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A New Fossil Fuel for the Future?

Dirty green snowball-like chunks could provide fuel for the 21st century. Researchers from six universities and institutes are investigating how to extract and tap this peculiar substance, methane hydrate.

Formed at high pressure and low temperature, methane hydrate is found in ocean bottoms and permafrost. U.S. scientists received their first underwater samples of hydrate from waters off the Guatemalan coast in 1982. The coveted hydrate chunks are known to exist in vast quantities in the Arctic, Alaska's Bering Sea coast, and in the sea beds south of Mexico. Hydrate resources, thought to be six times greater than natural gas supplies, could extend present natural gas reserves by more than 150 years. Furthermore, it is a highly concentrated energy form. One part methane hydrate equals 170 parts of regular natural gas. Certain qualities of methane hydrate, however, are defeating experts' best efforts to put it to use.

Composed of water and methane (natural gas), the chunks sputter and pop at room temperature due to escaping gas. If left outside refrigerated and pressurized containers long enough, the samples disintegrate. Standard drilling techniques fail to extract the solid because heat is required to melt the hydrate. Using a heat source at the drill hole, however, is very expensive and technically difficult. The Soviets have had some success pumping antifreeze into hydrate wells, but this raises environmental concerns. Mining the surface deposits of methane hydrate would expose the hydrate to the outside atmosphere allowing the gas to evaporate. Hydrates have historically been a nuisance to oil companies because they clog high pressure gas lines. Consequently, these companies are not interested in researching hydrates as an energy source. The novel form of energy has few backers. "The issue is hydrate at what price," said an Exxon official.

Seeking solutions to these problems, the U.S. Department of Energy will spend one million on hydrate research this year. With progress, methane hydrate could be part of the energy mix of the future.

Chri Banjo

Tapping WWU's Diamond Qualities

Campus and community merge during Impact Week

Whatcom County is dependent on heavy industry for its economic stability. According to a recent Stanford Research Institute report (see MP Feb. issue) these industries have peaked and will decline as major sources of future employment. The Bellingham area must find new job sources to retain a stable employment base. Western Washington University has a wealth of expertise and technical information. If these resources could be exploited more fully, the University would become the foundation for future economic growth. For this to happen, however, the University must work to improve its visibility within the community.

One noteworthy attempt being made to market Western's potential in the Bellingham area is Impact Week. This program is being designed to increase community awareness of Western's resources. The week will include a student intern
day, a community cleanup day, and a campus-wide open house. People involved in the project are working to get the word out in a big way. Planners of Impact Week are depending on individuals from both the University and community for input and support. Impact Week, scheduled for early May, is still in the planning stages and organizers of the project are open to suggestions. Anyone with suggestions or ideas please call the impact office at 676-3460 or drop by room 223 in the Viking Union.

Western is a diamond in the rough. It could provide the Bellingham area with invaluable economic and social services in the future. The goal of Impact Week is to take that diamond and start the process that will eventually turn it into a gem.

Dave McFadden

Trustees Request Increased Recycling

Blue and white barrels beckon

Western Washington University produces nearly five tons of waste paper for every day of the academic year, a total of 1670 tons per year. It costs the university $100,000 annually to dispose of this mammoth amount of trash. Only 10 percent of the campus’ waste paper is recycled, according to Western’s solid waste manager, Dennis Smith.

This behavior is costly both environmentally and economically. In response, the Board of Trustees has endorsed a policy that officially requests increased recycling among Western’s students, faculty and staff.

To help the university to comply with the policy, the Associated Students Recycling Center (ASRC) has distributed blue and white barrels throughout the buildings on campus. Only recyclable paper is accepted in these barrels, excluding carbon paper, waxed paper, and heavily dyed construction paper. The ASRC has also set up two mini-recycle centers on campus which accept aluminum and glass as well as paper. These two new facilities, at Miller and Arntzen Halls, join the mini-recycle center already located in the Viking Union plaza.

Recycling offers the opportunity to save on waste disposal costs at Western, leaving the funds available for other uses. Recycling also generates income for the Associated Students, and creates jobs at the ASRC.

Thank you for recycling.

Rob Van Orsow
Sewage Turns Profit in Portland

Urban alchemists compost sludge into soil

In the first scheme of its kind in the United States, Portland, Oregon is turning its sludge into a cash product.

Sludge is the residue formed from whatever courses through a city's sewer system—not only wastes from homes but also a great variety of non-hazardous wastes from commercial sources. Each day, the City of Portland must contend with 250 wet tons of sludge, a volume approximately equal to 60 full-grown elephants.

Usually the sludge is processed into a nitrogen-rich substance by exposing it to bacteria. Then it is dried and turned into "sludge cake." The dried sludge can then be burned, dumped into sanitary landfills or safely used as soil material in land reclamation projects.

Landfill space in Portland is decreasing rapidly. Trucking the dried sludge to the city-owned landfill was costing more than $3000 a day.

Portland has found a solution to their sludge dilemma in the form of a German-invented system to compost the sludge. The Taulman-Weiss system employs tightly sealed vats that transform the sludge into compost in a matter of days. Odors are kept down, less space is used, but best of all, the result is a product that pays: a high-grade potting soil.

The City of Portland and Taulman-Weiss have formed an unusual partnership. Taulman-Weiss has designed and constructed the composting facility at a cost of $11.4 million for city taxpayers. Portland will operate the composter and supply the sludge. In return, Taulman-Weiss has agreed to purchase all of the potting soil the city creates from its new system for $10 per ton. While Taulman-Weiss is responsible for marketing the potting soil, the company will equally share all profits beyond $16 per ton with the City of Portland. Annual revenues from this unusual partnership are expected to range from $300,000 to $400,000.

Can-Am Seminar

Neighbors share perspectives

The geographic distance between Western Washington University and the University of Victoria is small—less than 50 miles. Yet the divisive influence of an international border has given students of the two schools markedly different perspectives on environmental issues. A recent seminar on international environmental issues, sponsored by the Environmental Center and held at Camp Orkila on Orcas Island, February 3, 4 and 5, gave students from the two schools the opportunity to meet, examine their differing perspectives and discuss issues common to both countries.

Because of the limited amount of time available, only brief attention could be given to specific issues. Nevertheless, the first-ever meeting between the two groups was quite successful in expanding knowledge concerning each nation's history, political structure, past cultural and political influences, and ways of dealing with (or not dealing with) environmental problems. In addition, networks between the Canadians and Americans were established in areas of common interest, such as acid rain, environmental education and the arms race.

Information exchange was not the only concern of those attending the seminar. Workshops in experiential education, led by Outdoor Program's Deke Jones, solidified the rapport between participants.

The first annual seminar on international environmental issues was a beginning, a chance to increase understanding and build bridges. Further seminars are planned which will focus on more specific environmental problems and solutions while continuing the networking begun at Camp Orkila. In addition, the University will be sponsoring the annual Northwest Association for Environmental Studies conference next fall.

Topics will include water and air pollution, public involvement, methods of environmental education, and international environmental treaties. Forms are available in the Environmental Center, V.U. 113.

Gasping for the Gold

Will smog hinder summer games?

Although sports fans are eye-balling Los Angeles in anticipation of this summer's Olympic Games, they may have a tough time seeing anything through the smog.

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A New Tide of Environmentalism

Roy Fore

After 15 up and down years, the environmental movement has become a potent political force in the United States. The modern, matured movement has refined its strategies and techniques, and now appeals to a broader cross-section of the public. In 1982 the green vote had a significant impact on the results of the congressional elections. Again this year, environmental groups plan to make politicians focus on environmental issues.

The environmental movement took root in the late 1800s when the Audubon Society and the Sierra Club were founded. Their purpose was the preservation of land and resources for recreation and wildlife. The modern environmental movement has broadened its interests by tackling issues of concern in both the natural and urban environments. Today's groups are also linking with consumer and labor groups on issues of mutual interest.

In spite of the hovering dark cloud that Reagan has brought, there is cause for optimism.

Since the genesis of the modern environmental movement in 1969 after the Santa Barbara oil spill, methods have changed dramatically. In the early seventies the key strategies were often built around romanticism, rhetoric, and occasionally, civil disobedience. As a result the public was bombarded with environmental information through the mass media. Public awareness of environmental problems grew tremendously, and pressure was put on politicians to act. Many major pieces of environmental legislation were passed during this period, moving the United States to the global forefront in the area of environmental protection. Examples of the major environmental acts passed during this period are the National Environmental Policy Act, the Clean Air Act, and the Federal Water Pollution Control Act.

By the mid-seventies the battle sites had moved to the legislatures and courts as the political and legal savvy of environmental groups were developed and refined. During this period the groups wielded considerable influence. By working behind closed doors, however, their visibility declined. As a consequence, public interest in environmental concerns in the media.

Because non-environmental issues were gaining prominence, environmentalists started losing more and more battles. In 1977 an article in the December 19 issue of U.S. News and World Report stated that the environmental movement had run into reality. Jobs and other economic concerns as well as energy needs had taken on greater importance. Increasingly, environmental regulations came under fire for placing costs and restrictions on business. It was in this climate that Ronald Reagan entered the White House. Today the Clean Air Act is still awaiting reauthorization while industries are seeking to weaken its effectiveness. In Olympia the finishing touches are now being put on a stream-lined State Environmental Policy Act.

In spite of the hovering dark cloud that Reagan has brought, there is cause for optimism. A renewed sense of urgency has infused both the public and environmental groups as the damaging policies of the Reagan administration are understood. Public opinion surveys show that approximately 70 percent of citizens now support current, or even stricter, environmental regulations--even at the expense of a slowed economic recovery. The "mandate" Reagan believes he was given in 1980 to ease government regulations to foster economic growth has withered away.

Furthermore, major environmental groups, such as the Sierra Club and the Audubon Society, have developed sophisticated candidate support systems and lobbying techniques. In 1980 the Sierra Club sacrificed its tax-exempt status to form a Political Action Committee. This allows the group to provide candidates with campaign funds and formal endorsements.

Many people throughout the United States realize that Reagan's environmental policies represent a grave threat to the environment. The membership of virtually every environmental organization has grown since Reagan took office. For example, the Sierra Club has nearly doubled its membership to 350,000 since 1981.

The green vote played a significant role in 1982 when 26 new House democrats were elected. All of them are expected to be supporters of environmental legislation. Groups worked hard to elect a more ecologically aware congress. By providing the time and money the Sierra Club achieved an astounding 80 percent success rate in those races in which they supported a candidate. This is a figure that many hope will make candidates more wary in 1984.

Another aspect contributing to the growing influence of the modern environmental movement is its willingness to work with other groups. For example, a coalition of labor, environmental and consumer groups is working to save the Clean Air Act. Some environmentalists see this trend as a drawback because goals must be watered down to protect against alienating a portion of the coalition. Others view the added influence as ample compensation.

The anti-environment, anti-regulation stance of the Reagan presidency has dealt a severe blow to the health of the environment. If there can be a positive side to Reagan's policies it is the renewal of environmental movement. Some of the romantics have returned and environmentalism is gaining strength. A new tide is rising which may remain, long after Reagan has left office.
Icelandic Whales Purchased by Sealand Aquarium

During the summer of 1982, the Canadian Federal Department of Fisheries and Oceans issued a new whale capture permit to Sealand of the Pacific, an aquarium located in Victoria, British Columbia. The permit allowed them to take two young killer whales (orca) from a 50-member group designated as L-pod. This pod lives in the waters along the Washington/British Columbia border.

Sealand wanted the new whales to replace Haida, an aging and sickly male orca that had been in captivity there for almost 14 years. Sealand officials proposed a plan to release Haida into the wild and provide constant medical care and food support in the hope that he would re-adapt to a natural environment.

On October 3rd, 1982, Haida died of a lung infection and became the sixth orca to perish in Sealand's net. The wire mesh enclosure is next to a marina not favored by tidal flow, subjecting captive animals to boat noise, fuel spills and city sewage outlets. The two new replacements would have been held for six years in this enclosure, then released, and a new cycle would begin with new whales.

In their natural state, orcas live within a highly interdependent social system using each other and their acoustic communication system as a basis for pod cohesion and therefore, survival. Any form of interference for research or display purposes can be only detrimental to both the pod group and the individuals.

"Between 1965 and 1972, members of the southern population--J, K and L pods--were captured no less than 13 times resulting in the removal and/or death of at least 47 whales." With an estimated pre-1965 population of 103 to 113, and a present population size of 79, it is apparent that "this population is without question still recovering..."
Some orca have been debilitated by severe frostbite while being kept in the shallow, unnatural holding tanks.

Aquariums exist to earn money for the owners. Their income is gathered at the expense of imprisoned animals.

Aquariums exist to earn money for the owners. Their income is gathered at the expense of imprisoned animals. The tricks that orca perform are all behaviors that can be observed in the wild. The difference in captivity is that they are trained to respond to cues in return for dead fish. In their natural state, orca travel between 10-100 miles per day; while in captivity they are confined to tanks not more than 5 or 6 times their body length.

The maximum longevity of captive orca is estimated to be 48 years; that of orca in the wild is 5 or 6 times their body length.

John Kohl

Inhabiting the coastal waters of Washington and British Columbia are two distinct populations of killer whales, orca. Their overall range extends from the Puget Sound to the waters of northern B.C. The immediate neighbors are the southern population which consists of 79 individually identifiable whales. They make up three groups which researchers designate as J, K, and L pods. Their specific range includes the outer coasts of Washington and Vancouver Island, the Strait of Juan de Fuca, Puget Sound, the San Juan Islands and Georgia Strait up to the Fraser River. From this point north there are 12 pods with approximately 150 members inhabiting Canadian coastal waters; this is the northern population.

In the past, our aquatic neighbors have been the target of bullets and nets of aquariums bent on displaying them in captivity. The protection of orca from human harassment has been enhanced by the Moclips Cetological Society, a non-profit research and education group located in Friday Harbor, WA. Moclips provides public education through its Whale Museum which helps heighten human awareness of marine environments. Non-intrusive photo identification research techniques are used by Moclips members to gather data in the field and they are careful not to disrupt travelling pods. In contrast to most zoos and other museums, respect for a unique life form in its own realm is obvious at this Friday Harbor facility.

History shows that human ignorance has proven fatal to many animal species. Organizations such as Moclips exist to enhance knowledge of our planet so that we can protect diversity of life and stability among all organisms that make up the interdependent web of life.

Whale Museum Gives Respect
Eat well for $1.50... or less.
+Sausage sandwiches
+Hot tasty soups
+Vegetarian dishes
+Fresh breads
+Luscious desserts
++
"Plates of the Planet"
Viking Union Plaza, Mid-day
++
Good international food at affordable price.

Landfill Dilemma Calls for Community Input

Rob Van Orsow

Whatcom County and the City of Bellingham are in the midst of a solid waste disposal dilemma. The landfills currently in use by the county are rapidly reaching capacity and will soon be closed by the county. The city's waste disposal contractor, Thermal Reduction Company, Inc. (TRC), uses an obsolete waste disposal system. In response, local officials are considering plans for a new waste disposal system.

Since TRC began operating in 1974, more efficient, less polluting methods of incineration have evolved, making TRC's current operation out-dated. Each of TRC's eight incinerators have the capacity to burn 12.5 tons of refuse per day. Sulfur dioxide (a major contributor to acid rain), hydrochloric acid and micro-sized ash are released from the burning materials. Furthermore, insufficient combustion temperatures release partially burned hydrocarbons, smoke and noxious odors into the atmosphere. Heat energy released in this process goes unused.

According to Paul Schissler, a local environmental planner, the local government will most likely choose a new system that makes use of the heat energy produced by incineration. Other available options include a composting system; pyrolysis; or mechanical sorting into burnable and non-burnable items.

One major concern about the new facility, especially for local recyclers, Schissler said, is that a flow control policy may be implemented as a part of the new plan. A flow control policy determines the destination of collected wastes. Flow control regulations assure optimum production of marketable energy from incineration. The sale of this energy would be used to finance the cost of the new facility. These regulations may route waste to incinerators rather than to recyclers, especially if the new facility is not sized properly to allow for present and future recycling.

Considering recycling in the overall plan is both economically and ecologically sensible. Including recycling as a part of the new waste disposal plan would reduce the size and cost of the new facility, decrease airborne pollutants from waste combustion and decrease the cost and energy required for transportation of waste in our area. Moreover, revenues from recycling would increase and more natural resources would be conserved.

Individuals can affect the decisions made by our local government regarding waste disposal. To express your views on this issue, local council members may be contacted.
Letters Versus Lobbyists

Kristin Swenddal

Congress is back in session, deliberating over crucial issues which will affect everyone in this country. It's time to let your representatives know how you feel.

This year Congress is expected to receive as many as 200 million pieces of mail. While this may sound like a lot, each of these personal letters are essential in countering the millions of dollars that businesses, investors, developers and corporations will invest lobbying for their interests. Citizens need to write letters addressing each issue, letting their representatives know which issues concern them the most.

There are a few points to remember when writing your representatives which will make your letters more effective. First, keep the letter short—no longer than a page is recommended—and refer directly to the issue at hand. Refer to the bill by number and name, if possible, and review the present legislation surrounding the issue.

Discuss the local and regional impacts the bill will have, bringing in several aspects such as the environment, the economy, local jobs, and local health. Bringing up your legislator's voting record on a previous piece of legislation shows you are informed and up to date on what they are doing. Finally, be polite and informative. No gain comes from being rude to the person you are trying to convince.

Another effective way to influence your representatives is to contact the manager or editor of the local television or radio stations, newspapers and magazines. Ask them to discuss issues, particularly the ones involving local interests. Or suggest they interview experts on the subject.

In addition, a well-written letter to the editor will express your views and receive attention both in the community and by your representatives.

Instead of complaining about the actions of your government, set aside a little time this week to write letters. There are several issues of major importance being examined by Congress including the proposed fiscal 1985 budget of $925 billion, one-third of which is slated solely for the Pentagon. Also being considered is a wilderness bill (House Bill #4537) which will set aside 1.5 million acres of forest service lands in Washington state as wilderness areas, and a bill which would strengthen Superfund, Clean Air Act, Clean Water Act and the Federal Insecticide, Fungicide and Rodenticide Act. These issues will receive a lot of attention, and citizen input will help determine their outcome. All of the House and one-third of the Senate are up for re-election this fall, so voter opinions will have an even larger impact. To write your Senator or Representative address your letters to:

Senator
Senate Office Building
Washington D.C. 20510

The Honorable
House Office Building
Washington D.C. 20515

A new handbook, published by the Izaak Walton League of America, shows citizens how communities can organize to tackle local environmental threats and at the same time make their communities more livable. The 50-page "Guide to Conservation Action" is available for $3, plus 75 cents postage. Send orders to 1701 N. St. Myer Dr., Suite 1100, Arlington, VA 22209.
Speak Out

Activism is our Social Responsibility

Activism. The mere mention of this word brings different images to people's minds, many of which are negative. Activists are often labelled "radical" or "left-winger." The reasoning behind this escapes me. Activism is the doctrine or policy of taking direct social action to achieve a political or social end. Activism is not necessarily radical. An activist does not have to be a left-winger. Activism is not only one of our rights, but is one of our responsibilities as American citizens. Every individual should be an activist in some small way.

When confronted with an unpopular government policy or social problem, people often complain loudly. Yet, these same people do nothing to change the policy or solve the problem. They sit at home with the evening paper, gripe about the government or the state of the world, then fall soundly asleep in front of the T.V. When asked why they don't act to change things they reply, "I'm only one person, what can I do?"

To bring about changes in society, people must do more than complain. They must take a stand on an issue and then back up that stand with action. You can make a difference. You can convince others, who in turn can convince others, who in turn form a concerned group that has the power to effect change.

Activism need not be complicated or require much time. All it takes is commitment to an idea and motivation to act on that commitment.

Voting is an example of activism. Writing a letter to a congressperson, donating money to Bread For The World, federal tax evasion, or participating in a peace rally, are all forms of activism. More time-consuming and in-depth forms of activism include joining and participating in an environmental organization or public interest group, canvassing for a political party, or even forming a new political party.

The form of activism one chooses is not that important, as long as one's involvement is positive. It's more important to take the initial step of making a commitment and standing behind it. Even the smallest step is in the right direction.

Many forms of activism, however, are illegal. Vandalism, terrorism and other such activities are not viable ways to instigate change in society. It is unfortunate that some people choose these illegal routes, for they merely reinforce the negative connotations of activism. Participating in these forms of activism wastes energy which could be put into more productive action. It also alienates those who might be sympathetic to the activists' cause, but cannot condone their methods.

We live in a time of great social and political change. The world is becoming conceptually smaller. Closer economic ties between countries and telecommunications are combining to form an intertwined and interdependent world community.

Our world faces many problems; environmental pollution, overpopulation, and the threat of nuclear war are only a few of the crises which could eventually eliminate humankind. In the past, many people were content to sit on the sidelines and watch the world change around them. The time for spectators has passed. It is time for everyone to stand up and help shape the world of the future.

With forethought and action we can solve the problems we created in the past and prevent more from occurring in the future.

Take a stand and support it with action. Vote. Write a letter to your legislator. Join a political party. Do anything but sit around and complain.

Marc Revaris
Naturalist Tracks Elusive White Climbers

"A Beast the Color of Winter,"

Traveling the North Cascade backcountry we sometimes, though not often, see mountain goats. Usually they are far off, white dots against the darkness of rock cliffs or in the green of alpine meadows. Occasionally we surprise one as we climb carefully up a cliff, and watch in amazement as it bounds up or down cliffs that we climb only with ropes and highly developed mountaineering skills. The goat, of course, is on home ground, as we are not. For many of us this shaggy and elusive creature is symbolic of the high and wild—a creature living beyond the experience and influence of humans.

Douglas Chadwick is a professional goat watcher of vast experience. A field biologist, Chadwick spent seven years observing the "white climbers," as he affectionately calls them, among the cliffs of Montana's Swan Mountains and in Glacier National Park. He tracked through the high country throughout the year, counting chewing rates during "three or four muggy, buggy hours lying down among the goats." He peered intently at the goats through a late November storm, with snowflakes building up on his back and shoulders, so as not to miss a detail of the goat's complex mating process. He studied goat behavior systematically, and walked among them, once being slightly gored by an unusually large billy who resented his intrusion.

Out of his vast field experience, and that of other researchers, Chadwick has drawn a composite portrait of a normally elusive animal. "A Beast the Color of Winter" is not a scientific report, but an entertaining description of the wild mountain goat, its behavior, taxonomy, physiology and adaptation, and its niche in an unusual ecological community. The description and analysis is very dispassionate at times, as befitting the scientist that Chadwick is, but often he cannot contain his joy and enthusiasm at having watched his subjects so intimately. The kid (whom he dubs "Sundance Kid") and its nanny keep to themselves until another nanny intrudes upon their ledge.

The two adults stand facing each other in tense, ritualized pose:

"At this point the tension in the air apparently infected the kid. It raced out in front of its startled parent and performed spectacularly inspired series of leaps in which it spun this way and that, and thoroughly punctured the air around the other female's ankles with its imaginary horns...Its final display was so enormous that the young beserker hurled its own feet out from under itself in several directions at once and came down in a pile in front of the strange nanny."

Carefully mixing science and anecdote, Chadwick tells an engaging story. We come away with a picture of a remarkable and complex adaptation of a large mammal to its environment. Chadwick came to understand the ecological significance of many aspects of goat behavior, and shares his understanding eloquently with us.

This most entertaining and informative book ends, though, on a sad note. It seems that the destructive ways of humans have, after all, reached even to the cliffs and ridges of mountain goat country. Populations of goats are shrinking everywhere in their range. Chadwick tells us how we are destroying goat habitat. For behavioral and physiological reasons related to adaptation to a harsh environment, we cannot treat or "manage" goat populations like we do other game animals. They are different. Chadwick and his goat-studying colleagues have learned what is important for survival of mountain goats. Chadwick has ably summarized what must be done to assure viable wild goat populations. He concludes his fine book with this thought:

"We must take care to see that the beast we call the mountain goat remains. Remains for its own sake and because it is a talisman, not far from myth, of the high, free places. Without them the goats, without their niches, we will be that much closer to having only ourselves and our works to look at, learn from, and touch our feelings—the self-inflicted tyranny of walking endlessly down a hall of mirrors."
Films

"Never Cry Wolf" Dispels Old Myths

"Never Cry Wolf," Farley Mowat.
A Carroll Ballard Film by Walt Disney Productions, 1983.

Walt Disney's recent adaption of Farley Mowat's book, Never Cry Wolf, offers movie-goers a unique and astonishing glimpse of the Arctic wolf and man's misconceptions of this graceful animal. Although Disney at times does not strictly adhere to the book, and uses time-worn comic devices, Hollywood's special effects do not interfere with the author's message.

The main character, Mowat, is a wildlife biologist assigned to study the wolves in the sub-arctic. His task is to determine the impact that wolves have on the declining numbers of Arctic caribou. In addition, Canadian government agencies wish to confirm the popular belief that wolves are the ruthless killers, rather than ruthless killers, that wolves live in harmony with one another and show constant concern for each other's welfare. Mowat observes in their constant wrestling matches a sublime exuberance for life. In time, he begins to question the notion of human superiority over animals.

With two rifles, a revolver, two shotguns, tear-gas grenades and potassium cyanide to protect himself, Mowat is left alone to begin his study. His home for the months to come is the vast and remote tundra wilderness. It is a place where the lonely landscape of rock, snow and ice overwhelms the senses, a place of frozen lakes and crooked rivers. In summer it is transformed into a place where expansive rolling hills are covered with thick grasses and delicate alpine plants, where mosquitoes haunt humans. Most importantly, however, it is a place where the mysterious howls of the wolf echo into the sub-arctic air.

It is not until Mowat first encounters a wolf, however, that he realizes how much he is intruding into the wolves domain. At first, the wolves scut in size the newcomer carefully. These "savage killers" begin to accept Mowat, though, after he sets up camp within two hundred feet of a family of wolves. Marked by the scent of Mowat's urination, the animals respect the boundaries created by their new neighbor and continue their daily routine, allowing Mowat ideal and often humorous observation opportunities. Mowat observes social behavior in the wolf species markedly different from the blood-thirsty image held by many people, including the government agency that employs him.

Rather than ruthless killers, he discovers that wolves live in harmony with one another and show constant concern for each other's welfare. Mowat observes in their constant wrestling matches a sublime exuberance for life. In time, he begins to question the notion of human superiority over animals.

So intrigued is Mowat by the wolves communal social structure, he almost loses sight of the purpose of his study, which is to determine the animals' eating habits. His studies of wolf scat, or droppings, show that wolves feed mostly on field mice, and an occasional rabbit, bird or fish. Only once the migrating caribou herds are nearby do they become important in the wolves' diet.

To test his theory that a large meat-eating mammal can exist on a diet of tiny rodents, Mowat decides to do just that. After weeks of trial and error, and with the help of some strong alcohol, he concludes that mice do offer a viable means of human subsistence, and if prepared right are a culinary delight.

Combining the insight of an Inuit Eskimo with his own observations of the hunting tactics of a wolf pack, Mowat discerns the real cause of diminishing caribou populations. It is not wolves that significantly decrease the caribou herds, but rather overhunting and unnecessary slaughter by humans. By only stalking diseased and weakened caribou, wolves selectively promote the survival of the fittest. Also, the wolves only kill enough for survival instead of senselessly slaughtering animals for their hides or horns as humans are known to do. The Arctic wolves are simply playing their evolutionary role.

Presently, a wolf-kill plan is being enacted by the British Columbia Ministry of Environment. The plan to kill 330 to 400 wolves in northern B.C. further illustrates the continuing misconceptions humans have about the wolf. Fortunately, Disney's depiction of Mowat's experiences with the Arctic wolf may contribute to a shift to more enlightened attitudes toward this cunning and elusive animal.

Mark Gunlogson