

To Drill or Not to Drill?

A Reading A-Z Level W Leveled Book

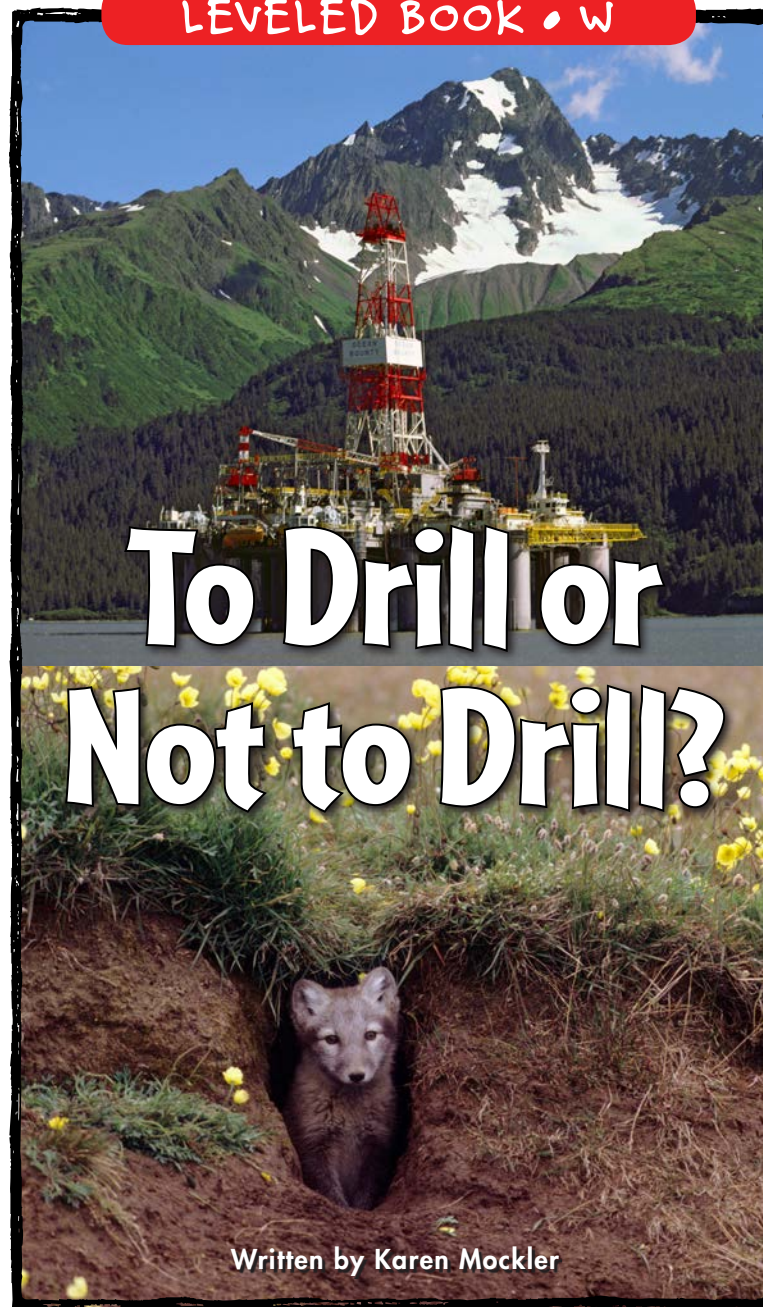
Word Count: 2,161



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Written by Karen Mockler

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Robert Marshall was the first to propose an Alaskan refuge.

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Introduction

Imagine a place that belongs to every American but is so remote that you may never set foot there during your lifetime. Does a place you may never visit matter to you? Did you know that you can help decide its fate?

The Arctic National Wildlife Refuge, located in a distant corner of Alaska, is such a place. A *refuge* gives shelter. A *wildlife refuge* gives wild animals the space and freedom they need to feed themselves and raise their young. Because the land is protected, they can do these things without clashing with people.

Refuges Far and Wide

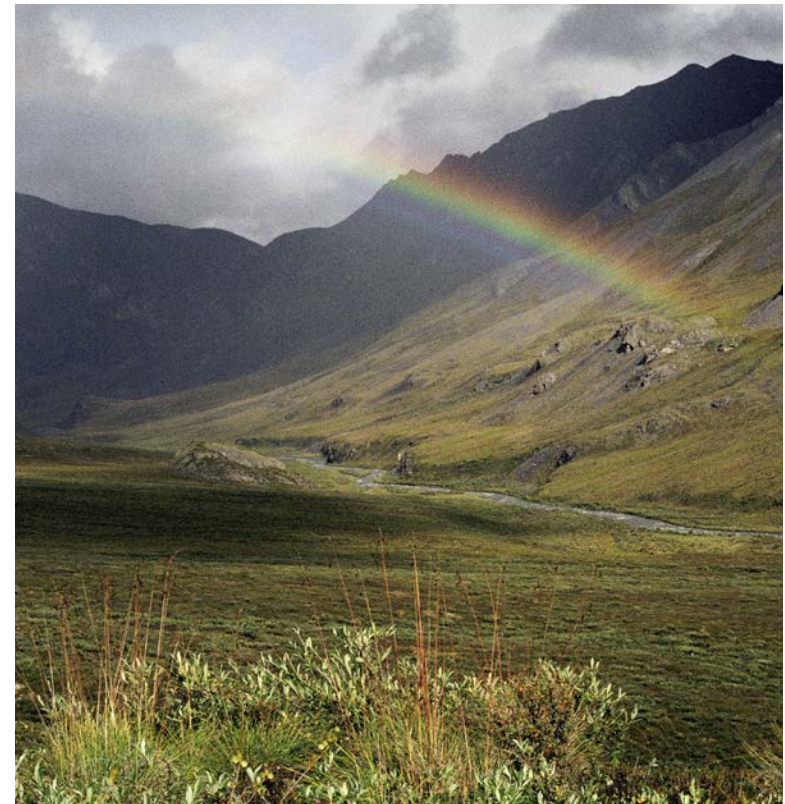
The United States has 553 national wildlife refuges that span more than 150 million acres. Some of the refuges are tiny: Mille Lacs National Wildlife Refuge in Minnesota is only .57 acres, the smallest refuge in the National Wildlife Refuge System. The Arctic National Wildlife Refuge is the largest.



White Ibis at the J.N. 'Ding' Darling National Wildlife Refuge, Florida



The Arctic National Wildlife Refuge is huge—nearly 20 million acres. That’s nearly as large as the state of South Carolina. In 1938, a man named Robert Marshall was able to look at the still-wild places on the planet and understand how people, in time, would change them. He proposed a “permanent American frontier” that would **preserve** a big chunk of arctic Alaskan wilderness. In the 1950s, people who were worried about habitat loss and pollution asked Congress for that same frontier. In 1960, Congress created the refuge.



A rainbow over the Sheenjek River Valley, ANWR

Many Americans consider the Arctic National Wildlife Refuge, or ANWR, a national treasure. But beneath its **tundra** lies another sort of treasure: oil. That oil divides Americans over what ANWR’s highest purpose is and what its fate should be. People disagree about how much oil there is, how much money that oil would save people at the gas pump, and how drilling would affect the refuge. In short, they disagree about what makes ANWR valuable.

A History of American Oil

Until a century ago, the United States produced between 60 and 70 percent of the world's oil supply. Most of that oil came from the Lower 48 (the main group of states without Alaska and Hawaii). After World War II, the United States could no longer drill enough oil to meet the needs of its people and businesses. It began to buy more oil from other countries. Because oil was cheap and plentiful at the time, Americans cared little about how much oil they used or where it came from.

Then came the 1973 energy **crisis**. When a group of countries agreed to stop selling oil to the United States for six months, oil became hard to get. Drivers waited in long lines at gas stations. Sometimes gas stations had no fuel. Americans



paid more for oil than they'd thought possible just the year before.

In 1973, gas was in short supply in the United States. Even when they could get gas, drivers were sometimes forced to line up at gas stations for hours.

Oil in Alaska

It was time for the United States to find new oil, and it did. Oil was discovered at Prudhoe Bay on the North Slope of Alaska. By 1980, Prudhoe Bay supplied two million barrels of oil a day. Thanks to Alaskan oil, U.S. gas prices fell for a time. Since 1988, however, the North Slope has produced less and less oil. Now oil companies want to drill other oil-rich areas near Prudhoe Bay. One of these areas is ANWR.



Oil rig and pipeline, Prudhoe Bay



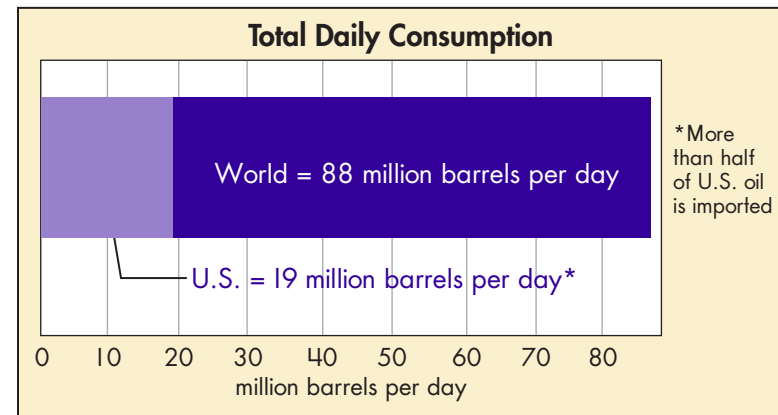
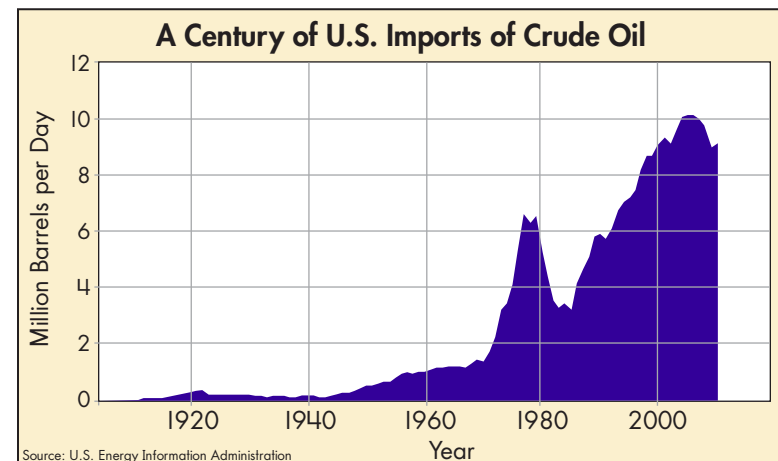
An advocate for Alaskan wilderness protests on the front steps of the U.S. Capitol Building against drilling in ANWR.

Drilling in ANWR is against the law. Oil companies want to drill in 1.5 million acres of its coastal plain, an area of flat, low-lying land next to the Beaufort Sea known as the 1002 Area. A vote by Congress could allow that. Some Americans want their leaders to change the law. Others don't.

In 1998, **geologists** examined this area to **estimate** the amount of oil that could be drilled. They estimated that the area holds about 10.4 billion barrels of oil. The rest of the oil that could be drilled within the United States is estimated at 120 billion barrels. That makes the estimated oil within the 1002 Area about 8.7 percent of the total oil within the United States.

Reasons to Drill in ANWR

Americans drive millions of cars, along with trucks, boats, and planes. The United States still has oil, but not enough to meet its own demands. It must buy the rest—more than half of the oil it uses each day—from many different countries. Buying that oil costs the United States hundreds of billions of dollars each year.



The development of oil and natural gas in ANWR would *make* billions of dollars for the U.S. government. By one estimate, the government would make close to \$200 billion. Drilling in ANWR would also create as many as 65,000 jobs.

For some Americans, ANWR is also a chance for greater **independence** from Middle Eastern countries and others that sell us oil. Canada is a good friend to the United States, and right now it sells more than twice as much oil to the United States as any other country. Much of the world's remaining oil doesn't lie with America's close friends, though. Some of the billions that the United States spends on oil **imports** benefits countries that aren't friendly with the United States.

In 1973, some of those countries chose not to sell oil to the United States. Foreign oil can also be stopped on its way to the United States. Millions of barrels of oil are moved each day in trucks, tankers, and pipelines. This system of transportation provides easy targets for enemies of the United States. They could try to steal that oil for themselves, or they might just want to keep it away from the United States.

These are all good arguments for drilling in ANWR. Now let's consider how drilling might change the refuge.

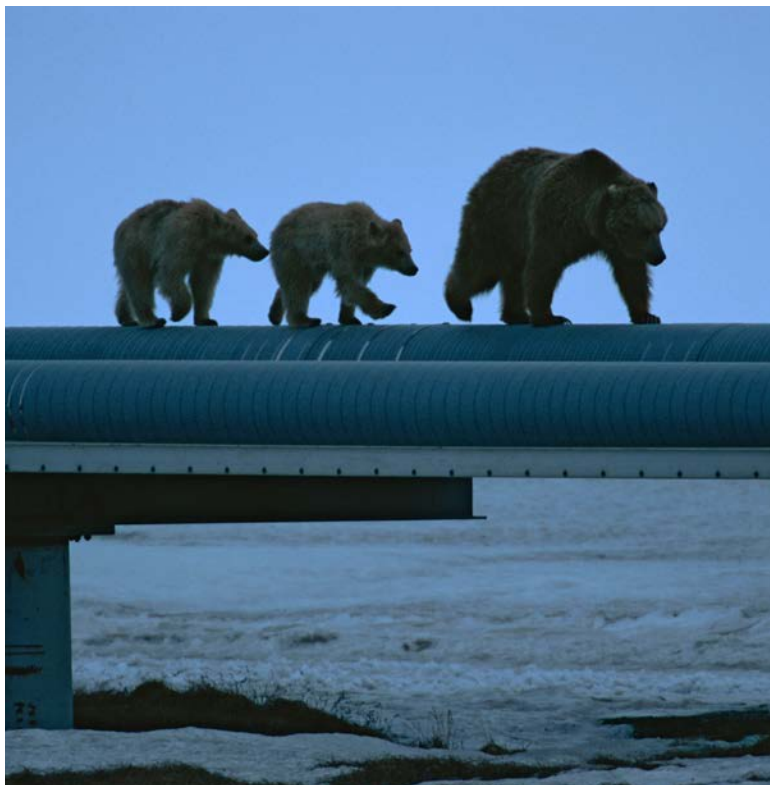
Science and Law

Like mining or any other activity that removes resources from the earth, drilling makes what's called a "footprint." Mining footprints can be as drastic as losing whole mountainsides. Drilling leaves a footprint of wells, roads, and buildings. The footprints left by drilling are shrinking as drilling science improves. For example, if Prudhoe Bay were drilled today, the footprint would be smaller—as much as 64 percent smaller.

That's good, because even if Congress allowed drilling in ANWR, only 2,000 surface acres of the 1.5 million-acre coastal plain could be touched. That's less than half of one percent of the refuge.



The Porcupine Caribou herd migrates across the Tamayariak River, ANWR.



A mama grizzly and her cubs use an oil pipeline for travel at Prudhoe Bay, Alaska.

Each year, a huge group of Porcupine Caribou roam through ANWR during a 930-mile **migration** that stretches across Alaska and Canada. Their journey is the longest of any land mammal on Earth. These caribou have their babies on ANWR's coastal plain. Other caribou have done well with the oil wells, pipelines, roads, and buildings that spread across the area around Prudhoe Bay. In fact, the Prudhoe Bay herd has grown from 3,000 animals in 1972 to ten times that number today.

What's more, Congress has set rules for oil and gas development in ANWR. To protect the land and animals, some work would be limited to the winter period between November and May. Springs, streams, and rivers would also be protected from the water used in drilling.

Reasons Not to Drill in ANWR

Just as some people want to drill in ANWR, other people don't.

For starters, the United States can't drill its way to energy independence, even with ANWR. Energy independence means oil imports would stop—all the energy the country needs would be produced within the United States. In fact, the billions of barrels of oil that lie under ANWR's coastal plain amount to less than a year's supply for the United States. At its peak, ANWR oil would only add about 0.8 million barrels per day to the U.S. oil supply. America would still have to buy about 10.6 million barrels of oil per day. Oil from the refuge would make only a small dent in U.S. imports.

ANWR oil would also have very little impact on world oil prices. In twenty years—when much of that oil could reach the gas pump—ANWR's oil would save Americans less than four cents per gallon.

The drilling rules set up to protect the refuge are law. However, making a law doesn't mean that everyone will obey it. Laws also don't prevent accidents from happening. Everyone was shocked when 200 million gallons of oil spilled into the Gulf of Mexico in the summer of 2010. They thought drilling for oil was safe, so the Gulf was thought to be safe. Sadly, it was not. Major damage was done.

As for Prudhoe Bay, sixty miles west of ANWR, opponents of drilling say it has been trashed. A thousand square miles of tundra now contain 1,500 miles of roads and pipelines, 1,400 working wells, and three airports. They say the land is spoiled by mountains of waste, scrap metal, and garbage. More than sixty waste sites contain—and often leak—lead, fuel, and other forms of pollution.



Aerial view of an oil production site at Prudhoe Bay

Thanks to new science, the drilling “footprint” in ANWR would be smaller. Yet ANWR’s 2,000-acre limit on drilling may not be what it seems. That’s because the oil in the refuge isn’t in a single, large deposit. Rather, it’s spread across the coastal plain in more than thirty spots. To reach each oil deposit would take a vast system of roads and pipelines—1.5 million acres of **sprawl**, by one estimate. That much sprawl could break up the wildlife habitat. Wildlife might be hurt, or it might do well, as has been the case with the caribou herd around Prudhoe Bay.

ANWR: Beyond Oil

We've talked about oil in ANWR. The reasons the refuge was founded, though, have nothing to do with energy. Those reasons don't come with price tags or dollar signs, but that doesn't mean they're worth less.

ANWR is both beautiful and special. Crossed by a dozen rivers, it stretches from the sharp peaks of the Brooks Range across a vast reach of tundra to the Beaufort Sea. Because it sits so far north, the refuge is a cold, hard place during the winter months. Yet this wilderness offers important habitat for many animals. **Threatened** polar bears need the border of land and sea. Grizzlies, arctic wolves, and the **endangered** shaggy musk ox (from the last Ice Age!) raise their babies there. Hundreds more species of animals and plants depend on the refuge.



A female polar bear and her cubs stand on ice in ANWR's coastal plain.

A Classroom for Climate Change

Climate change has already had devastating impacts on arctic wildlife. The polar bear is now in danger of extinction.

If ANWR's founders had known about climate change, they'd have known why ANWR is an important resource for studying climate change. For starters, Earth's poles have experienced twice the rate of warming as the rest of the planet over the past few decades. ANWR is a particularly valuable laboratory for studying climate change because it has so many habitats—taiga forest, scrublands, alpine meadows, glaciers, tundra, and coastline. Size is important because with climate change, the vegetation zones will shift. By being large and varied in topography, the habitat will permit plant and animal life to shift with it. The refuge provides a place for species to adapt and still be within a protected area. What will happen to the tundra vegetation when the permafrost melts? Scientists are flocking to the Arctic to find out.

It's also a valuable place to study because unlike so many other areas on Earth, even in the Arctic, the refuge has not been modified by humans.



Flowers of the Brooks Range, ANWR

ANWR is sometimes called “the last great wilderness.” In all the United States, no other area is so large and untouched by people—the very definition of wilderness. Such a place is unlikely to come our way again. Yet few of those who fight for the refuge have any thought of going there. They simply want to know such a place exists, free of people. They want, as founder Olaus Murie once said, “a little portion of our planet left alone.”



Mardy and Olaus Murie, two of ANWR's founders, 1953

A Different Path

Americans love a frontier; they also love oil. We've discussed some costs of that oil, but not all the costs to the environment. Pollution. Climate change. Drilling in ANWR will only add to these costs, and it won't make the United States energy independent. Still, some argue that any U.S. oil is better than none.

As oil use around the world continues to rise, the two countries whose use will grow the most in the next few years are China and India. Together, they're home to a third of all people in the world. Their growing demand, combined with a shrinking supply, reminds us of the real problem. The supply of oil—foreign or American—will eventually end.



Chinese people crowd a street in Shanghai, a city of roughly 23 million. China's population is 1.3 billion.

There are ways to make oil go farther and last longer. Instead of changing the law about ANWR, some Americans want Congress to change a different law. This law says how far a new car must be able to travel on one gallon of gas. The less gas a vehicle uses to get from place to place, the more **fuel efficient** it is. Today the United States gets twice as much work from each barrel of oil as it did in 1975. That trend can continue. Congress can require American car companies to make vehicles so fuel efficient that they can help lower our need for foreign oil by more than one-third by 2025.

A Café for Cars?

Corporate Average Fuel Economy (or CAFE) standards establish how many miles per gallon a vehicle can travel. The CAFE program has saved billions of barrels of fuel since it began in 1975, yet the most efficient cars still come from other countries, such as Japan and Germany. Some cars, like the Toyota Prius, get 50 miles per gallon, far better than the CAFE average (27.3 mpg, starting in 2011). Because the Prius is so efficient, it is also the least polluting. Volkswagen is working on a car that will get 235 miles per gallon!



A wind turbine farm. One wind turbine supplies enough energy to power 500–600 U.S. homes.

Still, neither ANWR's oil nor better fuel efficiency will make oil last forever. Sooner or later, the United States—and the world—will run out.

Luckily for us, life without oil doesn't mean life without energy. Americans have ways to become energy independent—and not just for a year or two. The change to other forms of energy has already begun. Some of those forms of energy—like those that come from the wind and Sun—can last as long as people do. By choosing them, the United States can become energy independent *and* create more jobs than drilling in ANWR can. It can also help the planet.

In fact, there is cause for hope. In the 1970s, much U.S. electricity came from oil; today only 2 percent of its electricity is made that way. Most American cars still run on oil, but that can change. Some day you may drive an electric car powered by the Sun!

What do you think? Should drilling be allowed in ANWR? You can help decide its future. You can write the president or your representatives in Congress and tell them what you want.

You can also help decide how the United States will get its energy in years to come.

Remember:

ANWR and the future both belong to you.



Glossary

crisis (<i>n.</i>)	a dangerous or unstable time or situation that demands attention (p. 7)
endangered (<i>adj.</i>)	in danger of dying out completely (p. 17)
estimate (<i>v.</i>)	to roughly calculate (p. 9)
fuel efficient (<i>adj.</i>)	making good use of fuel as measured in miles per gallon (p. 21)
geologists (<i>n.</i>)	people who study the origin, physical nature, structure, and history of the Earth (p. 9)
imports (<i>n.</i>)	goods brought in from another country or state (p. 11)
independence (<i>n.</i>)	freedom from the control, influence, support, or help of others (p. 11)
migration (<i>n.</i>)	a regular, predictable movement of living things from one location to another (p. 13)
preserve (<i>v.</i>)	to take care of and save for the future (p. 5)
sprawl (<i>n.</i>)	a disorganized spread of development into an area (p. 16)
threatened (<i>adj.</i>)	at risk of becoming endangered (p. 17)
tundra (<i>n.</i>)	a cold, treeless region in the Arctic, Antarctic, and on high mountaintops (p. 6)