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## **PRESERVATION OF THE ARCTIC NATIONAL WILDLIFE REFUGE: A THEORETICAL APPROACH**

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The Arctic National Wildlife Refuge ("ANWR" or the "Refuge") is currently at the heart of the continuing struggle between many Americans' desire for an unspoiled environment and their demand for more energy. Political debate focuses on whether the coastal plain of ANWR, an untouched wilderness area in northeastern Alaska, should be opened for oil exploration.

On one side of the debate are environmentalists, including environmentally conscious legislators, who claim that there is just a nineteen percent chance of discovering a commercially viable oil field on the coastal plain, and that if oil was discovered it would supply only two percent of our nation's current energy needs.<sup>1</sup> Furthermore, they claim that drilling for this insubstantial amount of oil will cause extreme environmental degradation and pose the risk of another catastrophe of the same magnitude as the Exxon Valdez oil spill.<sup>2</sup>

The opposition is comprised of oil companies, their congressional supporters, and the Bush administration, who assert that ANWR is essential to the energy security of the nation, that the Refuge could contain the nation's third largest oil field ever discovered, and that drilling could be carried out in an "environmentally sensitive" manner.<sup>3</sup>

Several legislators have introduced competing bills in Congress in support of both positions. Two bills dealing specifically with this issue seek to designate the coastal plain of the Refuge a wilderness area, thereby permanently precluding oil exploration.<sup>4</sup>

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1. THE WILDERNESS SOCIETY, *THE ALASKA LANDS ACT: A BROKEN PROMISE* 14 (1990) [hereinafter *ALASKA LANDS ACT*].

2. *Id.*

3. David Hoffman, *Bush Defends Arctic Oil Drilling Plan*, *WASH. POST*, Apr. 1, 1989, at A13.

4. *Key Bills to Follow*, *AUDUBON ACTIVIST*, Apr. 1991, at 4, col. 4 [hereinafter

Alaskan congressmen introduced two opposing bills calling for an open refuge.<sup>5</sup> The Bush administration's national energy strategy also proposes leasing portions of the Refuge to oil companies.<sup>6</sup> However, the National Energy Security Act,<sup>7</sup> a wide ranging energy bill that would have allowed drilling on the coastal plain essentially was killed in the Senate by filibuster.<sup>8</sup>

The fate of ANWR is ultimately in the hands of the political process. This article examines the issue from a political perspective and analyzes the ways in which the political process could be used to keep the Refuge closed to oil development. This article then proposes ways that three other theoretical perspectives -- those of ecology, environmental ethics, and economics -- could be utilized within the political process to achieve the goal of preserving ANWR.

#### THE POLITICAL PERSPECTIVE

The political process was responsible for creating ANWR in 1980 when President Carter signed the Alaska National Interest Lands Conservation Act ("Alaska Lands Act") into law.<sup>9</sup> The Alaska Lands Act turned the Arctic National Wildlife Range, created in 1960, into a refuge and expanded the protected area to 19,374,236 acres.<sup>10</sup>

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*Key Bills*]. S. 39, 102nd Cong., 1st Sess. (1991), introduced by Senator William Roth (R-Del.), and H.R. 39, 102nd Cong., 1st Sess. (1991), introduced by Representative Morris Udall (D-Ariz.); both bills would designate the coastal plain of the refuge a permanent wilderness area.

5. *Key Bills*, *supra* note 4, at 4, col. 4. Representative Don Young (R-Ala.) introduced H.R. 759, 102nd Cong., 1st Sess. (1991), and Senator Ted Stevens (R-Ala.) introduced S. 109, 102nd Cong., 1st Sess. (1991).

6. Patrick Lee, *Bush Plan Leaves Alternative Energy Out in the Cold*, L.A. TIMES, Feb. 21, 1991, at D1, col. 2.

7. S. 1220, 102nd Cong., 1st Sess. (1991).

8. Michael Ross, *Energy Bill Dies as Senate Fails to End Filibuster*, L.A. TIMES, Nov. 2, 1991, at A1, col. 2.

9. 16 U.S.C.S. §§ 3101-3233 (Law. Co-op. 1984 & Supp. 1991).

10. ALASKA LANDS ACT *supra* note 1, at 13.

Included in the Refuge is the 1.6 million acre coastal plain, the center of ANWR wildlife activity during the summer months. In a centuries old ritual, a herd of approximately 180,000 porcupine caribou migrates to the coastal plain every summer to reproduce.<sup>11</sup> The coastal plain also provides vital habitat for grizzly bears, polar bears, arctic foxes, wolverines, musk oxen, and more than 130 species of birds, including golden eagles and snow geese.<sup>12</sup>

Despite the fact that most Americans will never visit the coastal plain,<sup>13</sup> Congress enacted the Alaska Lands Act to protect it. The successful passage of the Act exemplifies the manner in which the political process determines how vigorously society pursues environmental values at the expense of other values.<sup>14</sup> Environmental values predominated when the Act took effect, reflecting an implied majority view in favor of environmental protection and preservation of the Refuge. Assuming the American public values environmental protection as highly today as it did in 1980, Congress could best represent the majority view by designating ANWR a wilderness area.

However, the Alaska Lands Act also reflects the fact that most political decisions involve compromise. For example, section 1002 of the Act directed the United States Fish and Wildlife Service (the "Service") to conduct a study of the Refuge to determine its oil and gas potential.<sup>15</sup> Submitted to Congress in 1987, the Service's report recommended that the entire coastal plain be opened to oil leasing.<sup>16</sup> Because the Service conducted the study during the Reagan administration, observers were not surprised that it recommended development.<sup>17</sup> The current administration

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11. *Id.*

12. *Id.*

13. *Id.* In 1986, for example, only 3463 people visited ANWR.

14. Daniel A. Farber, *From Plastic Trees to Arrow's Theorem*, 1986 U. ILL. L. REV. 337, 338.

15. T.H. Watkins, *The Perils of Experience*, WILDERNESS, Winter 1990, at 35.

16. *Id.* at 36.

17. *Id.* at 38.

embraces this pro-development stance, as illustrated by President Bush's national energy strategy.<sup>18</sup>

Such policies point out the limitations of seeking environmental protection through the political process. Ideally, the political process is deliberative, incorporating virtues such as openness and honesty.<sup>19</sup> Unfortunately, politicians are also subject to both personal and outside influences that may result in action that is unrepresentative of the majority will. The result, according to economists David Pearce and R. Kerry Turner, is "government failure," in which "the decision-maker will seek to maximize his own utility, not that of some institution or state, in whatever situation he finds himself."<sup>20</sup>

For example, President Bush proposed oil development in ANWR after delaying offshore oil drilling leases along the Washington, Oregon, California and Florida coasts.<sup>21</sup> It has been suggested that these delays were a political move to help Republicans in states with hotly contested gubernatorial races.<sup>22</sup> Some viewed President Bush as sacrificing Alaskan lands to maximize the personal utility gained from his political alliances.

President Bush has also repeatedly stressed the nation's need to reduce its reliance on foreign oil as the primary justification for drilling in the Refuge. Yet his national energy strategy does not concentrate on improving energy efficiency or developing alternative energy sources.<sup>23</sup> One could speculate that as a former "Texas oilman," President Bush is more likely to advocate the interests of the oil companies. Likewise,

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18. Lee, *supra* note 6, at D1, col. 2.

19. Mark Sagoff, *Where Ickes Went Right or Reason and Rationality in Environmental Law*, 14 *ECOLOGY L.Q.* 265, 321 (1987).

20. DAVID W. PEARCE & R. KERRY TURNER, *ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT* 18 (1990).

21. Brigid Schulte, *STATES NEWS SERVICE*, June 27, 1990, *available in Lexis*, Nexis library, Wires file.

22. *Id.*

23. Fred Baumgarten, *America's Arctic Refuge-At the Crossroads*, *AUDUBON ACTIVIST*, Apr. 1991, at 4.

members of Congress seeking reelection may have a personal stake in supporting the wealthy and influential oil lobby. After all, according to Pearce and Turner, "the public sector provides no incentives for politicians or bureaucrats to resist pressures from special interest groups."<sup>24</sup>

Nevertheless, the public's will remains a necessary part of the political decisionmaking process in the ANWR battle. Congress was ready to act on the initial bill to open the Refuge in 1989, until the Exxon Valdez oil spill occurred in the same year.<sup>25</sup> Public outrage forced Congress to shelve the bill for nearly two years.<sup>26</sup> Two years, however, may not be long enough for the Valdez disaster to fade from the public memory, especially because many of the long-term effects of the disaster remain to be seen.<sup>27</sup> Consequently, public sentiment may not yet be in favor of allowing oil companies to take any new risks in Alaska.

The lack of a common view of the environment hampers effective environmental policymaking in the debate over the Refuge.<sup>28</sup> Currently, two factions represent the clashing values of ecological preservation and political and economic interests. This conflict illustrates the lack of a single accepted public interest. The political decisionmaking process, then, will come down to little more than a sheer test of political strength.<sup>29</sup>

Lynton K. Caldwell suggested one solution: identify the common concern of all Americans in the condition of the environment and provide

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24. PEARCE AND TURNER, *supra* note 20, at 18.

25. Watkins, *supra* note 15, at 39.

26. *Id.*

27. Daphne Wysham, *Who Owns Alaska? Governor Hickel's Pipeline Dreams*, GREENPEACE MAG., July-Aug. 1991 at 15 (stating that a federal government study on the effects of the Valdez spill found that although the salmon in Prince William Sound appeared to be flourishing, the real effects of the oil spill would show up in a year or so when they returned to spawn; scientists also predict that it will take years for the bald eagle population to rejuvenate).

28. LYNTON KEITH CALDWELL, *ENVIRONMENT: A CHALLENGE FOR MODERN SOCIETY* 65 (1970).

29. *Id.* at 12.

a basis upon which disagreements can be resolved.<sup>30</sup> Such an integrative concept supports the argument that the Refuge should remain untouched. The public's willingness to create ANWR in the first place, combined with increased public awareness of the need to preserve natural resources and prevent further catastrophes of the magnitude of the Valdez oil spill, indicates that Americans' common concern lies in affording environmental protection the highest priority. By establishing this proposal as the basis upon which environmental decisions are made, it would naturally follow that the coastal plain should remain protected.

Alaska's position on the issue of further oil development underscores the need for a unified national approach to ANWR. All three members of the Alaskan congressional delegation support drilling on the Refuge.<sup>31</sup> Two members introduced bills to open the Refuge to development.<sup>32</sup> In addition, state polls show that a majority of Alaskans would support such bills.<sup>33</sup> As a result, many Alaskans resent federal ownership and control of ANWR. Strong reasons exist, however, for maintaining control at the national level.

First, oil production, the main source of Alaska's revenue, has fallen in the Prudhoe Bay complex.<sup>34</sup> Alaska would gain economic advantage by looking for oil in the Refuge regardless of the environmental consequences. The fact that each Alaskan citizen receives a yearly check of approximately \$1000 in oil revenue royalties provides additional incentive for Alaskans to support continued oil drilling.<sup>35</sup> At the federal level, such influences are absent and environmental concerns will have a better chance of receiving consideration.<sup>36</sup>

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30. *Id.* at 66.

31. Wysham, *supra* note 27, at 14.

32. *Key Bills*, *supra* note 4, at 4, col. 4.

33. Wysham, *supra* note 27, at 26.

34. *The Activist Forum*, AUDUBON ACTIVIST, Apr. 1991, at 2, col. 2.

35. Wysham, *supra* note 27, at 13.

36. Richard B. Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 YALE L.J. 1196,

Second, transboundary problems -- such as air pollution spilling into Canada -- may persist if left to the State of Alaska. According to Richard Stewart, "psychic spillover" could also occur: "Environmental degradation in pristine areas often imposes substantial welfare losses on individuals in other states who value the option of visiting such areas or who take ideological satisfaction in their preservation."<sup>37</sup>

President Bush's national energy proposal, which designated all of the receipts from ANWR oil development for the federal budget, exacerbated Alaskans' resentment of federal control.<sup>38</sup> Alaskan officials claim that under the law that made Alaska a state in 1959, Alaska was promised 90% of the royalty and lease fees generated by oil production.<sup>39</sup> Alaska's Governor Hickel warned that, "In my opinion, there can't be a national energy policy without Alaska."<sup>40</sup> Ironically, such a conflict between state and national governments could ultimately work to the benefit of the Refuge.

#### THE ECOLOGICAL PERSPECTIVE

The Arctic National Wildlife Refuge is "the last place in North America, and perhaps the world, where a complete range of arctic and subarctic ecosystems remains intact."<sup>41</sup> The ecosystems on the coastal plain are extremely sensitive due to the harsh weather conditions in northern Alaska.<sup>42</sup> That the plain will be disrupted by oil exploration is clear. According to biologists, development in the coastal plain will, "at

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1214 (1977).

37. *Id.* at 1215.

38. *Arctic Oil Drilling Supporters Squabble Over Money*, UPI, Feb. 21, 1991, available in Lexis, Nexis library, UPI file.

39. *Id.*

40. *Id.*

41. ALASKA LANDS ACT, *supra* note 1, at 13.

42. Watkins, *supra* note 15, at 34.

a minimum, reduce important wildlife populations, fragment wildlife habitats, degrade important fish habitats, and damage vegetation."<sup>43</sup>

To demonstrate the potential harm to the Refuge, ecologists cite the environmental damage caused by drilling in the North Slope oil fields of Alaska. The primary damage to the North Slope includes water and land pollution from oil and chemical spills, seepage of toxic liquid drilling wastes into tundra ponds, and direct pumping of drilling waste onto the tundra.<sup>44</sup> Additional damage includes loss of millions of tons of gravel from riverbeds for construction purposes, noise pollution from the constant roar of trucks, jets, compressors, and other machinery, and extensive degradation and loss of wildlife habitat.<sup>45</sup>

The Refuge would suffer similar damage, particularly in its animal populations. The Department of the Interior found that the caribou herd could decline as much as forty percent, the number of snow geese could drop by fifty percent, and the musk oxen population could suffer a loss of twenty five to fifty percent.<sup>46</sup> The polar bear population also could suffer a serious decline if oil drilling activity were to drive female bears from their dens.<sup>47</sup>

Due to the complex interactions that occur within ecosystems, it is impossible to presently delineate all of the long-term ecological implications of oil exploration in the Refuge. One certainty of an ecosystem is that, due to the interdependence of its elements, the disturbance of one element could effect every link in that ecosystem's chain.<sup>48</sup> For example, removal of riverbed gravel (for construction purposes) could degrade or destroy the abiotic environment upon which fish and other living organisms depend, thereby degrading or destroying

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43. ALASKA LANDS ACT, *supra* note 1, at 14.

44. Watkins, *supra* note 15, at 38.

45. *Id.*

46. *Id.*

47. Sean Kelly, *Arctic Refuge Drilling Would Threaten Polar Bear Habitat*, *Biologists Say*, WASH. POST, Oct. 14, 1991, at A26.

48. EUGENE P. ODUM, *FUNDAMENTALS OF ECOLOGY* 9 (1971).

the fish and other organisms.<sup>49</sup> This action, in turn, could affect the waterfowl and other species of birds who feed off of this biotic portion of the ecosystem,<sup>50</sup> as well as other wildlife and plants that depend on the riverbed for nourishment.<sup>51</sup>

If the American public considers valid the goal of preserving valuable ecosystems, then the only way to accomplish that goal is to designate ANWR as a permanent wilderness area. The problem lies in incorporating such a goal into the political process. Robert V. Bartlett suggested the method of ecological rationality.<sup>52</sup> Under this approach, human choices must be consistent with ecological principles and ideals.<sup>53</sup> Therefore, before taking action we must look at the ecosystem as a whole, and the interactions that occur within it over the long run, to determine how an action may affect it.<sup>54</sup> As Lynton K. Caldwell noted, an approach such as ecological rationality provides "[a] coherent political philosophy, in which the scientific attitude is emulated and scientific evidence respected in relation to human needs and capabilities . . ."<sup>55</sup>

From the viewpoint of our current political system, the difficulties with ecological rationality are that it is not human-oriented, it involves a long-term approach, and it requires large amounts of specialized knowledge unavailable to the general public. Consequently, the public may not acknowledge the ecological justification for making preservation of ecosystems a primary political goal. Additionally, the ecological perspective may not adequately appeal to human emotions and beliefs of what is "good" and "right." As a scientific approach, to the average American, the ecological perspective may lack moral appeal.

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49. *Id.*

50. *Id.*

51. *Id.*

52. Robert V. Bartlett, *Ecological Rationality: Reason and Environmental Policy*, 8 ENVTL. ETHICS 221, 229 (1986).

53. *Id.*

54. *Id.* at 230.

55. CALDWELL, *supra* note 28, at 12.

## ENVIRONMENTAL ETHICS

An ethical approach to environmentalism provides the moralism that the ecological perspective lacks and serves as a valuable adjunct to the ecological perspective within the political process. Aldo Leopold, an influential naturalist, saw an interaction between ethics and ecology: "An ethic to supplement and guide the economic relation to land presupposes the existence of some mental image of land as a biotic mechanism."<sup>56</sup> Applying Leopold's ethical/ecological approach would yield a simple solution. Since "a thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community,"<sup>57</sup> and "is wrong when it tends otherwise,"<sup>58</sup> then under this theory the "right" decision is to leave ANWR in its pristine state.

An alternative approach, appealing more to human concerns, would place the government in the role of steward, holding ANWR in the public trust for future generations.<sup>59</sup> The language in Title I of the Alaska Lands Act suggests that the government had this role in mind when creating ANWR. Title I states that one purpose of the Act is "to preserve for the benefit, use, education, and inspiration of present and future generations certain lands and waters in the State of Alaska . . ." and "to preserve in their natural state extensive unaltered arctic tundra, boreal forest, and coastal rainforest ecosystems . . . ."<sup>60</sup>

Title I further states that the Act intends "to provide the opportunity for rural residents engaged in a subsistence way of life to continue to do so."<sup>61</sup> This provision has particular application to the Gwich'in Indians of northern Alaska and Canada, who still lead a life of subsistence hunting and fishing and who have depended for centuries on the caribou as a

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56. ALDO LEOPOLD, A SAND COUNTY ALMANAC 214 (1987).

57. *Id.* at 224-25.

58. *Id.*

59. JOHN A. PASSMORE, MAN'S RESPONSIBILITY FOR NATURE 28 (1974).

60. ALASKA LANDS ACT, *supra* note 1, at 51.

61. *Id.*

primary source of food. The Gwich'in themselves take a stewardship approach to nature. Sarah James, a spokeswoman for the Gwich'in, describes their view towards land: "In order for it to take care of us, we have to take care of the land in return."<sup>62</sup> The Gwich'in refuse to disturb any animal birthplace such as the calving grounds for the caribou on the coastal plain, because such areas are sacred.<sup>63</sup>

The Gwich'in Indians also seem to go a step further than stewardship by recognizing the rights of the caribou to their calving ground. Such an attitude resembles the extreme approach suggested by Laurence Tribe, of extending actual legal rights to land, plants, and animals.<sup>64</sup> If the caribou had rights, their need for the coastal plain would provide a strong argument for protecting the Refuge. Man would also benefit, taking a step farther in his "moral evolution."<sup>65</sup>

Realistically, such an approach would require a large, if not impossible, leap in our culture's way of thinking. In light of the continuing struggle for equal rights for women and minorities, our society probably would not consider extending to animals and land those legal rights that humans cherish.

At the least, such a theory indicates the limitations of pro-development policies that perceive satisfaction of human needs as the only measure of good. The Alaska Lands Act's designation of the Refuge as a protected area evidences the value of the Refuge as an independent end rather than just a means for furthering human welfare. That value should not be disregarded now.

A constitutional basis for protecting the environment could also be convincingly asserted. Although the Constitution does not address the environment specifically, philosopher Mark Sagoff puts forth the

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62. Tom Kizzia, *Tradition Ties Caribou People to Wild Alaska*, AUDUBON ACTIVIST Apr. 1991, at 6, col. 1.

63. *Id.*

64. Laurence Tribe, *Ways Not to Think About Plastic Trees: New Foundations for Environmental Law*, 83 YALE L.J. 1315, 1345 (1974).

65. *Id.* at 1346.

proposition that "[t]he right to cherish traditional national symbols, the right to preserve in the environment the qualities we associate with our character as a people, belongs to us as Americans. The concept of nationhood implies this right; and for this reason, it is constitutionally based."<sup>66</sup>

As one of the last untouched wilderness areas in America, ANWR could be considered a national symbol that we must preserve in order to sustain our cultural heritage.<sup>67</sup> Accordingly, Gaylord Nelson, a former congressman now with the Wilderness Society, called the Refuge a "unique national treasure" and likened drilling in the Refuge to damming up the Grand Canyon for hydroelectric power.<sup>68</sup>

This type of ethical approach may prove the most convincing to many Americans. Due to the Refuge's location in northeastern Alaska, most Americans will never see it in person or even have a mental image of it from television or photographs. Consequently, Americans lack a strong moral compulsion to preserve it.<sup>69</sup> As a national symbol, ANWR would acquire a constitutional right to protection, thereby appealing to Americans' patriotism and desire to maintain a cultural heritage.

#### THE ECONOMIC PERSPECTIVE

Although numerous economic arguments support oil development in the Refuge, economic theories also illustrate the inefficiencies that would occur as a result of drilling. If the government did lease portions of the coastal plain to oil companies, drilling operations of each company would generate many residual effects. Wastes and pollution would

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66. Mark Sagoff, *On Preserving the Natural Environment*, 84 YALE L.J. 205, 267 (1974).

67. *Id.* at 265.

68. George Lobsenz, UNITED PRESS INT'L, March 28, 1989, available in Lexis, Nexis library, Wires file.

69. Ideally, the ethical perspective assumes that this will not matter; humans will value nature regardless of whether they visit the particular spot themselves. Realistically, though, most humans tend to feel more removed and less responsible for a place they have seldom, if ever, seen and never plan to visit.

necessarily be created.<sup>70</sup> All of these residuals would harm the common resources of the Refuge: the air, land, water, and animals.<sup>71</sup> The result would be external costs placed on resources not within the system. Such externalities lead to market failure, as well as a tragedy of the environmental commons, because the burden created by the use of such resources falls not only on the consumer, but on society at large.<sup>72</sup>

Leaving the Refuge at the mercy of market processes would not result in an efficient allocation of resources; consequently, some form of government regulation would be necessary. A legislature could impose prices on all of the environmental resource damage that occurred and force the oil companies to incur the costs.<sup>73</sup> Further inefficiencies would likely result under this approach, however, due to the difficulty in accurately determining the costs of damage to natural resources. Such an approach also would allow market processes to determine the fate of the Refuge.

Alternatively, government regulation could be direct.<sup>74</sup> The government could set environmental quality standards in the Refuge high enough to allow drilling only in an "environmentally sensitive" manner. Oil companies, however, probably would find such drilling economically prohibitive. Alternatively, regulations designed to prevent market failure could take the form of a complete ban on development.

The government could undertake economic analyses, comparing the costs (including the environmental costs) and benefits of drilling for oil to the costs and benefits of developing alternative forms of energy and increasing energy efficiency. A recent study by the Natural Resources Defense Council found that by increasing the energy efficiency of automobiles, buildings, appliances, and aircraft, and by promoting

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70. A. MYRICK FREEMAN ET AL., *THE ECONOMICS OF ENVIRONMENTAL POLICY* 13 (1973).

71. *Id.*

72. FREDERICK R. ANDERSON ET AL., *ENVIRONMENTAL IMPROVEMENT THROUGH ECONOMIC INCENTIVES* 4 (1977).

73. *Id.* at 5.

74. *Id.* at 27.

alternative modes of transportation (such as mass transit), the nation's total efficiency resource over the next thirty years would be the equivalent of fifty-seven billion barrels of oil.<sup>75</sup> The amount of oil that would be available from ANWR and areas outside of the Gulf of Mexico over that same thirty year period would amount only to six billion barrels.<sup>76</sup>

This study indicates that developing alternative energy sources would best achieve economic efficiency.<sup>77</sup> Developing alternatives would also result in the development of new technologies, and such technologies could be the source of economic growth.

An economic perspective to the problem of ANWR must also consider the proposition that, in the area of environmental protection, economic efficiency is not the only goal. According to Mark Sagoff,

we are not simply a group of consumers, nor are we bent on satisfying only self-regarding preferences. Many of us advocate ideals and have a vision of what we should do or be like as a nation. And we would sacrifice some of our private interests for those public ends.<sup>78</sup>

In a nation, and a world, in which consumerism is rapidly depleting our irreplaceable natural resources, environmental preservation is in the public's best interest regardless of whether it is economically efficient.

### CONCLUSION

The political process could successfully maintain the Arctic National Wildlife Refuge in its undisturbed state if the decisionmaking process incorporated the aforementioned ecological, ethical, and economic theories. However, several other conditions must also be met.

First, the effectiveness of the ecological and economic theories asserted depends upon an informed public. The public needs improved

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75. ROBERT K. WATSON, *LOOKING FOR OIL IN ALL THE WRONG PLACES: FACTS ABOUT OIL, NATURAL GAS AND EFFICIENCY RESOURCES* 32 (1991).

76. *Id.*

77. *Id.*

78. Mark Sagoff, *Economic Theory and Environmental Law*, 79 MICH. LAW REV. 1393, 1394 (1981).

data on the costs and benefits of oil drilling from both an economic and ecological standpoint, as well as information regarding the costs and benefits of developing alternative energy sources and improving energy efficiency. Absent such information, the public will not be able accurately to consider the stakes and determine its interests, and the decisionmaking process will lack "virtues of discourse, reflection, and critical discussion."<sup>79</sup> It will lack the rationality needed for environmentally conscious policymaking.<sup>80</sup>

Second, the decisionmaking process must reflect a public values account of public policy, in which moral deliberation provides the basis for rational decisionmaking.<sup>81</sup> Presently, our political process resembles the pluralist approach, in which politics serve simply as the battleground for the fight over scarce resources such as the Refuge.<sup>82</sup> Instead, concern for ANWR and other natural resources demands a deliberative process, in which the end result is a decision that promotes the general good of the public and reflects the public will.<sup>83</sup>

An informed public and an honest decisionmaking process may seem like worthy but unattainable goals. Nevertheless, when the future of our environment is at stake, they are goals well worth achieving.

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79. Sagoff, *supra* note 19, at 299.

80. *Id.*

81. *Id.* at 290.

82. *Id.* at 291.

83. *Id.*