



THE ARCTIC NATIONAL WILDLIFE REFUGE D E B A T E

A Student-Centered Activity

Created By: Melissa Arnold,

Phoebe Hazard and

Lena Wilensky.

Former Environmental Educators at Yosemite Institute, Melissa is currently earning her Master's of Studies in Environmental Law at Vermont Law School, Phoebe is the Director of the Chewonki Foundation's Canoe Expedition for Maine Girls and is doing her graduate work at Tufts University's Management of Community Organizations program, and Lena is a middle school math and science teacher and the director of outdoor education at the local private high school in Crested Butte, Colorado.

In the summer of 2002, Melissa, Phoebe and Lena spent thirty five days in The Arctic National Wildlife Refuge backpacking, writing, developing curriculum, and researching the issue at the center of this activity.



Photos courtesy of the authors unless otherwise noted



In today's world, being an educator amidst an increasing amount of environmental issues is a challenging job. How do we present fair and balanced material in the classroom? How do we influence without advocating so that students can develop their own opinions? And perhaps most importantly, how do we help our children learn that they have a voice and the power to influence issues? The following student-centered activity was inspired by these questions and the realization that every child is their own best teacher.

The Arctic National Wildlife Refuge Debate was developed for children of critical-thinking age levels, to explore an environmental issue of national importance. Through a mock debate designed to reflect multiple perspectives, students will engage in lively discussions on whether or not the Arctic National Wildlife Refuge should be opened to oil drilling, an issue currently debated throughout America. This activity will assist teachers in addressing land-use issues by investigating the balance between economic development and wilderness preservation. Students will become exposed to the different sides of a nationally-debated issue, learn the importance in developing educated opinions, and gain insights into their individual perspectives and ability to affect change. Through the examination of one issue, students will become aware of the many issues that exist in their local community, their nation, and across the globe.

This article outlines background notes teachers may use to educate their students on the issue, provides a full set of instructions on how to conduct the hour and a half activity, and lists additional resources for educators who wish to elaborate on this activity in their lesson plans.

What is the Arctic National Wildlife Refuge?

Note: Although the Arctic National Wildlife Refuge is commonly referred to as 'ANWR', the 'Arctic Refuge' is a

politically correct substitute that can be used as an alternative to the full name.

Geography and habitat

Located on the coast of northeastern Alaska, the Arctic National Wildlife Refuge is the most northern and one of the largest refuges within America's National Wildlife Refuge System. At nearly 20 million acres, it is the size of South Carolina and among the most complete, pristine, and undisturbed ecosystems on Earth. Here, coastal lagoons, barrier islands, arctic tundra, boreal forests, foothills, and mountains such as the rugged Brooks Range provide a combination of habitats, climate, and geography unmatched by any other northern conservation area – conditions that support a diverse community of life.

Wildlife

The Arctic National Wildlife Refuge is the single place in the world where the black, grizzly, and polar bear all exist. Here you'll find muskoxen, wolverines, packs of wolves, and flocks of snow geese and other wilderness-dependent species. There are more than 36 kinds of land mammals, 9 marine mammal species, 36 types of fish and 160 bird species, many that will migrate thousands of miles, some from as far as South America, to nest for the summer in the Refuge. The Porcupine Caribou herd has 129,000 members who travel an 800-mile migration path that ends

at their birthing grounds on the coastal plains of the Arctic Refuge. Nowhere else on earth does an animal herd still link so many ecosystems, unbroken by human development.

The National Debate

The Arctic National Wildlife Refuge gained its high profile in the news starting in 2001 because of an energy plan that proposed opening a section of the coastal plain to oil drilling; an area consisting of 1.5 million acres commonly referred to as the "1002 area". Unlike the vast majority of the Arctic Refuge, the 1002 area has never been protected as a designated wilderness area, a measure that would protect it from exploitation; instead, it was set aside by congress in 1980 as a potential future source of domestic oil. This area cannot receive permanent wilderness designation, nor can oil and gas production occur without authorization from congress as outlined in sections 1002 and 1003 of the Alaska National Interest Lands Conservation Act (ANILCA.). But now that the need for oil has arisen, a debate has taken form. While some citizens and interest groups are against such a bill, others are in favor of the secure domestic oil supply the land may provide. Conservationists claim that the refuge is a uniquely wild place and must be protected from human invasion; conversely, advocates for the excavation of oil reserves bring the public's attention



to the explosive relations with the Middle East: The United States' primary oil source. They declare that without an increase in a domestic oil supply, the very essence of life in the United States is vulnerable.

Although the senate voted down the bill that included the energy plan, the Arctic Refuge has come up a number of times in subsequent bills. Each time so far, the proposal to open the coastal plain for oil drilling has been voted down; but with our nation's growing need for a domestic oil supply to sustain our economy and lifestyle, it will continue to come up for vote again and again. Only The Morris K. Udall Arctic Wilderness Act (HR 770), if passed, would protect the Arctic Refuge as wilderness for future generations.

The significance of this debate goes beyond the argument of protecting this refuge alone. Because of its attention in the press, the debate over the Arctic Refuge holds symbolic significance in the perennial battle between the protection of wild places and our present lifestyles. The decisions made by congress could potentially set the precedent for innumerable land use decisions to come. Many believe that the debate over the Arctic National Wildlife Refuge is the most important

environmental battle currently being fought because it poses a greater question: Do we continue to enter wilderness for economic development or do we preserve some of our last open space even if we never see it?

In this mock debate, with viewpoints represented from both sides of the argument, students will argue for the fate of this land.

Setting Up the Debate

Introduce the Arctic National Wildlife Refuge to the students through maps, photographs and background information, pulling from the above sections, *'What is the Arctic National Wildlife Refuge'*, *'The National Debate'*, the timeline, and any supplemental information. Next, divide the students into six groups throughout the room, each representing one of six interest groups involved in the debate over the 1002 area: Labor Unions or "The Teamsters"; The Sierra Club; The Climate Change Experts; The Gwich'in Nation; The Inupiat People; and Arctic Power. These interest groups were carefully selected to represent the various sides of this multi-layered issue, offering a variety of perspectives and opinions. Informational argument pages, included in this article, explain the

Many believe that the debate over the Arctic National Wildlife Refuge is the most important environmental battle currently being fought because it poses a greater question: Do we continue to enter wilderness for economic development or do we preserve some of our last open space even if we never see it?



viewpoints and prominent arguments of each group in detail. These can be copied, laminated and handed out to the corresponding student groups.

Explain that each of the student groups will assume the identity of their respective interest group after reviewing the information on their argument page together and becoming familiar with their designated opinions. The students in each group will compose a brief yet powerful argument that embodies their party's beliefs. They will select one representative from their group who will present a defensible argument in front of a mock congressional group, or Senate committee, comprised of teachers or parents. The Senate committee will make the final decision regarding the designation of the 1002 area based on the arguments presented by the interest groups.

Presentations

Create an engaging atmosphere by introducing the debate as if the students were really in the halls of Congress, about to argue for the future designation of the Arctic National Wildlife Refuge. Thank them

for attending such an important event in history: the day that the nation votes on whether to drill or not to drill. Introduce the interest groups, the adults as the Senate Committee, and yourself as the mediator. Throughout the debate, all students are to role-play the attitudes and perspectives of their assigned interest groups.

Remind the students that there is no such thing as a bad opinion especially if the person presenting it is educated in the matter. They are allowed to disagree with one another during the discussions and debrief, but they cannot discount one another. While facilitating the introduction, debate and discussion, the teacher should remain unbiased, allowing the students to quietly develop their own opinions free of any influence.

Following each presentation, questions will be allowed from the Senate committee and from the other groups to inspire critical thinking and offer an opportunity for each party to defend itself, revealing the multiple layers involved with issues of this scope. It is up to the facilitating teacher to monitor the energy of the room, as the students may get "fired

up" debating the issue at hand. The "flames" should be allowed to "fan" to a certain degree and boundaries, or "fire lines", should be set as deemed appropriate. Generally, the group representative standing at the front of the room fields all incoming questions; however, their interest group is permitted to assist in answering questions as allowed by the facilitating teacher.

Decisions and Voting

When all the arguments have been heard and all the questions have been handled, there will be a break in the session. Consulting one another about the various arguments presented by each interest group, the Senate committee will take a five-minute break and make a joint decision regarding the future designation of the Arctic National Wildlife Refuge's 1002 area. During this decision-making process, the students will be instructed to step back for a moment from their role-playing and to return as themselves. Lowering their heads and concealing their eyes, students will be asked to inspect their personal, individual beliefs regarding the future of the Arctic National Wildlife Refuge. A



poll of raised hands will be taken for those in favor of preserving the refuge and all those in favor of opening the area to drilling. The facilitating teacher takes a count and withholds the results for the time being.

When The Senate Committee has reached a decision, a representative will address the room and share the result as well as the reasoning behind their final decision. They should note the arguments that were the most compelling and how they influenced the vote. Remember, it is not the 'real-life' opinions of the adults in the Senate committee that are taken into account; rather, it is the strength of the student's arguments and the defense of their viewpoints that influence the decision.

Thank everyone for attending today's meeting and bring them back to classroom reality. At this time, disclose the results from the student poll.

Wrap-Up

Concluding this debate, it is important to allow some debrief

time. This is one of the most important parts of the activity. Don't miss out on an opportunity for young minds to sort through their newly gained knowledge, impressions and realizations! Below is a list of questions designed for the development and sharing of student thought:

- What are the natural attributes of the Arctic National Wildlife Refuge?
- Summarize the political history of the Arctic National Wildlife Refuge.
- Explain the various viewpoints involved in the Arctic National Wildlife Refuge Debate.
- Describe what you learned from this experience.
- Compare and contrast the Arctic National Wildlife Refuge issue to another issue with which you are familiar.
- Decide whether or not it is important to pay attention to community, national, or international issues.
- Explain your response.
- Judge whether or not the Arctic

National Wildlife Refuge's 1002 area should be opened for oil drilling. Support your argument with three of your strongest beliefs.

Time Breakdowns

This activity can be conducted in 1½ hours if the following time figures are closely observed; however, this activity can be extended over an entire day or longer! Consider incorporating this activity into your week's lesson plan, dividing the sections into longer time periods.

- Introduction of Material – 15 min
- Debate Set-up – 10 min
- Preparation Time – 15 min
- Presentations – 30 min
- Decisions and Voting – 5 min
- Deliberation and Wrap-Up -15 min



Arctic Power

Arctic Power is a grassroots, non-profit citizen's organization based in Anchorage, AK with 10,000 members. Founded in 1992, Arctic Power aims to expedite congressional and presidential approval of oil exploration and production within the Coastal Plain of the Arctic National Wildlife Refuge. Arctic Power is funded by the State of Alaska, oil companies and citizens with interests in Alaska's oil-producing economy and is committed to the expansion of the Alaskan oil industry.

Their arguments include:

Local considerations:

- It is estimated that 250,000-735,000 jobs may be created in the building and maintenance of an infrastructure that would support an oil industry in the Arctic Refuge (i.e. roads, drilling sites).
- The state of Alaska, which does not collect sales or income tax, relies heavily on the money generated by the taxes, lease rentals, and royalties paid by oil companies. This money helps to fund education, rural health care programs, as well as the Permanent Fund (a fund which provides all Alaskan citizens, including children, a \$2,000 yearly stipend). Bolstering the oil industry will help to insure funding for these programs in the future.

National and International Considerations:

- The United States presently spends 55.1 billion dollars on imported oil each year. This money purchases 55% of the 19.6 million barrels of oil consumed each year in the U.S. As relations with the Middle East continue to deteriorate, the standard of living of United States citizens, which is so heavily reliant on oil consumption, is threatened.
- The development of domestic oil supplies can reduce U.S. reliance on the Middle East's oil. Studies done by both the United States Geological Survey (1980) and the United States Department of the Interior (1987) estimate that there is anywhere from 9-17 million barrels of recoverable oil as well as substantial reserves of natural gas under the Coastal Plain of the Arctic National Wildlife Refuge.
- Studies on the environmental impact of existing oil drilling sites on the northern coast of Alaska, such as those in Prudhoe Bay, show that thousands of migratory water fowl species as well as caribou herds continue to reproduce successfully in the vicinity of these facilities.
- Advances in oil extraction technology will help to reduce the footprint of facilities needed to remove available oil. Additionally, extraction will happen primarily in the winter months when frozen ground and a snow pack will reduce the impact of the roads on the tundra vegetation.



The Inupiat People

The Inupiat people, like the Gwich'in, rely on the caribou herds for food, clothing and even building materials in a land where trees are scarce. Living on the coast of the Beaufort Sea, fishing, and whaling are also essential to their survival. The Coastal Plain that has been at the center of the debate over oil rights in the Arctic Refuge is part of the traditional land of the Inupiat people. Archeologists have found evidence suggesting that they have been present on the North Slope for over 1,000 years. Because the coastal plain comprises a portion of the traditional land of the Inupiat people, they are committed to careful management of its natural resources. The Inupiat people support drilling in the Arctic Refuge.

Their arguments include:

- 30% of the taxes and royalties paid by the oil industry have been allocated to the people of the North Slope Borough, the home of the Inupiat people. This money has helped in the creation and improvement of landfills, airstrips, and residential homes with running water, health clinics, fire halls, Wildlife research and management and a public safety officer service.
 - The oil industry provides jobs for Inupiat people. Although the law does not include the North Slope Borough, 25% of the work force employed by the oil industry must be comprised of Native Americans. The tribal government has a voice in North Slope matters and can negotiate for more Inupiat employment in the construction and maintenance of oil fields in the Arctic Refuge.
 - According to studies done on caribou herds of the Prudhoe Bay area, there is no conclusive evidence suggesting that the caribou population of the northern slope has been adversely affected by the infrastructure of the oil fields. In addition, since the 1980's a caribou management guideline allows for hunters to kill 5 caribou per person per day. This guideline gives a sense of the size and health of the caribou population in northern Alaska.
- The Inupiat People recognize the need to create jobs but are carefully weighing the risks involved. Presently there is a debate within the tribe over whether or not the rights should be granted for off shore drilling near Kaktovik. Many in the tribe oppose off shore drilling because there is no comprehensive strategy for cleaning up oil from the ocean in the event of a spill. Such a spill, opponents believe, would have a serious affect on the bowhead whale, polar bear, fishes and ring necked seal populations, all of which the Inupiat people rely on for sustenance. These same tribe members claim that cleaning up a spill on land in the Arctic Refuge would be far easier. This leads many in the Inupiat community who recognize their community's need for income and jobs to believe that an oil drilling operation within the Arctic Refuge would pose less of an environmental risk than off coast drilling sites.
 - The Inupiat people believe that the oil industry is sensitive to environmental hazards and that it continues to seek methods of oil extraction that will reduce the impact on the landscape.
 - When the federal or state government chooses to acquire or make legislation about private land they must come to an agreement with the private landholder. Although the Coastal Plain of the Arctic Refuge is marked as federal land on maps, it is also considered part of the Inupiat people's tribal lands. In 1971 the US Government granted the Inupiat people the surface rights to 69,000 acres of the coastal plain within the Arctic Refuge; therefore, it is legally mandated that the Inupiat people be consulted as legislators create policy regarding land use decisions for the coastal plain. This policy must include a plan for reimbursing the Inupiat People for use of their tribal land.



The Teamsters Labor Union

Founded in 1903, the International Brotherhood of Teamsters represents more than 1.4 million hardworking men and women throughout the U.S. and Canada. The Teamsters organize the unorganized, make workers' voices heard in the corridors of power, negotiate contracts that make the American dream a reality for millions, protect workers' health and safety, and fight to keep jobs in North America. Today's Teamsters are a community of workers, fueled by a contagious spirit that is equal part compassion, commitment, creativity, solidarity, and strength. Collectively, they are dedicated to the ultimate tenet of the trade union movement: the commitment to enhance the lives of its members all across North America and to win justice for working families. The Teamsters are in support of drilling for oil and gas in the Arctic Refuge for its environmental and economic benefits.

Their arguments include:

- Drilling in the Arctic Refuge would reduce our dependence on foreign oil, securing America's need for an energy source in a safe, politically stable place.
- We can control the environmental impacts of oil drilling if we drill in our own country. There is much technology currently available and still developing, that can make oil exploration and production environmentally sound. The United

States has the most stringent environmental constraints for our own exploration and development of energy resources. If we continue to import oil from the middle east, or other non-domestic sources, we have no control over the environmental destruction that goes on in recovering the oil in those countries.

- Opening the Arctic Refuge to oil and gas production will create much needed new jobs, as many as 735,000. The Teamsters in Alaska alone would benefit from the creation of more than 25,000 new jobs in maintenance and support of the drilling project. These new jobs will boost the economy and increase the standard of living for many. America has a proud history of embarking on great projects that make our nation strong while putting Americans to work, and the opening of the Arctic Refuge to oil and gas leasing is one of these projects.
- Since the energy crisis of the 1970's, America's energy use has grown twice as fast as domestic energy production. It makes sense that America take every step possible to reduce our energy dependence in an environmentally sensitive and productive way.
- Other unions in support of drilling: carpenter's union, seafarers union, members of the building and construction trades dept of the AFL-CIO



The Gwich'in Nation

The people of the Gwich'in Nation are one group of native people whose land is in the far north of our continent. Their population of 10,000 resides in fourteen villages in Northeastern Alaska and in Canada, one of which is Arctic Village within the Arctic National Wildlife Refuge. These people are reliant on the caribou that migrate through the refuge, both practically and spiritually. In 1988, when the first real threat of drilling for oil and gas in the arctic refuge arose, the Gwich'in Nation held a traditional meeting of all the villages to decide how to stop the destruction of the sacred land that is the breeding ground of the Porcupine Caribou herd: the coastal plain. The result of this meeting was a unanimous decision to join together and tell the story of their people in hopes of saving the coastal plain in the Arctic Refuge from oil and gas production. Their efforts to educate people around the world continue today.

Their arguments include:

- Oil and gas exploration in the Arctic Refuge will undoubtedly affect the Porcupine Caribou herd, the largest caribou herd in the Arctic. The Gwich'in people depend on these herds for their way of life. During August and September when the herds migrate southward to their wintering grounds, the Gwich'in hunt the caribou. In this harvest, they procure food for the rest of the year, hides for clothing and gear, medicine, and bones for making tools.
- As a people, the Gwich'in Nation are forever connected to the caribou. In their creation story, the Gwich'in people and the caribou retain pieces of each other's hearts. Whatever happens to the caribou will happen to the Gwich'in. This belief is similar to that of the plains tribes in their connection with the buffalo and dictates great harm to the Gwich'in people if drilling occurs.
- Not only is the coastal plain the biologically important breeding ground for the Porcupine Caribou herd, it is also sacred land, crucial to the survival and health of the animals strongly connected to the Gwich'in people. For this reason, the Gwich'in have never set foot there. To drill in this area would not only disrupt the herd, it would be akin to destroying a religious center, a spiritually sacred space.
- The basic human rights of the Gwich'in people are threatened by oil and gas production in the Arctic Refuge. This issue has been raised annually at the United Nations every year, in conjunction with the Commission on Human Rights. If drilling occurs, the way of life of one of the few remaining indigenous cultures in our country could be lost. Songs, dances and cultural traditions are directly tied to the caribou. This traditional knowledge is passed on each year during the fall harvest season when entire villages go out on the land, away from the technological distractions of the villages. Without this crucial time, the Gwich'in traditions would be lost within a few generations.
- The United States currently holds international treaties with Canada, protecting several important species that migrate between the two countries such as the caribou and the polar bear. Both of these species would be affected and possibly displaced by drilling on the coastal plain. The Gwich'in nation aims to protect these species and see the United States uphold the treaties it signed with Canada for the benefit of everyone.
- Saving the coastal plain is a wake up call for our country. We are consuming too much energy and exploiting lands too quickly. This is just one step in a process of looking at the bigger picture: We have lost respect for the land.



The Sierra Club

Founded by John Muir, the Sierra Club's mission is to "explore, enjoy, and protect the wild places of the Earth; to practice and promote the responsible use of the Earth's ecosystems and resources; to educate and enlist humanity to protect and restore the quality of the natural and human environment; and to use all lawful means to carry out these objectives."

The Sierra Club is currently one of the most powerful and successful grassroots environmental organizations in the nation at 700,000 members. Through membership supported efforts, they speak for the environment in court, striving to change laws and policies affecting the natural systems on earth.

Their arguments include:

- The acreage for oil drilling won't be the small area that some members of Congress would have you believe. The oil industry claims 2,000 acres is the size of an airport but that creates the false impression the acres would be contiguous. The oil development would sprawl across hundreds of square miles of prime habitat for caribou, polar bear and migratory birds. The proposal opens the entire 1.5 million acres to potential oil drilling.
- Research conducted by the United States Geological Survey indicates that oil under the coastal plain is not concentrated in one large reservoir such as at Prudhoe Bay, but is spread in numerous small deposits. There will be a need to build a network of permanent or ice roads connecting drilling wells, pumping stations, waste pits, gravel mines, pipelines, refineries and other industrial complexes.
- Our nation possesses only 3% of the world's oil reserves but consumes 25% of the world's oil supply so we can never drill our way to self-sufficiency.
- Each day, the United States consumes about 19.5 million barrels of oil, an annual total of about 7 billion barrels each year. Given this rate of consumption, if Arctic oil was our nation's only source, it would fuel America's demand for less than 6 months and wouldn't be available on the market for 10 to 15 years.
- Two-thirds of America's demand for oil is generated by transportation. The biggest single step we can take to reduce our dependence on oil is to make cars and trucks go farther on a gallon of gas. Raising fuel economy standards for cars and light trucks to 40 miles per gallon by 2012 would save 1.9 million barrels of oil per day - 4 times the expected output from The Arctic Refuge and more oil than we imported from Saudi Arabia last year.
- The industry has the technology to increase fuel efficiency right now. Germany has a vehicle that gets 200 mpg. Toyota and Honda have proven they can produce very fuel-efficient hybrid cars that get up to 70 mpg; however, the US Congress has been voting down fuel saving bills consistently.
- The Sierra Club strives to pass 2 bills that would permanently ensure the protection of the Arctic Refuge. These bills would designate the coastal plain as an official wilderness area. Until then, congress can continually push a bill for drilling. (The bills are: The Arctic National Wildlife Refuge Wilderness Act (S. 411) and The Morris K. Udall Wilderness Act (H.R. 770)).
- Drilling in the Arctic Refuge will not move us toward energy independence, nor will it make us less vulnerable to terrorist attacks. Instead, we need to make wise policy choices that truly eliminate vulnerabilities and work towards sustainable energy alternatives to fossil fuels.

Photo: U.S Fish and Wildlife Service



The Climate Change Experts

There are many scientists, environmental groups and social action groups who believe strongly that oil exploration should be halted immediately and the burning of fossil fuels as a source of energy should be reduced and eventually phased out. The IPCC is a United Nations (UN) sponsored group of 2,500 of the world's top climate scientists. The IPCC was started in response to the concern of many countries about global warming, unnatural climate change and adverse affects on humans and the natural world; as a result, they have collected data from all parts of the globe and have compiled their findings into several publications now in print.

Their arguments include:

- Climate change is a scientifically recognized phenomenon that could greatly disrupt our ability to comfortably inhabit our Earth. If trends in climate change continue, the average global temperature will rise as well as produce more severe and less predictable weather. In the past 30 years, the average temperatures in Alaska, Siberia and Northwestern Canada have risen 5 degrees Fahrenheit. The average global temperatures have risen .3 to .6 degrees Celsius since pre-industrial levels.
- Over 800 billion barrels of oil have been burned since the search for oil began in 1859.
- Climate change is caused by a wide variety of gasses but one of the major driving forces of global warming is CO², a byproduct of burning oil.
- Two degrees Celsius is the upper limit beyond which the risks of grave damage to ecosystems is expected to increase rapidly. If the burning of oil continues to the extent that it occurs today and continues to increase at the current rate, we can expect the average global temperature to rise 2 to 3 degrees Celsius in the next century.
- Drilling for oil in the Arctic National Wildlife Refuge will only promote the burning of more oil and discourage the use of alternative technology. Viable options exist that would be able to replace fuel technology affordably and safely, but it is up to us as consumers to support it therefore making it available and affordable.

RESOURCES

- Background information from the U.S Fish and Wildlife Services' Arctic National Wildlife Refuge site, <http://arctic.fws.gov>. Visit this site for more information, maps and photographs on the Arctic Refuge. For Educational Projects, go to Visitors and Educators then For Educators.
- The Sierra Club's, <http://www.sierraclub.org/wild-lands/arctic/>. Visit this site for tips on writing letters to your members of congress as well as updates on legislation.
- Arctic Power, <http://www.anwr.org>.
- Teamsters Online, <http://edu.teamster.org/>.
- North Slope Borough, Inupiat Nation, Arnold Brower, Special Asst. to N. Slope Mayor, personal interview conducted.
- Gwich'in Steering Committee, The Arctic Village Tribal Government, Lucy Beech, personal interview conducted.
- Carl Benson, climate change professor at University of Alaska Fairbanks and retired USFWS biologists Fran Mauer and Ken Whitten, personal interviews conducted.

For curriculum on the ecology and wildlife of Alaska's arctic tundra, visit the Alaska Department of Fish and Game at <http://www.adfg.state.ak.us>, go to Of Interest - Teacher's Resource - Mammal Resources - Alaska Wildlife Curriculum. Material is available for purchase in binders or CD-ROM's.

TIMELINE

- | | | |
|--|---|--|
| <p>1959 Alaska Statehood established.</p> <p>1960 An initial 8.9 million acre Arctic National Wildlife Refuge is established.</p> <p>1964 The Wilderness Act.</p> <p>1968 The Wild and Scenic Rivers Act.</p> <p>1977 Trans-Alaska Pipeline breaks ground.</p> <p>1980 The Alaska National Interest Lands Conservation Act (ANILCA.), expands the Arctic Refuge to 18 million acres, designates 8 million acres as Wilderness and three rivers as Wild and Scenic, and calls for wildlife and oil/gas studies of the coastal plain, or '1002' area.</p> <p>1983 Nearly one million acres are added to the Arctic Refuge.</p> <p>1987 The Legislative Environmental Impact Statement (LEIS) is created after several years of</p> | <p>wildlife and oil/gas studies, stating that oil and gas production in the '1002' area would have major effects on the Porcupine Caribou herd, musk oxen, and the subsistence activities by native residents, with moderate effects on other species. The Department of the Interior recommends that the '1002' area be opened to oil and gas production in a way that would avoid unnecessary adverse effects on the environment.</p> <p>1988 Congress adds 325,000 acres to the Arctic Refuge, bringing the total to today's 19.8 million acres.</p> <p>1988-89 Numerous bills are submitted to the House of Representatives</p> | <p>to open the Arctic Refuge to oil and gas production but do not pass.</p> <p>1991 National Energy Policy Act attempts to open the Arctic Refuge to drilling but becomes 'shelved'.</p> <p>1992 A new National Energy Policy Act passes without an amendment to drill.</p> <p>March 24, 1989 Exxon Valdez oil spill in Prince William Sound.</p> <p>Aug. 2, 2001 House votes to open Arctic Refuge to oil and gas production.</p> <p>December 3, 2001 and April 18, 2002 Senate votes against amendment to open Arctic Refuge to oil and gas production.</p> |
|--|---|--|