If you share this information with your students, point out that the number of breeding adults can remain fairly constant from spring to spring. Quail (like rabbits, turkeys, some rodents, and some other small birds) produce a lot of young, but emphasize to students that this is not an example of overpopulation. Rather, quail and some other animals produce large numbers of young as an innate mechanism compensating for high juvenile mortality, and/or high adult mortality. In quail, this high mortality is due to a variety of factors, of which lack of protective cover and food during the winter are probably the most important. Thus, unlike hare and lynx populations, changes in quail populations are not primarily due to longer term changes in food supply. And, unlike *Project WILD*’s hare and lynx example, the number of breeding adult quail in the given illustration does not change drastically from year to year. Thus, while quail populations fluctuate greatly within a year, quail do not have predictable “boom and bust” cycles like lynx and hare that extend over many years. But like those of lynx and hare, the population fluctuation in quail is predictable, cyclic, and natural.

To the discussion questions under Extensions, item 1, add “Are the fluctuations in the hare and lynx populations normal and natural for the hare and lynx? (Yes.) Is there any need for people to try to prevent these fluctuations through wildlife management? (No, and we would probably not succeed anyway.)”

The answer to the discussion question under Extensions, item 1, “Is this like the deer habitat game we just played?” is no. Although deer are somewhat more susceptible to fluctuations in population size than some other mammals are, they do not experience the kind of continual ups and downs that are experienced by hare and lynx. Help students realize that only species that do not emigrate and/or that tend to exhibit characteristics more common of insect populations (for example, existence in unstable habitats, and large numbers of offspring) are subject to such fluctuations. The question “Who controls?” should be deleted.

Under Evaluation (unless the graphs are to represent an insect population or a species in an extreme habitat), add numbers to the left-hand side of each graph that indicate that the fluctuations in population are not dramatic. Ask students to indicate whether the birth rate was increasing or decreasing between the years indicated and what might have caused the increase or decrease.

**PHILOSOPHICAL DIFFERENCES**

In the first two editions of *Project WILD*, under Procedure, item 1, if students go to “local resource managers, private conservation groups, etc.,” for assistance in identifying a controversial issue and acquiring background information, they should also contact local animal welfare/rights groups for the same purpose so that the choice of issues will not be biased.

Under the Extensions and Variations, item 4, drop the definitions given for *substantiated beliefs, questionable beliefs and inaccurate beliefs*. Let students define these terms. In so doing, they should keep in mind that the scientific community is not always in agreement on issues nor is the scientific community entirely objective on various issues because the job or reputation of individual scientists may be affected by the outcome of a particular issue. In addition, students should be reminded that even when two groups agree that a statement is accurate, they may hold differing opinions about the implications of that statement.

In the first two editions of *Project WILD*, also under Extensions and Variations, item 4, ask students if there are other ways to analyze stated positions besides judging the accuracy of the beliefs. Which beliefs are concerned with ethical consideration? Which are not?

**PLANNING FOR PEOPLE AND WILDLIFE**

Under Procedure, item 8, remind students that today the use of fur for coats is no longer a necessity and that many people object to the trapping of animals for their fur.
PLANTING ANIMALS

Titles of activities are usually not shared with students. In this case, it is especially appropriate not to do so since the title is objectionable. Animals are not resources that can be planted like corn, as is implied in the title.

PLACING ANIMALS

Under Procedure, Extensions, and Evaluation, avoid the use of the term "transplanted," which is more appropriate in referring to plants rather than animals.

If you choose to share the background information with students, they should be informed that the practice of providing people with new populations of "game" animals is highly controversial. In addition, the reference in the first two editions of Project WILD to Isle Royale in Michigan is incorrect. Wolves reappeared on the island on their own; they were not reintroduced by humans.

Under Procedure, item 2, students are to determine if the animal they are researching is a native species, a native species that was reintroduced, or a nonnative species that was introduced. If the latter case is true, have students ask what research was done to ensure that no severe environmental impact would result. Students may also want to do research to discover which introductions of nonnative animals into the United States have had severely negative impacts on the environment. For example, the Indian mongoose was introduced into Hawaii to eradicate rats in the sugar cane fields. The mongoose itself soon turned to feasting on other crops and on other species, thereby pushing a number of native species to near extinction.

In addition, discuss with students the trauma that may be experienced by an animal being relocated. How is the animal captured? What impact does its capture have on the social order and population dynamics of its former group? How is the animal transported? How likely is shock or injury or death?

PLAYING LIGHTLY ON THE EARTH

Under Extension, remind students that sport hunting and trapping have a negative impact on wildlife. Also let students know that some people object to the use of the term "natural resources" applied to animals.

POLAR BEARS IN PHOENIX?

Under Procedure, item 2, remind students to consider not only the physical needs of the polar bear but also the social and behavioral needs. Include discussion on whether it is possible to adequately meet the needs of a carnivore like the polar bear. Consider: How much privacy are polar bears used to? How large is their normal territorial range? Do they live in groups or alone? You might tell your students that polar bears have been spotted on ice floes more than 200 miles from land and are known to voyage to Iceland and Greenland.

In secondary, add an item 7 to the Procedure section and in elementary, an item 6. Have students discuss the problems and ethics in general associated with capture and transport of animals for display in zoos.

Under Evaluation ask students to also list at least one problem a polar bear would be likely to have in captivity that probably cannot be remedied by any zoo enclosure.

PRO AND CON: CONSUMPTIVE AND NON-CONSUMPTIVE USES OF WILDLIFE

In the first two editions of Project WILD, under Extensions and Variations, be sure that students also interview representatives of some of the groups on our Organizations List. Students may want to contact members of local humane organizations or animal rights groups.

QUICK FROZEN CRITTERS

It is best not to use the title of this activity as the title of the game because it brings to mind a literal interpretation. Perhaps the game would be better referred to as "Still Life."

If you choose to share the background information with students, changes need to be made so that natural limiting factors are not perceived as bad for wildlife populations. Students should understand that the presence of these factors rarely results in catastrophic change that "drastically affects the well-being" of the animals, causing whole populations to die from starvation, disease, etc. unless the animals tend to exhibit characteristics more common of insect populations, for example, existence in unstable habitats, and large numbers of offspring. (See comments for "Carrying Capacity.") Let students know that...
natural limiting factors are always at play in wildlife populations, killing the weak, old, or sick; causing others to move to new areas (see comments for “How Many Bears Can Live in this Forest?”) and thereby preventing, except in rare instances, overpopulation and mass death because of disease or starvation. In addition, when teaching students about natural limiting factors and predators, you may want to point out (in simpler terms) that many animals, particularly predators, exhibit behavioral and physiological mechanisms that, along with the limiting factors listed above, help prevent the animals from reproducing beyond the carrying capacity of their habitats. For example, in wolf packs with intact social structures, only the dominant male and female will breed. This limits the growth of the wolf pack. You can also use this example to point out to students that natural limiting factors do not always result in death. (For more information, see comments for “Oh Deer!” and “Carrying Capacity.”)

Under Procedure, item 7, change the rules from “Predators must each capture two prey to survive” to “Predators must each capture two prey. If they don’t succeed, they represent predators that must leave the area to search for another food source.” It is important for students to realize that most predators have more than one food source (other forms of prey, carrion, etc.). Students can also be taught that those predators that are turning to secondary food sources will tend to reproduce at a lower rate, thereby conserving food for the pack.

**RARE BIRD EGGS FOR SALE**

Be aware that some students or their parents may object to a visit to a museum of natural history, preferring that wildlife be represented only through art, song, literature, photographs, etc.

In the first two editions of Project WILD, under Evaluation, when discussing one way that zoos might prevent a species from becoming extinct, remind students that most zoos cannot or do not actually conduct activities necessary to fulfill this potential.

**SATURDAY MORNING WILDLIFE WATCHING**

Remind students that most animal behaviorists agree that animals other than humans can experience fear, stress, sadness, and other emotions; often reacting with the same or similar physiological responses as those of humans. Appropriately ascribing these traits to animals is not anthropomor-
ZONE E, S

Humane Approach to the Study of Animals
Dissecting or Experimenting on Animals enclosed brochures: refer to our "Guidelines for the Study of Animals in Elementary and Secondary School Biology," found in the SURPRISE TERRARIUM.

Be sure to point out to students that you have carefully provided for the needs of your animal in the terrarium. If the animal was brought into the classroom from the wild, point out to students that you are keeping the animal for only 24 hours (or less) and that it will be returned to the same place it was found. Discuss human responsibility for animals used for instructional purposes. Animals we suggest for a 24-hour terrarium are sow bugs, ants, or spiders. (Please refer to our "Guidelines for the Study of Animals in Elementary and Secondary School Biology," found in the enclosed brochures: Does the Idea of Dissecting or Experimenting on Animals in Biology Class Disturb You? for students, and The Living Science: A Humane Approach to the Study of Animals in Elementary and Secondary School Biology for teachers.)


TO ZONE OR NOT TO ZONE E, S

In the first two editions of Project WILD, the personal data cards contain three hunters (out of fourteen people) and no animal welfare/rights activists or animal protectionists. Yet in real life, no more than 8 percent of the American public hunts. Add cards that represent animal rights/welfare activists who are concerned with protection of wildlife (for its own sake rather than for economic benefit), habitat, and with land-use matters. In these cards, include people who are promoting the exploration of alternatives, such as development of vacant or underutilized sites within the community. Delete some of the hunters so that they are not disproportionately represented in the simulation. The hunting minister in particular should be omitted. His/her ministerial role lends an ethical sanction to the consumptive use of wildlife, which is not appropriate for this controversial topic.


TURKEY TROUBLE S

Under Procedure, task 5, item 2 is crucial and lays the foundation of item 3, which should be the focal point of this lesson. Students should recognize that many of the original assumptions may have been incorrect. In discussing the assumptions, the following points should be made:

Assumption 1 — Turkeys have been known to leave an area to find a more suitable habitat.

Assumption 2 — Disease may affect turkeys. They are also limited by their need for a mature forest habitat, which provides food in the form of acorns, other nuts, and seeds, as well as roosting sites some distance above the ground and a lack of undergrad use so that the birds may escape their enemies by running or flying.

Assumption 4 — Loss of eggs during incubation due to nest desertion by the female, predation, and other causes can account for more than one-half of all eggs laid by a population in a given year. Loss of young turkeys, called poultis, is also high due to cold spring weather, accident, predation, and other causes. High losses are typical of ground-nesting birds such as turkeys because of the vulnerability of their eggs and their young. In addition, some of the eggs may be infertile and some may be broken in the nest. Finally, if food is very scarce, turkeys will probably not reproduce as well as they would in a normal, or good, food year.

Assumption 5 — Turkeys are sexually mature and capable of breeding at one year of age.

Assumption 6 — Few turkeys in hunted populations live beyond age three.

Under Procedure, task 5, item 3 is very important. Help students conclude that bird populations are limited by the following factors: (1) availability of suitable habitat (including food and cover); and (2) egg, juvenile, and adult losses due to weather, nest desertion, accident, predation, infertility, disease and possible lowered reproduction due to lack of adequate diet. Point out to students that people do not have to hunt turkeys to keep their numbers under control. As a relatively natural population approaches carrying capacity, population growth tends to become "balanced" by reduced juvenile survival and by aggre gate annual mortality. This is accomplished by both external factors, such as predation and weather, and by reproductive feedback mechanisms, such as lowered birth rate. (See comments for "Carrying Capacity.")

Since this activity centers on the introduction of turkeys into Wyoming, the lesson should include a discussion of the possible consequences of introducing or reintroducing species into an area. In particular, the introduction of nonnative species into an area may have negative consequences for native wildlife and habitat. (See comments for "Planting Animals.")

In the first two editions of Project WILD, under Evaluation, add a question to request students to list possible natural limiting factors that could restrict the growth of the rabbit population.

WATER'S GOING ON?! E, S

Under Extensions, add a discussion of how agriculture affects our waterways. Modern intensive farming practices add to the pollution of water through feedlot runoff, siltation, and chemical pesticide and herbicide runoff.

P & A: Correlations not applicable.

WHAT BEAR GOES WHERE? E

Under Evaluation, the last question should read "Why or why not?"
Remind students that the transportation itself would stress the animals.

Under Extensions, item 2, remind students that many people object to the word renewable resources being applied to animals.

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- Item 3 under Extensions should be deleted or applied only to energy sources.

- Under Procedure, item 3, help students understand that a meat-based diet requires huge quantities of plant protein to be grown in order to obtain relatively small amounts of animal protein. For example, it takes 8 to 10 pounds of grain, which humans can use directly, to produce 1 pound of beef. Tremendous amounts of land are thus used in meat production, which results in habitat loss for wildlife and less grain for human consumption. Also point out to students that intensive modern livestock confinement systems require excessive energy use. Help students explore other drawbacks to intensive practices, such as substantially higher use of hormones, drugs, and other food additives as well as greater animal suffering. Students should also learn about competition between wildlife and livestock on rangelands and destruction of tropical forests to create land for ranchers to raise beef for fast-food restaurants and other food uses in the U.S.

Under Extensions, item 2, remind students that many people object to the word renewable resources being applied to animals.

- Item 3 under Extensions should be deleted or applied only to energy sources.

- Under Procedure, item 3, help students understand that a meat-based diet requires huge quantities of plant protein to be grown in order to obtain relatively small amounts of animal protein. For example, it takes 8 to 10 pounds of grain, which humans can use directly, to produce 1 pound of beef. Tremendous amounts of land are thus used in meat production with a necessity and a luxury. Which is a fur coat?

- Before asking students to establish criteria for judging the appropriateness of sources of clothing, help them explore the impact of clothing choices on individual animals as well as on the environment. How is most fur obtained? What suffering is involved for an animal in a trap besides the pain of the trap itself? Is food available? Water? Shelter? How are most ranch fur animals raised? In cages? In naturalistic settings? What genetic defects result from being bred exclusively for a "beautiful coat?" How are the animals killed?

- Under Extensions, if you wish to have students inventory their clothes, they should also evaluate which clothes necessitate the killing of an animal and be aware that some people object to the use of the term natural resources applied to animals. Be sure to remind students that the impact on individual animals and species should be included in their environmental impact statement.

WHAT'S WILD?

In the first two editions of Project WILD, under Evaluation, eliminate the phrase "Starting with people and . . . ." Add one or more wild predators to the list. This will provide students with the option of making food chains with three or four components without portraying people as meat-eaters, unless students choose to do so. This also reinforces the stated objective by demonstrating that all animals, even predators, ultimately depend on plants for food.

WHAT'S FOR DINNER?

Under Procedure, item 3, help students understand that a meat-based diet requires huge quantities of plant protein to be grown in order to obtain relatively small amounts of animal protein. For example, it takes 8 to 10 pounds of grain, which humans can use directly, to produce 1 pound of beef. Tremendous amounts of land are used in meat production with a resulting habitat loss for wildlife and less grain for human consumption. (Also see comments for "Lobster in Your Lunch Box.")

In the first two editions of Project WILD, under Evaluation, eliminate the phrase "Starting with people and . . . ." Add one or more wild predators to the list. This will provide students with the option of making food chains with three or four components without portraying people as meat-eaters, unless students choose to do so. This also reinforces the stated objective by demonstrating that all animals, even predators, ultimately depend on plants for food.
make clear that it involves genetic manipulation through selective breeding and that it is a process that takes place over a long period of time. (That is, a tame animal is still considered wild unless its ancestors have been tame for at least hundreds of generations and have become fully acclimated. An animal born in captivity is nonetheless wild unless its ancestors going back for a minimum of hundreds of generations were also born in captivity.)

Extend this lesson by discussing the problems associated with the keeping of wild animals as pets. Wild animals are not appropriate pets. Highlight the reasons wild animals, even when "tamed," make poor pets. The keeping of wild, or exotic, pets is inconsistent with respecting natural ecosystems, is usually cruel to the animal involved, and is sometimes detrimental to whole populations or species. One usual result is the pet’s death. Another is human suffering due to sorrow, disappointment, guilt, or injury. Sometimes fines are imposed on humans who keep illegal pets. Human disease and death can also result from the keeping of wild pets.

WHEN A WHALE IS A RIGHT

Under Procedure, item 2, as suggested in the NOTE, have students make use of the wide variety of resource agencies that provide information on the whale issue. (See our Organizations Lists.) Such research should not be optional but rather an integral part of the activity.

Under Procedure, item 2, add more questions for the "advisors to the whaling nations" (or "whale researchers" in the third edition) to research, such as "Do some people raise questions about the ethics of killing whales? What are their concerns and reasons? Are some people concerned about the whales as individuals, as well as members of a species? Why? Is the killing of a whale a necessity to obtain any certain product? What alternatives exist?"

In the first two editions of Project WILD, under Evaluation, delete the second question, which presumes that, unlike whale hunting, "harvest" of other populations of wild animals does not have an impact on those populations. This topic should not be introduced without a complete discussion of the impact of "harvesting" populations and the differences of opinion concerning sport killing.

WHO LIVES HERE?

Under Procedure, item 2, after students have determined how and why a particular animal was introduced into an area (for example, introduced accidentally, introduced to have a new species of animals to hunt), have students discuss the ethical issues involved. Also have students research how the animals were captured, transported, and released. Did any animals suffer injury, trauma, death? What was the impact on the social orders and populations of animals remaining in the area of capture?

WHO PAYS FOR WHAT?

Under Procedure, item 1, when sharing Background information with students, the following additional information should be presented: The current funding structure for wildlife programs has in many ways kept most of the American public from participating in the formation of wildlife management policies and goals or having a meaningful impact on the implementation. Because state fish and wildlife agencies are funded primarily by hunters and trappers, the policies of these agencies are frequently aimed at satisfying the desires of this group, which represents only a small part of the public interested in wildlife. There are understandable historical reasons for this situation, but changing social values toward wildlife and a greater interest on the part of non-hunters and non-trappers have made this system wholly inadequate. Indeed, as the system currently exists, it is virtually impossible for the non-consumptive user to affect a wildlife policy, particularly for hunted species.

This system has begun to open up to non-consumptive users with the advent of nongame funding programs. Some progress has been made in some states since the 1970's. (3) Do your state programs for "nongame" and


PUBLIC WILDLIFE";

WHALE PAYS FOR WHAT?

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tive users continue to be regarded as having no right to a voice in decisions regarding hunted animals. Yet, all wildlife legally belongs to all the people, not just hunters and trappers.

Under Procedure, item 1, general tax revenues should be mentioned as a source of funding. This is the major source of financing for wildlife activity at the federal level.

In the first two editions of Project WILD, under Procedure, item 1 and Evaluation, see our Organizations Lists for more groups that can be added to the lists provided in Project WILD.

Under Procedure, item 1, support programs are listed. Some additional types of activities that serve wildlife and habitats are court actions to stop hunts, court actions to demand that more research be done before a particular project is started, and educational programs about humane treatment of animals.

Under Procedure, item 3, students could discuss the following: (1) What problems might arise when an agency receives its funds from a certain group (such as hunters) and yet is responsible for regulating the activities of this group? (2) Do most state wildlife agency funds go toward managing game animals or protecting “nongame” and endangered animals? Why? (NOTE: In the late 1970’s, fish and wildlife agencies in the lower 48 states spent over 95 percent of their funds on “game” animals, despite the fact that these animals account for only a small percentage of our domestic species. Some progress has been made in some states since the 1970’s.) (3) Do your state programs for “nongame” and
endangered animals depend primarily on private donations (tax checkoffs)? If so, does this seem appropriate? (4) What is the nature of your state’s “nongame” programs? How many of these programs benefit species that will not be hunted in the future? (Some “nongame” funds are used to build up populations of animals that can later be reclassified as “game” animals.) (5) How could state wildlife agencies be funded in order to make them more responsive to non-consumptive users of wildlife?

WILD BILL’S FATE

If you choose to share the Background information with students, they should be informed that the Federal Government also plays a role in protecting and managing major portions of our nation’s wildlife (for example, wildlife on public lands, migratory birds, marine mammals, endangered species).

In the first two editions of Project WILD, under Procedure, item 1, see our Organizations List for other groups to add to those listed. Suggest that students also contact local animal welfare/rights groups and local humane societies.

WILDLIFE AS SEEN ON COINS AND STAMPS

Under Procedure, item 4, point out to students that many people view animals as possessing intrinsic value, a value apart from what the animal represents to humans.

WILDLIFE BIOGRAPHY

Under Procedure, item 1, also have students think about the values that aboriginal people placed on wildlife, including nonutilitarian values. Ask students to discuss the growth in modern times of an appreciation of wildlife for its own sake. Under Procedure, item 2, add to the list of possible topics: 1) A contrast of the focus of early laws and conflicts concerning wildlife (which generally focused on who had the right to use or “harvest” the animals) with the focus of laws that exist today (which focus more on whether wild animals should be used or killed at all). 2) An examination of the attitudes toward animals of American Indian and Eskimo subsistence cultures before contact with European settlers.

WILDLIFE ISSUES: COMMUNITY ATTITUDE SURVEY

If you share the Background information with students, include examples of beliefs, values, and attitudes that support non-consumptive positions. (All the examples listed in the first two editions of Project WILD support consumptive use of animals.)

WILDWORK

If you share the Background information with students, delete the references to “wildlife resource” and “natural resources,” which tend to imply that all wildlife-related careers are associated with wildlife management, conservation, or other consumptive- and utilitarian-based professions. Remind students that humane organizations and animal welfare/rights groups sometimes employ individuals involved in wildlife protection, research, rehabilitation, rescue, relocation, and care and maintenance.

Under Extensions and Variations, item 2 (secondary version only), correct the inaccurate statement that wildlife is managed as a responsibility of state agencies in the United States. A large number of wildlife populations in the United States, including wildlife on public land, migratory birds, marine mammals, and endangered species, are protected and managed by the Federal Government. Students should know this before they make their “wild web.”

Under Extensions and Variations and Evaluation (secondary version only), the references to “natural resources” should be deleted. Or make clear that some people object to the use of this term applied to animals.

### Additional Correlations to People & Animals:
A Humane Education Curriculum Guide

Below are the People & Animal correlations for the elementary Project WILD lessons not commented upon in this guide. Listings are in alphabetical order.

Key to Abbreviations:

- **P & A** — Correlations (for elementary lessons) for *People & Animals: A Humane Education Curriculum Guide*.
- **LA** — Language arts lesson in *People & Animals*. Page number for locating the lesson is given.
- **SS** — Social studies lesson in *People & Animals*. Page number for locating the lesson is given.
- **MA** — Math lesson in *People & Animals*. Page number for locating the lesson is given.
- **H/S** — Health-science lesson in *People & Animals*. Page number for locating the lesson is given.

**NOTE:** Page numbers for the lessons in *People & Animals: A Humane Education Curriculum Guide* are given. These page numbers indicate the designated grade level for the activity as follows:

- Pages 1 – 35 are in Level A of *People & Animals* (for preschool and kindergarten)
- Pages 36 – 70 are in Level B of *People & Animals* (for first and second grades)
- Pages 71 – 105 are in Level C of *People & Animals* (for third and fourth grades)
- Pages 106 – 140 are in Level D of *People & Animals* (for fifth and sixth grades)

**ADAPTATION ARTISTRY**

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<th>H/S 24</th>
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**ANTS ON A TWIG**


**THE BEAUTIFUL BASICS**


**CAN DO!**


**COLOR CRAZY**

| P & A | Correlations not applicable. |

**DOES WILDLIFE SELL CIGARETTES?**

| P & A | LA 76 |

**ECO ENRICHERS**


**ENVIRONMENTAL BAROMETER**


**FIRST IMPRESSIONS**

| P & A | SS, MA 5; LA, SS, MA 40; LA, SS, MA, H/S 75; MA, H/S 110 |

**FOREST IN A JAR**

| P & A | Correlations not applicable. |

**GOOD BUDDIES**


**GRAPHANIMAL**


**GRASSHOPPER GRAVITY**


**HABITAT RUMMY**


**HABITRACKS**

PLANNING FOR PEOPLE AND FOR WILDLIFE

POND SUCCESION
P & A: Correlations not applicable.

THE POWER OF A SONG
P & A: LA 32

RAINFALL AND THE FOREST
P & A: LA, SS, H/S 3; LA, SS, H/S 38; LA, SS, H/S 73; LA, SS, H/S 108

SEEING IS BELIEVING
P & A: H/S 24; LA, H/S 59; H/S 94; H/S 129

STORMY WEATHER

TOO CLOSE FOR COMFORT
P & A: SS, MA, H/S 63; MA, H/S 97; MA, H/S 103; LA, H/S 104; H/S 133; LA, SS, H/S 138; LA, SS, H/S 139

OWL PELLETS
P & A: MA, H/S 95; LA, SS, H/S 130

WILDLIFE IS EVERYWHERE!

VISUAL VOCABULARY
P & A: LA 4; LA 14; LA 16; LA 21; LA 24; LA 38; LA 44; LA 49; LA 50; LA 54; LA 55; LA 66; LA 73; LA 74; LA 79; LA 83; LA 88; LA 93; LA 109; LA 112; LA 125

WHAT BEAR GOES WHERE?

WHAT'S THAT HABITAT?

WILDLIFE IN NATIONAL SYMBOLS
P & A: LA 100

ACTIVITY
WILD WORDS: A JOURNAL-MAKING ACTIVITY

VISUAL VOCABULARY
P & A: LA 4; LA 14; LA 16; LA 21; LA 24; LA 38; LA 44; LA 49; LA 50; LA 54; LA 55; LA 66; LA 73; LA 74; LA 79; LA 83; LA 88; LA 93; LA 109; LA 112; LA 125

WHAT BEAR GOES WHERE?

WHAT’S THAT HABITAT?
RESOURCES FROM THE NATIONAL ASSOCIATION FOR THE ADVANCEMENT OF HUMANE EDUCATION

This guide does not attempt to address the gaps in Project WILD — the topics that are accorded little or no coverage. NAAHE materials are now available for filling in these gaps.

Sharing Our Lives With Wildlife. “Born Free, Stay Free” is the first of several packets in the Sharing Our Lives With Wildlife elementary teaching aids series. (Future packets will cover endangered animals, trapped animals, and more.) The packet is available at four different levels, with each level covering only two grades which ensures that the lessons are appropriate for your students.

- Level A — preschool and kindergarten .................. $5
- Level B — first and second grades ...................... $5
- Level C — third and fourth grades ...................... $5
- Level D — fifth and sixth grades ....................... $5

In your “Born Free, Stay Free” packet, you’ll receive clip art, worksheets for use in your regular classroom subjects, ideas for bulletin boards and learning centers, and a detailed teacher’s guide for the curriculum-blended lessons, which can be used individually or as a unit.

Partners: The Secondary Teacher and Wildlife. This is a series of secondary units, each designed specifically for a particular secondary subject. Each unit is correlated to Project WILD. Contact NAAHE (see below) for information on packets in your subject specialty.


People & Animals: A Humane Education Curriculum Guide. Available from NAAHE. This field-tested curriculum guide offers teaching activities and is specifically designed for use in language arts, social studies, math, and health/science. It is available at the following levels:

- Level A — preschool and kindergarten .................. $7
- Level B — first and second grades ...................... $7
- Level C — third and fourth grades ...................... $7
- Level D — fifth and sixth grades ....................... $7

Guides for all four levels, complete with binder, are available for $25.

Children & Animals: Better Teaching Through Humane Education. Available free to NAAHE members. This magazine for teachers, published every other month during the school year, contains numerous animal-related activities for teaching math, science, social studies, and language arts to students in preschool through eighth grade. (Membership in NAAHE costs $10 per year. Canadian and other foreign subscribers please add $3.) Activities in Children & Animals are complimented by our companion newspaper for students, Kind News. Please see below.

Kind News. Available for $10 per year for NAAHE members. ($15 per year for nonmembers. Canadian and other foreign subscribers please add $5 per subscription.) This tabloid newspaper for students contains articles about animals, puzzles, games, and stories — all designed to correspond to the student activities in Children & Animals. It is published at two levels — Level 1 for grades 1 and 2, Level 2 for grades 3 through 5. Packaged in bundles of 35 copies for the classroom, it is published five times during the school year.

Children’s Pamphlet Series. This series of pamphlets provides students with necessary information on animal issues. Titles include Animals, Pet Animals, Endangered Animals, and Captive Wild Animals. Single copies are 15 cents each, 50 for $4, 100 for $7, 500 for $25.

To order the above materials, fill out this form. Enclose it with your check and mail it to NAAHE, Box 362, East Haddam, CT 06423. Make your check payable to NAAHE.

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In numerous places in the *Project WILD* activity guides, it is suggested that students contact agencies or organizations for information on various issues. However, in the first two editions of *Project WILD*, very few of the organizations listed as possible sources of information are animal welfare or animal rights groups. For your convenience, we have listed some of the more well-known organizations for animal welfare and animal rights and their addresses. You may also wish to contact your local humane society or inquire into other local organizations that may exist for animal welfare/rights in your community.

### Organizations List

**Actors and Others for Animals**  
P.O. Box 405  
Beverly Hills, CA 90231  
212-985-6263

**American Anti-Vivisection Society**  
Suite 204  
Noble Plaza  
Jenkintown, PA 19046  
215-887-0816

**American Humane Association**  
9725 East Hampden  
Denver, CO 80231  
303-695-0811

**American Society for the Prevention of Cruelty to Animals**  
441 East 92d Street  
New York, NY 10028  
212-876-7700

**Animal Protection Institute of America**  
P.O. Box 22505  
Sacramento, CA 95822  
916-422-1921

**Animal Welfare Institute**  
P.O. Box 3650  
Washington, DC 20007  
202-337-2332

**Committee To Abolish Sport Hunting**  
c/o Luke A. Dommer  
P.O. Box 43  
White Plains, NY 10605  
914-428-7523

**Defenders of Wildlife**  
1244 19th Street, NW  
Washington, DC 20036  
202-659-9510

**Friends of Animals**  
11 West 60th Street  
New York, NY 10023  
212-247-8120

**Fund for Animals**  
200 West 57th Street  
New York, NY 10019  
212-246-2096

**Greenpeace**  
2108 West 4th Avenue  
Vancouver, B.C., Canada  
604-736-0321

**The Humane Society of the United States**  
2100 L Street, NW  
Washington, DC 20037  
202-452-1100
This guide in no way constitutes an endorsement of Project WILD by The Humane Society of the United States (HSUS). It is written to assist teachers who must use Project WILD. The HSUS has recommended that the distribution and use of the Project WILD guides be discontinued until the inaccurate and biased materials in the guides are corrected.
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Produced by the National Association for the Advancement of Humane Education
A division of The Humane Society of the United States