

Proposed Oil Pipeline Project *Austin Zimmerman* • 1.011 Project Evaluation

***Arctic National Wildlife Refuge:**

- 19.8 million acre federal preserve in northeast Alaska
- 1002 Area is 1.5 million acres of this along the Coastal Plain
- federally designated wildlife refuge so no drilling allowed without specific federal legislation
- This has been brought before Congress several times. It was passed once by both houses and vetoed by Clinton in 1995, and it hasn't made it out of the Senate since.
- For my project I have supposed that after the next round of elections the new Congress passes a bill allowing drilling in the refuge and it is signed into law. My exploration, drilling, and construction will begin April 1, 2005.

***Proposal**

- 100 mile pipeline from the oil fields in ANWR to the first pump station along the TAPS (trans-Alaska pipeline system) where the oil would flow into the trans-Alaska pipeline to Valdez
- it is estimated that there are 6-16 billion barrels of oil in ANWR (there were about 10 billion barrels in Prudhoe Bay)

***Throughput of TAPS**

- TAPS capacity is about 2.1 million barrels per day
- current throughput is about 1 million barrels per day due to the depletion of the oil fields in Prudhoe Bay
- if there were 10 billion barrels of oil, extracted over 40 years as planned, that would be an average of 600,000 barrels per day
- so the plan is to make use of this excess capacity!

***TAPS Pump Stations**

- There are 12 pump stations: station 11 was never built, station 5 is a pressure relief station
- stations 2, 6, and 8 were closed in 1996 and 1997 because they were no longer needed
- plan: to reopen them and bring the capacity back up to its max. level

***DRA**

- The Drag Reducing Agent increases the capacity of the pipeline by making the oil move through it faster

***Construction**

- Concern for wildlife and the harmful effects of summer construction when the animals bear their young lead to construction only during the winter
- Displacement of the Caribou by summer construction would have harmful effects on the birthrate and population
- Caribou, muskoxen, polar bears, birds, and others would be affected by the pipeline
- Winter construction is more expensive. Labor is more expensive. The pipeline will take longer to build.

***Wildlife**

- There is heated political debate over whether or not civilization should move into wildlife areas such as this, changing the natural habitat. This is the biggest reason why drilling is not yet allowed in ANWR.

***Politics**

- One of the biggest potential benefits of the pipeline is an increase in domestic oil supply and therefore a decrease in the U.S. demand for and dependence on foreign oil.
- Oil from ANWR would be sold domestically to the west coast market.

***Oil Field Technology**

- Due to technology, the size of footprints of oil fields has decreased drastically
- This minimizes the surface damage to the refuge
- In ANWR the oil is supposedly less concentrated in large reserves but rather spread out more. It is estimated that 35 separate wells would be needed to extract it all.

***Cost/Benefit Analysis**

- If there are 10 billion barrels of oil drilled out of ANWR over the 40 years it is expected to be in operation, the NPV I computed is around \$9 billion.
- In doing my sensitivity analysis I noticed that this very unstable and fluctuates a lot with world oil prices, interest rates, and the amount of oil that is found in the refuge.
- The project is fairly risky. A lot of this is due to the lack of information because the area is thus far largely protected from exploration.
- If drilling were to be allowed in ANWR it would probably be a good idea to try and get a better idea of exactly how much oil is there. Also, the current global political situation tends to lend itself toward unstable oil prices. So it might be a good idea to wait until the situation is a little more stable to start the project.