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## ENVIRONMENTAL JURISPRUDENCE: THE FATE OF THE MANATEES

REX D. KHAN†

### I. INTRODUCTION

THE West Indian Manatee, *Trichechus manatus*, is an herbivorous aquatic mammal that dwells in shallow coastal waters, estuaries, and rivers.<sup>1</sup> Also known as a sea cow, a manatee resembles a bloated seal with a bulbous face.<sup>2</sup> Currently, only about 1,200 West Indian Manatees live in and around the waters of Florida.<sup>3</sup> Low productive rate, loss of habitat, and harmful human activities have pushed these gentle creatures closer to extinction.<sup>4</sup> Further exacerbating the problem, cold weather also threatens the survival of this

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1. See *West Indian Florida Manatee (Trichechus Manatus)* (visited Nov. 15, 1999) <<http://www.seacow.com/manatee>> (describing manatee as “[g]ray-brown walrus-shaped sea cow” and listing various items generally describing manatee including physical description, size, population, reproduction, legal protection, habitat, longevity, survival threats, conservation, range, behavior, food source, and natural history). Scientists identify manatees by the scar patterns left on their tails and backs from collisions with boats and barges. See *id.* (exploring numerous factors that threaten survival of manatees, including collisions with boats, harassment from people, being crushed or drowned in flood control gates, chemical and plastic pollution, and disease due to cold waters).

2. See *id.* (detailing that coloration varies in shades from gray to brown and stating that average adult manatee grows to be ten feet long and normally weighs about 1,000 pounds, but can weigh as much as 3,000 pounds).

3. See *id.* (describing “survival threats” to manatee). Only about 1,800 manatees were living in and around the waters of Florida in late 1995. See U.S. Fish and Wildlife Service, *Species Accounts of the West Indian Manatee* (visited Feb. 12, 2000) <<http://www.endangered.fws.gov/i/a/saa0c.html>>.

4. See *West Indian Florida Manatee*, *supra* note 1 (listing disease resulting from cold weather as survival threat); see also J. M. PACKARD ET AL., FLORIDA COOPERATIVE FISH & WILDLIFE RESEARCH UNIT, REPORT NO. 8, MANATEE RESPONSE TO INTERRUPTED OPERATION OF THE FT. MYERS PLANT (1995) (discussing various threats to manatees’ survival); *Species Accounts of the West Indian Manatee*, *supra* note 3 (explaining reasons for current status of manatees as endangered species). In the 18th and 19th centuries, the manatee population was most likely more abundant than today, with initial population decreases resulting from over-harvesting for meat, oil, and leather. Manatee deaths have increased steadily. See *id.* (highlighting that mortalities from collisions with boats have increased from 21 percent of all deaths in 1976 to 29 percent in the time period from 1986 to 1991). The combination of high mortality rates and low reproductive rates have led to serious doubts about the species’ ability to survive in the United States. See *id.* (commenting that deaths of dependent calves have increased from 14 percent to 24 percent).

federally-listed endangered species.<sup>5</sup> During unusually cold winters, when the water temperature drops below a manatee's cold-tolerance threshold, the manatee is likely to die of cold stress.<sup>6</sup>

Attracted to warm-water environments, manatees tend to congregate around twenty-four warm-water havens in the rivers of Florida during winter seasons.<sup>7</sup> Of these twenty-four havens, many are artificially created by human technology. Several Florida electric power companies use nearby river water to cool their plants and discharge warm-water effluents as a by-product. Gradually, many manatees have become dependent upon these artificial warm-water refuges.<sup>8</sup>

Over time, the warm-water effluents have played a crucial role in helping the manatee population to recover. By providing and maintaining the warm-water sanctuaries, power plants help manatee calves survive harsh winters and mature into fruitful members of the herd. Without the warm-water discharges, many young manatees, being particularly vulnerable to cold stress, would have perished during unusually cold winter months. For endangered species, if the birth rate falls below the death rate, extinction will result.

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5. See 50 C.F.R. § 17.11(h) (1980) (listing West Indian Manatee as among endangered species); see also *Species Accounts of the West Indian Manatee*, *supra* note 3 (describing warm-water havens in Florida as gathering spots for manatees). The manatee migrates to warm-water havens, such as natural springs and areas artificially created by humans, when the temperature falls below 21 or 22 degrees Centigrade. See *id.* If the manatee does not have access to these warm-water havens during severe cold fronts, then the manatee may die. See *id.*

6. See PACKARD, *supra* note 4 (discussing manatees' use of habitat created by Florida power plants). Cold stress occurs when the manatee cannot produce enough metabolic heat to compensate for the drop in water temperature. See *id.* Once the manatee's fat reserve is depleted, the manatee becomes lethargic and refuses to eat. See *id.* Eventually, it will die of malnutrition. See *id.*

7. See *id.* (discussing dependence of manatee on man-made warm-water havens in Florida); see also *Species Accounts of the West Indian Manatee*, *supra* note 3 (noting that "[d]uring the winter months, the United States' manatee population confines itself to the coastal waters of the southern half of peninsular Florida and to springs and warm water outfalls as far north as southeast Georgia").

8. See Patrick M. Rose, *Manatees and the Future of Electric Utilities Deregulation in Florida*, SIRENEWS (International Union for Conservation of Nature and Natural Resources, Washington, D.C.) Oct. 1997, at 1 (describing role warm-water sanctuaries have had preserving Florida manatees). Power plants help manatee calves survive harsh winters and mature into fruitful members of the herd by providing and maintaining warm-water sanctuaries. See PACKARD, *supra* note 4 (explaining that many young manatees would have perished during unusually cold winter months without existence of warm-water sanctuaries artificially created by industrial plants). Because of the distribution of the warm-water havens throughout coastal Florida, the manatees have extended their "winter range and cushioned what would have been much greater losses during times of extreme cold." Rose, *supra*, at 1.

Unfortunately for the manatees, many of their man-made warm-water refuges might be lost in the near future. Recently, the federal government has provided the means to deregulate the utility industry, and Florida may soon choose to privatize its electric industry.<sup>9</sup> The goal of this deregulation is to increase the level of competition among the new private utility providers, and thereby benefit the local residents with lower utility rates.<sup>10</sup> Increased competition, however, could force some inefficient plants to go out of

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9. See Jeff B. Slaton, *Searching for "Green" Electrons in a Deregulated Electricity Market: How Green is Green?*, 22 ENVIRONS ENVTL. L. & POL'Y J. 21, 24-25 (1998) (explaining steps taken by federal government enabling deregulation movement). Prior to the 1970s, the U.S. electric industry consisted of a system of carefully regulated monopolies. See *id.* at 24. Responding to the energy crisis of the late 1970s, Congress enacted the Public Utilities Regulatory Policies Act (PURPA), which allowed energy providers to purchase power from "qualifying facilities" that relied on renewable energy sources. See *id.*; see also Public Regulatory Policies Act of 1978, Pub. L. No. 95-617, 92 Stat. 3117 (1978) (codified as amended at 15 U.S.C. §§ 3201-11, 16 U.S.C. §§ 824a-4, 2601-45, 42 U.S.C. § 6808, 43 U.S.C. §§ 2001-12 (1994)). This was the first step toward deregulation. See Slaton, *supra*, at 24. In 1992, Congress continued the move toward deregulation when it enacted the Energy Policy Act, which exempted certain "wholesale generators" from the strict federal requirements. See *id.* With the passage of the Energy Policy Act, a competitive market for electricity began to develop. See *id.* Then, in 1996, the Federal Energy Regulatory Commission (FERC) passed the "open access rule." See *id.* at 25. The "open access rule" allows electricity producers to use the utilities' transmission lines to reach consumers. See *id.* Thus, electricity producers are able to contact consumers directly and compete for their business. See *id.* Although this federal scheme provides for nationwide deregulation, the monopoly franchises granted to utilities were from the states. See Christine Garcia, *A Future of Green Power: Impacts of the Electric Utility Deregulation in America*, 10 LOY. CONSUMER L. REP. 225, 225-26 (1998) (explaining system of state-granted monopoly franchises to utility companies). Therefore, the states have been left to choose whether or not to deregulate their electricity industries. See *id.* at 226 (stating that "[s]tate by state, legislatures are deciding that it is time for a change in the utility industry"). Several states have already passed legislation which has deregulated their energy industries. See Rose, *supra* note 8, at 2 (noting that California, Nevada, Oklahoma, Pennsylvania, and Texas were among the states already beginning power deregulation). But see Douglas L. Heinold, *Retail Wheeling: Is Competition Among Energy Utilities an Environmental Disaster, or Can It Be Reconciled With Integrated Resource Planning*, 22 RUTGERS COMPUTER & TECH. L.J. 301, 332-33 (1996) (suggesting that because of environmental concerns, deregulation of utility industry may not occur nationwide, or may take longer than previously anticipated).

10. See Heinold, *supra* note 9, at 332-33 (citing deregulation of telephone industry as being analogous to deregulation of utility industry). The deregulation of the utility industry will be much more complicated and far less certain than the deregulation of the telephone industry. See *id.* Reliability of service for utility customers may be compromised due to the uncertainties surrounding the upkeep of the network transmissions. See *id.* (discussing drawbacks of power deregulation and claiming that larger power customers, such as factories and businesses, are real supporters of move towards deregulation). The underlying premise of the statement that the goal of deregulation is to increase competition in order to benefit residents is that public utility plants are run by bureaucratic agencies and, more often than not, those who head the agencies owe their positions to their constituents and interest groups. Thus, the decision-making processes of running the

business; if the closed plants are not taken over by other power companies, then the resulting loss of warm-water shelters could be permanent.<sup>11</sup> Such a loss could be detrimental to the highly-endangered Florida manatees.

Once deregulated, the new private owners will take public policy considerations (such as environmental conservation) less seriously.<sup>12</sup> Beholden only to the consumers they serve, the privatized plants will be governed by purely economic considerations. For example, if a plant owner decides that it would be cheaper to buy electricity from another plant during a particular winter season, he will simply shut down his plant without considering whether the manatees will need the warm-water effluents that winter.

The fact that plant owners tend to base their decisions largely upon economic interests, however, does not necessarily mean that the owners will never consider the welfare of the manatees. Economic interests of plant owners tie such owners to consumers. It is possible that a group of consumers may feel that it is cruel to deprive the manatees of their warm-water havens. These consumers

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plants often involve political considerations, such as public opinions. Private plants, on the other hand, tend to be less constrained by public interests.

11. See Rose, *supra* note 8, at 3 (asserting that utility companies which have benefitted economically from discharging warm water, upon which manatees have come to depend, should be forced to provide alternatives for manatees if utility companies close any plants for financial reasons).

12. See *id.* at 2. The author describes such an event involving the FLP Ft. Meyers (Tice) power plant. See *id.* The author states:

Apparently the executives at FLP had decided (without consultation with their own environmental staff) that since they could buy power cheaper from Georgia, they would not run the Tice power plant. Needless to say we did what was necessary to avert what would have been a major catastrophe by getting Governor Graham to intervene with the President of FLP, who agreed to run the plant temporarily even though it would be more expensive to operate the plant than to purchase more power.

*Id.*

In addition, the introduction of power utility competition can be reconciled with the protection of the environment if environmental costs and manatee protection costs are calculated into "stranded costs projections." See *id.* at 3 (defining stranded costs as "essentially the difference between the actual cost of a long-term asset, such as a power plant, and the current market value of that asset"). In order to ensure manatee protection, utility companies must calculate environmental safeguards and obligations into the cost of deregulation. See *id.* (commenting that existing utility companies will attempt to recover costs of transition from regulated to competitive process from customers).

As a further note, deregulation of the utility industry has sparked the concerns of environmentalists in a variety of other areas. See, e.g., Michael Evan Stern & Margaret M. Mlynczak Stern, *A Critical Overview of the Economic and Environmental Consequences of the Deregulation of the U.S. Electric Power Industry*, 4 ENVTL. LAW. 79 (1997) (discussing several potential environmental drawbacks to deregulation); Garcia, *supra* note 9, at 228-30 (discussing increased use of fossil fuels and harm to ozone layer as result of deregulation).

may threaten to boycott the plant if the owner does not operate the plant during the winter. In theory, if this boycott is likely to result, then a plant owner will consider the welfare of the manatees when deciding whether to shut down the plant.<sup>13</sup>

In practice, however, the above boycott scenario is not likely to occur. The manatee-loving consumers face a “collective action” problem: although individual consumers may wish to protect the manatee, the high cost of getting all these individuals together and organizing an effective boycott campaign may prevent them from acting out their wishes. For the campaign to be effective, the number of participants must be sufficiently high. Consumers will be deterred from boycotting, however, because organizing a high number of participants correlates to a high collective-action cost. The point is this: once privatized, power plant owners are less likely to consider the welfare of the manatees.<sup>14</sup>

Where technology has altered the natural environment to such an extent that the survival of indigenous species has become dependent on the man-made habitat, do we have a duty to maintain the existence of that technology? Part II of this Article explores the question of whether we have a moral obligation to maintain the artificial sanctuaries for the sake of the manatees.<sup>15</sup> Part III discusses whether the government has a legal duty to save the manatees when it deregulates the utility industry.<sup>16</sup> Part IV examines the constitutional limitations on the government’s actions to protect

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13. For example, if a plant owner decides that it would be cheaper to buy electricity from another plant during a particular winter season, then he will simply shut down his plant without considering whether the manatees will need the warm water effluents that winter. Business constituents would favor such a decision because increased efficiency results in increased profit. Constituents of the government, on the other hand, tend to have broader concerns because the efficiency of the government is less visible and often felt only through cut-programs designed to reallocate funds or through taxes which mask the source of less efficient management.

It is feasible that a plant owner could be motivated to preserve these habitats by his own convictions. This is unlikely, although, in that directors who operate a business have a duty to pursue the best interests of that business. Since a business is largely defined by the profit-seeking motivations of its members, economic concerns will likely outweigh non-economic concerns.

14. See Rose, *supra* note 8, at 3 (claiming that, unless action is taken soon, deregulation of Florida’s power companies will be extremely detrimental to manatees’ survival, despite the manatees’ “endangered” classification). It has been urged that environmental safeguards and steps necessary to protect the manatee should be integrated with any future utility deregulation plan in Florida. See *id.*

15. For a discussion of the moral obligation, if any, to protect the manatees, see *infra* notes 18-58 and accompanying text.

16. For a discussion of whether the government has a legal duty to protect the manatees after deregulation, see *infra* notes 59-80 and accompanying text.

the manatees.<sup>17</sup> Finally, this Article concludes that, ultimately, the state of scientific advancement may determine the fate of the manatees.

## II. MORAL OBLIGATION

Given its subjective nature, a comprehensive discussion of morality is beyond the scope of this Article.<sup>18</sup> To simplify matters, let us initially assume that there are only two types of people who care about the manatees: libertarians and egalitarians. After introducing the libertarians and the egalitarians, we will then consider a third group, the utilitarians.

### A. Libertarianism

A legal scholar once described libertarians as “solitary self-interested selves drifting about pursuing their own projects, seeing other people either as instruments of their purposes or threats to their security.”<sup>19</sup> The scholar then proceeded to say that, “[i]n this fantasy of predatory paranoiacs, formal contracting represents the only safe way for people to associate with one another. Contracts are those carefully circumscribed interactions in which these solitary beings briefly join together for an alienated moment of mutual exploitation.”<sup>20</sup> Notwithstanding his cynical tone, the scholar correctly identified the two essential tenets of libertarianism: sphere of autonomy and freedom of contract.<sup>21</sup>

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17. For a discussion of the constitutional limits on the government’s actions to protect the manatees, see *infra* notes 81-98 and accompanying text.

18. For a more complete analysis of morality, see RICHARD GARNER, *BEYOND MORALITY (ETHICS AND ACTION)* (1994) (providing thorough history of east and west religions and their moral concepts).

19. Robert W. Gordon, *Unfreezing Legal Reality: Critical Approaches to Law*, 15 FLA. ST. U. L. REV. 195, 207 (1987) (describing metaphysical libertarianism as “classical contract law’s neo-Hobbesian nightmare images of the society of atomistic individuals”); see also SIMON BLACKBURN, *THE OXFORD DICTIONARY OF PHILOSOPHY* 218 (1994) (defining metaphysical libertarianism as “[a] view that seeks to protect the reality of human free will by supposing that a free choice is not causally determined but not random either”).

20. Gordon, *supra* note 19, at 207. The author observed that it is unusual that the traditional notion of contracting has come to define how people deal with one another despite the fact that members of communities (business and otherwise) interact with one another day in and day out, establishing relationships and conventions that govern their dealings outside the bounds of contract. See *id.*

21. See *id.* at 198 (advancing Critical Legal Studies (CLS) theory of law and criticizing traditional methods of teaching law as depicting “an idealized fantasy of order according to which legal rules and procedures have so structured relations among people that such relations may primarily be understood as instituted by their consent, their free and rational choices”). According to Gordon, CLS began as a crusade consisting mainly of law professors, but also included some practition-

### 1. *Political Libertarianism*

Libertarians believe that every person is encapsulated by a sphere of autonomy that protects his life, liberty, and property interests.<sup>22</sup> Libertarians value this sphere of autonomy so much that they would forbid a government from intruding upon the sphere, even if a majority of the people would benefit from the intrusion.<sup>23</sup> In other words, the sanctity of the sphere of autonomy transcends the common good.<sup>24</sup> Accordingly, libertarians would despise all forms of unearned benefit that a government bestows upon a needy person at the expense of the creator of that benefit.<sup>25</sup> To the libertarians, when a government coercively takes away a benefit from the creator and redistributes that benefit to someone who did not earn it, the government is breaching the creator's sphere of autonomy and infringing upon his property rights.<sup>26</sup>

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ers to express their extreme dissatisfaction with their own legal education. *See id.* at 196. Advocates of CLS seek to "transform the practices of the legal system to help make this a more decent, equal, solidary society." *Id.* at 197. Libertarianism is thus in conformity with CLS because of the spirits of autonomy and freedom embodied in both philosophies.

22. *See, e.g.*, JAN NARVESON, *THE LIBERTARIAN IDEA* 7 (1988) (stating that libertarianism "is the doctrine that the only relevant consideration in political matters is individual liberty: that there is a delimitable sphere of action for each person, the person's 'rightful liberty,' such that one may be forced to do or refrain from what one wants to do only if what one would do or not do would violate, or at least infringe, the rightful liberty of some other person(s)"); *see also* BLACKBURN, *supra* note 19, at 218 (defining political libertarianism as advocating "maximization of individual rights, especially those connected with the operation of a free market, and the minimizing of the role of the state"). Libertarianism holds that no other outside forces may have an impact on the individual without his consent. *See NARVESON, supra*, at 7.

23. *See NARVESON, supra* note 22, at 8 (explaining that petitions to uphold "absolute good," where no one has free choice or autonomy to decide what that "good" is, are disregarded). As a result, a liberal must justify his policies and beliefs that affect other individuals as what is best for these individuals according to the liberal. *See id.* (describing method used by liberals to justify imposing their policies on others).

24. *Cf. BLACKBURN, supra* note 19, at 218 (stating that "[i]n politics, libertarians advocate the maximization of individual rights . . . and the minimization of the role of the state"). This means that even if the government exercises its power for the benefit of the common good, this results in an infringement on the rights of others. *See id.*

25. *See, e.g.*, NORMAN P. BARRY, *ON CLASSICAL LIBERALISM AND LIBERTARIANISM* 5 (1987) (explaining that libertarians hold "external moral principles [e.g., equitable distribution of income] that are used to validate the redistribution of incomes away from those who create them simply validates the immoral seizure of legitimately acquired property").

26. *See BLACKBURN, supra* note 19, at 218 (stating that "[i]n the libertarian vision, exercises of state power for positive ends, such as amelioration of social disadvantage through social welfare programmes, constitute *infringements* of the rights of others") (emphasis added). Libertarians believe the government should merely maintain the status quo and provide order. *See id.* (declaring that state



## 2. Economic Libertarianism

Libertarians realize that a person who lives in a society cannot exist solely within his protective sphere of autonomy. To interact with others, a person must connect his sphere with another person's sphere.<sup>27</sup> Once connected, these two individuals can then exchange or redefine their respective rights vis-à-vis one another. Libertarians establish and enforce these connections via private contracts.<sup>28</sup> Given their preference for maximum liberty, libertarians believe that people should be free to enter into private contract, without interference from others.<sup>29</sup>

Consistent with their emphasis on the freedom of contract, in the economic realm, libertarians follow the laissez faire principles of neoclassical economics.<sup>30</sup> Accordingly, they believe that the overall welfare of the market would best be served if each individual

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should only support public services not springing from free market). Cf. CHARLES FRIED, *CONTRACT AS PROMISES: A THEORY OF CONTRACTUAL OBLIGATION* 1-2 (1981) (discussing role of private contracts in society). Fried states:

Security of the person, stability of property, and the obligation of contract [form] the bases of a civilized society. . . . The law of property defines the boundaries of our rightful possessions, while the law of torts seeks to make us whole against violations of those boundaries, as well as against violations of the natural boundaries of our physical person. Contract law ratifies and enforces our joint ventures beyond those boundaries. . . . [T]he will theory of contract, which sees contractual obligations as essentially self-imposed, is a fair implication of liberal individualism.

*Id.*

27. See Charles Murray, *What It Means to Be a Libertarian*, Address Before an American Experiment Luncheon Forum (Jan. 17, 1997), in *CENTER OF THE AMERICAN EXPERIMENT* (Minneapolis, Minn.) June 1997, at 4 (discussing importance of communities in people's lives). People in communities can influence and have an impact on other people's lives. See *id.* at 3 (commenting on source of satisfaction that communities provide); see also BARRY, *supra* note 25, at 4 (stating that "each individual . . . will exchange with his fellow men so as to advance the values of each").

28. See CHARLES MURRAY, *WHAT IT MEANS TO BE A LIBERTARIAN: A PERSONAL INTERPRETATION* 24-25 (1998) (stating that "[e]conomic freedom is crucial, first, because you cannot restrict economic freedom without also restricting other expressions of freedom. . . . Economic freedom is important also because it naturally restricts the power of the government. . . . Apart from these considerations, economic freedom is indispensable because it makes a free society workable").

29. "Laissez faire" is French for "allow to act" and expresses "a political-economic philosophy of the government of allowing the market-place to operate relatively free of restrictions and intervention." *BLACK'S LAW DICTIONARY* 876 (6th ed. 1990). For a discussion of neoclassical economics, see *infra* notes 30-32 and accompanying text.

30. See IRWIN EDMAN, *FOUNTAINHEADS OF FREEDOM: THE GROWTH OF THE DEMOCRATIC IDEAL* 106-07 (1941) (stating that "[l]ibertarians. . . developed a theory of the unfettered economic man, buying and selling in a free market . . . trusted to enlightened and unrestricted self-interest on the part of each to work out a harmony that would redound to the good of all").

economic entity is free to maximize its own profits without government interference.<sup>31</sup> Stated otherwise, unfettered competition among the firms will lead to a healthy economy.<sup>32</sup> A corollary of this “perfect competition” doctrine is that firms which are too weak to compete with others should disappear from the economy so that more efficient firms may take their places to compete for scarce resources.

### 3. *Environmental Libertarianism*

To some people, the term “libertarian environmentalist” may seem like an oxymoron. These people think that because libertarians place a heavy emphasis on individual *private* rights, it follows then that libertarians must not care about common *public* goods, such as the environment.<sup>33</sup> Although this observation may be accurate in many situations, it is not always correct. According to the principles of logic, for a statement to be true, the contra-positive of that statement must also be true.<sup>34</sup> Hence, for the statement “if you value private rights, then you do not care about public goods” to be true all the time, the statement “if you care about public goods, then you do not value private rights” must also be true all the time. Given that the latter sentence is not always true, it is, therefore, possible for a libertarian to be an environmentalist.

Not only is it possible for a libertarian to be an environmentalist, it is also possible to apply the libertarian philosophy to environmental conservation. Both libertarian philosophy and environmental conservation are governed by the same power structure: the regulator regulates the regulated. In politics, the regulators are the elected governments, and the regulated are the citizens. In the economy, the regulators are the bureaucrats, and the regulated are the firms. In the environment, the regulators are the humans,

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31. See THE MIT DICTIONARY OF MODERN ECONOMICS 297 (David W. Pearce ed., 3d ed. 1986) (explaining that “[t]he idea of a perfectly competitive economy in equilibrium . . . is central to the neo-classical scheme”).

32. See BLACKBURN, *supra* note 19, at 218 (describing libertarian perspective that “[t]he state is confined to a ‘night-watchman’ role of maintaining order and providing only those public services that will not arise spontaneously through the free market”); see also ROBERT NOZICK, ANARCHY, STATE, AND UTOPIA 27 (Basic Books, Inc. 1974) (describing “night-watchman” as being “redistributive to the extent that it compels some people to pay for the protection of others”).

33. See *Can Free Markets and Environmental Interests Coexist?* (visited Mar. 22, 2000) <<http://libertarianism.about.com/newsissues/libertarianism/library/weekly/>> (refuting critics and asserting that free market and environmental interests can coexist).

34. For example, for the statement “if X then Y” to be true, the statement “if not Y then not X” must also be true.

and the regulated are the animals.

	<b>POLITICS</b>	<b>ECONOMICS</b>	<b>ENVIRONMENT</b>
<b>REGULATOR</b>	Governments	Bureaucrats	Humans
<b>REGULATED</b>	Citizens	Firms	Animals

Regardless of who plays the role of the regulator or the regulated, the libertarian rule of regulation remains the same: the regulator is a minimalist “night-watchman”<sup>35</sup> who will intervene only to ensure that the regulated do not infringe upon each other’s rights.<sup>36</sup>

To illustrate how the libertarian philosophy applies to environmental conservation, let us assume that a special breed of dolphins shares the same rivers with the manatees, and that the artificial thermal discharge is killing a kind of fish upon which the dolphins depend for survival. Consistent with their political view, libertarian environmentalists would argue that, although the manatees have a right to exist, the manatees should not exist at the expense of the dolphins. Libertarian environmentalists would abhor any form of unearned benefit that humans (qua regulator) bestow upon the manatees (a regulated entity) at an undeserved cost to the dolphins (another regulated entity).<sup>37</sup>

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35. See NOZICK, *supra* note 32, at 333-34 (explaining libertarian perception of proper role of government as “a minimal state”). Nozick describes the perfect minimal state as follows:

The minimal state treats us as inviolate individuals, who may not be used in certain ways by others as means or tools or instruments or resources; it treats us as persons having individual rights with the dignity this constitutes. Treating us with respect by respecting our rights, it allows us, individually or with whom we choose, to choose our life and to realize our ends and our conception of ourselves, insofar as we can, aided by the voluntary cooperation of other individuals possessing the same dignity. How *dare* any state or group of individuals do more. Or less.

*Id.*

36. See BARRY, *supra* note 25, at 5 (discussing economic libertarianism). The maintaining of technologically-altered environments is somewhat like a subsidy or affirmative action program that benefits the manatees but harms the dolphins. Libertarians do not support subsidies and affirmative action programs that shift equity in such a way, and they would likely not support the maintaining of these environments for similar reasons. See *id.* (discussing libertarian perspective pertaining to affirmative action programs and subsidies).

37. For a detailed discussion on how economic principles apply to environmental management, see Michael Rothschild, *Economy as Ecosystem*, in THE LIBERTARIAN READER 243-47 (David Boaz ed., The Free Press 1997) (arguing that economists were wrong when they wed mechanical concepts from Newtonian physics instead of evolutionary ideas from Darwin’s biology).

Applying their view of economics, libertarian environmentalists believe that if wild animals (the regulated) are allowed to compete freely for survival without meddling from humans (the regulator), then the environment will be at its healthiest.<sup>38</sup> Through unfettered competition, animals that are too weak to compete with others would disappear from the environment, leaving the stronger creatures to compete for scarce resources. Libertarian environmentalists would agree with Darwin that “all nature is at war; the strongest ultimately prevail, the weakest fail.”<sup>39</sup>

These environmentalists would also point out that when humans interfere with nature’s “perfect competition” ecosystem, they distort the state of nature and introduce harmful externalities into the environment.<sup>40</sup> For instance, when artificial warm-water pools cause manatees to congregate in large numbers, the aquatic vegetation in those areas cannot adequately support this unnatural concentration of manatees.<sup>41</sup> The cost of this over-consumption will be borne by the adolescent manatees. Compared to adult manatees, adolescent manatees are less efficient grazers and, therefore, are more vulnerable to starvation. Without the adolescent manatees to replace the aging manatees, their population will decline.

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38. CHARLES DARWIN, *THE VARIATION OF ANIMALS AND PLANTS UNDER DOMESTICATION* 6-7 (1896). This theory is a recapitulation of Darwin’s survival of the fittest. *See id.* It holds that the strong members of a species will dominate the environment and survive, thus eliminating the weaker members. *See id.* This is ultimately a part of Darwin’s theory of evolution, which holds that natural species must adapt and evolve in order to survive in a changing environment. *See id.* Those that do not adapt will die and become extinct. *See id.*; *see also* Rothschild, *supra* note 37, at 246 (stating that “[i]nefficiency is punished by extinction”). If the species (or even an industry) is truly fit to survive, then it will separate from the rest of its species and evolve into an “even more specialized offshoot.” *See id.*

39. JESSE DUKENMINIER & JAMES E. KRIER, *PROPERTY* 38-39 (2d ed. 1988) (explaining notion of “externalities”). The authors state:

Externalities exist whenever some person, say X, makes a decision about how to use resources without taking full account of the effects of the decision. X ignores some of the effects — some of the costs or benefits that would result from a particular activity, for example — because they fall on others. They are ‘external’ to X, hence the label *externalities*.

*Id.* For a detailed discussion of externalities, see Harold Demsetz, *Toward a Theory of Property Rights*, *LAW AND ECONOMICS* 247-59 (Richard A. Posner & Francesco Parisi eds., 1997). When externalities exist, a resource will not be used in a way that is beneficial to the species as a whole. *See* DUKENMINIER & KRIER, *supra*, at 39. Such a misuse of a resource can potentially be detrimental to a species. *See id.*

40. *See Power Plants: Good or Bad for Manatees?*, SIRENEWS (International Union for Conservation of Nature and Natural Resources, Washington, D.C.), Apr. 1998, at 5 (explaining that because food source cannot adequately support manatee population, weaker members of group will be eliminated through starvation).

41. *See id.*

Eventually, this negative population growth rate will result in extinction.

Unnatural aggregation poses another problem. Those warm-water areas have historically high incidences of a fatal phenomenon called the "red tide."<sup>42</sup> As red tide organisms release deadly toxins into the water and air, an unusually large number of manatees would be killed at once.<sup>43</sup> This lack of habitat diversification could be detrimental to the survival of the manatees as a whole.

In sum, when humans inject technology into nature, humans create harmful externalities that lead to detrimental consequences. Libertarian environmentalists, therefore, would be in favor of removing human technology from the environment. Consistent with their political and economic views, libertarian environmentalists believe that the best way to manage the environment is to minimize human intervention.

## B. Egalitarianism

### 1. Political Egalitarianism

In terms of the regulator-regulated framework set forth above, egalitarians believe that regulations "should be aimed at respecting and advancing the *equality* of persons."<sup>44</sup> To achieve equality, regulators must observe two principles: (1) the equal opportunity principle and (2) the difference principle.<sup>45</sup> The equal opportunity

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42. *See id.* The natural phenomenon of red tide kills manatees in two ways. *See id.* First, while the manatees graze the sea grass beds, they are poisoned when they ingest large numbers of sea squirts, which feed on the toxic red tide organisms. *See id.* Second, the manatees could also be poisoned by airborne toxins released by red tide organisms when the manatees breathe at the water's surface. *See id.*

43. *See id.* (addressing impact of red tide on manatee); *see also* DARWIN, *supra* note 38, at 54-57 (describing how horses adapt to their ever-changing environment). Thus, diverse environments allow animals to develop different tactics to better ensure continuation of the species in the environment. *See id.* at 54; *see also* Rothschild, *supra* note 37, at 246 (stating that "[l]acking any grand design other than the urge to escape threats to their continued existence, genes and technology spontaneously weave living webs of ever more-intricate filigree").

44. BLACKBURN, *supra* note 19, at 114 (emphasis added).

45. *See* JOHN RAWLS, A THEORY OF JUSTICE 75 (1971). The difference principle is a strongly egalitarian concept. *See id.* at 76. Unless the distribution improves the position of both persons to a transaction, an equal distribution is to be preferred. *See id.* To illustrate the difference principle:

Consider the distribution of income among social classes. Let us suppose that the various income groups correlate with representative individuals by reference to whose expectation we can judge the distribution. Now those starting out as members of the entrepreneurial class in property-owning democracy, say, have a better prospect than those who begin in the class of unskilled laborers. It seems likely that this will be true even

principle not only forbids formal cast systems and class barriers, but also requires affirmative action by the regulator to give the regulated a reasonably equal chance to compete for the rewards of life.<sup>46</sup> The difference principle requires the regulator to maximize the position of the worst-off segment or poorest class in society.<sup>47</sup>

Egalitarians believe that, where a person is lucky enough to be born into an advantageous "original position," such a person has no moral claim to those advantages because it was mere luck.<sup>48</sup> Therefore, it would not be unfair to take away some of those unearned advantages in order to benefit those who are less fortunate.<sup>49</sup> In furtherance of this end, egalitarians formulate their rule of regulation this way: the regulator is a micro-manager who should actively intervene in the affairs of the regulated to achieve equality.

## 2. Economic Egalitarianism

Because egalitarians prefer an active welfare state, in the economic realm, they would practice Keynesian economics. Unlike the neoclassical view that the economy works best when left alone, Keynesian theory holds that, for an economy to grow steadily, it is

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when the social injustices which now exist are removed. What, then, can possibly justify this kind of mutual inequality in life prospects? According to the difference principle, it is justifiable only if the difference in expectation is to the advantage of the representative man who is worse off, in this case the representative unskilled worker.

*Id.* at 78.

In other words, the disadvantaged must use the expectation as an advantageous incentive. *See id.* This breeds innovation. *See id.* It is evident that the role of fair opportunity is to ensure pure procedural justice via a system of cooperation. *See id.* at 87. In pure procedural justice, there is no independent criterion for the right result. *See id.* at 86. It establishes a fair procedure, which in turn ensures a fair result, provided that the procedure is closely followed. *See id.* The result is that the distribution of advantages is not assessed by viewing the benefits available with the given desires and needs. *See id.* at 88. Allotment takes place according to the designed rules. *See id.*

46. *See* Thomas C. Grey, *Property and Need: The Welfare State and Theories of Distributive Justice*, 28 STAN. L. REV. 877, 879 (1976) (describing government as regulator and comparing theories of John Rawls and Robert Nozick).

47. *See id.* at 879-80 (basing principle on egalitarian notions of equal access and equal benefit). The difference principle essentially holds that the government must not distribute income and wealth in such a way as to give the poorest segment of society "more in the long run than they would have had under complete equality." *Id.* at 880.

48. *See id.* at 883-84 (defining "original position" as "people [who] have the scarce talents or skills which attract high incomes through accidents of nature or social circumstances, and it is unjust to let accident produce unequal rewards"); *see also* RAWLS, *supra* note 45, at 72 (discussing influence of arbitrary factors which result in some individuals receiving benefits which they do not deserve).

49. *See* Grey, *supra* note 46, at 883-84 (arguing that restrictions on obtaining and use of property are permissible in morally just society).

vital for the government to intervene in the marketplace.<sup>50</sup> By adjusting the levels of expenditure and taxation, *ceteris paribus*,<sup>51</sup> a government can manipulate the level of aggregate demand in the economy, thereby ensuring a steady economic growth.<sup>52</sup>

### 3. Environmental Egalitarianism

Given their political emphasis on equality, egalitarian environmentalists approach environmental management in two ways. First, consistent with the equal opportunity principle, egalitarian environmentalists argue that all creatures ought to have an equal opportunity to compete for survival. Second, consistent with the difference principle, egalitarian environmentalists would argue that the protection of endangered species takes precedence over the welfare of non-endangered animals. Thus, in the dolphin example above, egalitarian environmentalists would interfere with the natural environment to give the manatees an equal opportunity to survive.<sup>53</sup> Moreover, because the endangered manatees are worse off than the non-endangered dolphins, egalitarian environmentalists would save the manatees even if it means that some dolphins would perish as a result.

Applying their Keynesian “managed economy” model to nature, egalitarian environmentalists would endorse active human management to protect endangered species. In the case of manatees, by adjusting the water temperature, *ceteris paribus*, humans can manipulate the aggregate rate of cold-related fatalities, thereby ensuring the survival of this endangered animal.

### G. Utilitarianism

Ultimately, whether we feel morally obligated to save the manatee depends on where we stand in the spectrum of philosophical attitudes, with the libertarians on one extreme and the egalitarians

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50. See MIT DICTIONARY, *supra* note 31, at 226-29 (discussing egalitarianism). Keynesian economics is a system of macroeconomic theory developed by John Maynard Keynes. See *id.*

51. Economists use the pedantic Latin phrase “*ceteris paribus*” to mean “holding all else constant” or “other things being equal.”

52. For example, if the economy is growing too fast (which results in inflation), the government can artificially depress the aggregate demand in the economy by increasing taxation and decreasing public expenditure, thereby cooling down an over-heated economy. On the other hand, if the economy is stagnating (which could lead to a depression), the government can increase the aggregate demand by cutting taxes and pumping money into the economy through public expenditure, thereby stimulating a sluggish economy.

53. For a discussion of the general concept of egalitarianism, see *supra* notes 44-52 and accompanying text.

on the other. As demonstrated above, libertarians will almost always opt to let nature take its course.<sup>54</sup> Egalitarians, on the other hand, will almost always choose to intervene in the natural environment. In between these two extremes, many other views exist regarding one's moral obligation vis-à-vis environmental conservation. One such view is utilitarianism.

Utilitarianism recognizes that man serves two masters: pleasure and pain. For a utilitarian, the goal of any society is to maximize the total pleasure by minimizing pain.<sup>55</sup> In terms of the regulator-regulated model above, wherever regulation goes, enforcement and punishment follow. Because enforcement and punishment involve pain, a regulator should not regulate unless it produces good consequences that outweigh the bad.<sup>56</sup> Stated another way, utilitarians believe that a regulation has no place in society unless the benefit of living under such regulation outweighs the cost thereby incurred.<sup>57</sup>

Given their emphasis on maximum happiness, utilitarians will choose to save the manatees only if the pleasure (benefit) of doing

54. For a discussion of libertarianism, see *supra* notes 19-43 and accompanying text.

55. See BLACKBURN, *supra* note 19, at 388 (stating utilitarian doctrine); see also RAWLS, *supra* note 45, at 22 (describing classical utilitarianism as "society [being] rightly ordered, and therefore just, when its major institutions are arranged so as to achieve the greatest net balance of satisfaction summed over all the individuals belonging to it") (relying on HENRY SEDGEWICK, *THE METHODS OF ETHICS* (7th ed. 1907)); GEORGE C. CHRISTIE & PATRICK H. MARTIN, *JURISPRUDENCE* 491-501 (1995) (describing utilitarianism and its founder, Jeremy Bentham). The authors state:

Expressed simply, Utilitarianism espouses the view that the greatest good is the proper measure of right and wrong and the only proper end of government. Bentham believed that pain and pleasure could be measured in strictly quantitative terms. Thus the process of making ethical and social decisions could be reduced to a quasi-mathematical science. Bentham's "hedonic calculus" would enable moral decisions to be made on quantitative rather than impressionistic evidence.

*Id.* at 491.

56. See RAWLS, *supra* note 45, at 24 (commenting that "[j]ust as an individual balances present and future gain against present and future losses, no society may balance satisfaction and dissatisfaction between different individuals"); see also RICHARD A. POSNER, *THE PROBLEMATICS OF MORAL AND LEGAL THEORY* 46 (1999) (noting that for utilitarians, "the goal of a society should be to maximize average utility, or total utility, or wealth, or freedom, or equality or some combination of these things"). When a society desires to move forward, it must consider the welfare of the group as a whole to advance the desires of all its members. See RAWLS, *supra* note 45, at 23-24.

57. See RAWLS, *supra* note 45, at 24 (stating that "Social Justice is the principle of rational prudence applied to an aggregative conception of the welfare of the group"). Only those regulations which produce the most good, or at least as much good as the other available alternatives, can truly benefit society as a whole. See *id.*



so outweighs its pain (cost).<sup>58</sup> On the benefit side of the equation, utilitarians may find joy in helping an endangered species or preserving bio-diversity. On the cost side, utilitarians may be unhappy about maintaining inefficient power plants, or they may be unhappy about tampering with the rivers' natural water temperature.

Whether utilitarians would choose to save the manatees depends on: (1) how much subjective weight each individual gives to the different factors on both sides of that individual's cost benefit analysis; and (2) whether individuals who find joy in saving the manatees outnumber those who find pain doing the same. The point is that the utilitarian decision-making process is not as clear-cut or extreme as that of the libertarians or egalitarians. The following table summarizes the three views:

	<b>Libertarianism</b>	<b>Utilitarianism</b>	<b>Egalitarianism</b>
<i>What value to maximize?</i>	Liberty	Happiness	Equality
<i>The preferred regulator?</i>	Minimalist night-watchman	Calculating cost-benefit analyzer	Interventionist micro-manager
<i>Save the manatees?</i>	No	Maybe	Yes

### III. LEGAL DUTY

Assuming that the egalitarians are right in holding that people are morally obligated to protect the manatees, does that moral obligation give rise to a legal duty? For the purpose of this discussion, let us suppose that privatization of the utility industry benefits the economy but harms the manatees. That being the case, does the government have a legal duty to save the manatees at the expense of the economy?

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58. For a discussion of the theory that society should maximize pleasure over pain, see *supra* notes 55-57 and accompanying text.

## A. Procedural Duty

The National Environmental Policy Act (NEPA)<sup>59</sup> urges every federal agency to use “all practicable means and measures” to administer federal programs in an environmentally sound manner.<sup>60</sup> To this end, NEPA requires all federal agencies to prepare an environmental impact statement before they carry out any plans that would significantly impact the environment.<sup>61</sup> The content of this environmental impact statement should address, *inter alia*, “any adverse environmental effects which cannot be avoided should the proposal be implemented.”<sup>62</sup>

In the case of the manatees, before the federal agency in charge of deregulating the utility industry (Energy Agency) implements its plans, it must prepare an environmental impact statement that addresses the fate of the manatees.<sup>63</sup> What if, in the course of preparing this statement, the Energy Agency finds that deregulation will inevitably lead to the extinction of the manatee? Is the Agency then required to abandon its deregulation plans? Accord-

59. National Environmental Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (1976) (codified as amended at 42 U.S.C. §§ 4321-47 (1994)) [hereinafter NEPA].

60. *See id.* § 101(A), 42 U.S.C. § 4331(A) (recognizing impact of human activity on natural environment and declaring that it is government’s policy to maintain conditions “under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans”). In the statute, Congress recognized and wished to remedy man-made environmental problems, such as extreme population growth, industrial expansion, and resource exploitation. *See id.* It then laid out the goals and objectives of the governmental environmental policy. *See id.* §§ 102-05, 42 U.S.C. §§ 4332-35.

61. *See id.* § 102(C), 42 U.S.C. § 4332(C) (stating that all agencies of federal government, when proposing any action, shall include environmental impact statement).

62. *Id.* § 102(C)(ii), 42 U.S.C. § 4332(C)(ii). Specifically, the environmental impact statements shall include:

- (i) the environmental impact of the proposed action,
- (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
- (iii) alternatives to the proposed action,
- (iv) the relationship between local short-term uses of man’s environment and the maintenance and enhancement of long-term productivity, and
- (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

*Id.* § 102(C), 42 U.S.C. § 4332(C). NEPA also requires that, prior to making the environmental impact statement, federal officials consult with and obtain comments of corresponding federal agencies that possess jurisdiction by law of special expertise dealing with the matter at hand. *See id.*

63. *See id.* § 102(C), 42 U.S.C. § 4332(C) (requiring environmental impact statement for any federal act significantly affecting environment).

ing to the United States Supreme Court in *Robertson v. Methow Valley Citizens Council*, the answer is no.<sup>64</sup> The Court held that NEPA only forces a federal agency to take a “hard look” at the environmental consequences of its proposed actions; it does not require the agency to take substantive actions to protect the environment.<sup>65</sup>

Making clear that NEPA is largely procedural, the Court explained that a federal agency would not have violated NEPA if the agency, after having complied with NEPA’s procedural requirements, decided that “the benefits to be derived from downhill skiing . . . justified the issuance of a special use permit, notwithstanding the loss of 15 percent, 50 percent, or even 100 percent of [some threatened species].”<sup>66</sup> Applying this rationale to the manatees’ case, if the Energy Agency, after having prepared an environmental impact statement, decides that the benefit of lower utility rates justifies deregulation, then the Energy Agency would be free to proceed with its deregulation plans, even if 100 percent of the manatees will perish.

## B. Substantive Duty

Fortunately for the manatees, NEPA is not the only source of statutory protection. The Endangered Species Act (ESA or the

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64. See *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 359 (1989) (concluding that NEPA does not require agency to prepare either developed plan describing necessary steps to take to mitigate adverse environmental impacts or worst case analysis of situation if agency cannot make reasoned assessment of project’s potential environmental impact). The Forest Service designated a certain national forest location as having a high potential for development as a downhill ski resort. See *id.* at 337. Methow Recreation, Inc., applied for a special use permit to build such a resort on the location. See *id.* at 338. The Forest Service then prepared an environmental impact statement and, based on the statement, “proposed options regarding offsite mitigation measures that might be taken by state and local governments.” *Id.* at 332, 339-45. The Methow Valley Citizens Council, among others, brought suit against the Service, claiming that the Forest Service did not satisfy NEPA’s requirements. See *id.* at 345-46.

65. See *id.* at 350 (asserting that “[a]lthough these procedures are almost certain to affect the agency’s substantive decision, it is now well settled that NEPA itself does not mandate particular results, but simply prescribes the necessary process”). NEPA does not forbid a government agency from determining whether “other values outweigh environmental costs.” *Id.*

66. *Id.* at 351 (noting NEPA simply prohibits “uninformed - rather than unwise - agency action”). The Court reasoned that since NEPA requires that the agency prepare the detailed environmental impact statement, this guarantees that the agency will take a “hard look” at the potential environmental consequences of the agency’s action. See *id.* at 352. Without the discussion in the environmental impact statement, “neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects [of the proposed environmental action].” *Id.*

Act)<sup>67</sup> protects endangered species from extinction by making it unlawful for any person to “take” such species of fish or wildlife.<sup>68</sup> The term “take” is defined as “harass, *harm*, pursue, hunt, shoot, wound, kill, trap, capture, or collect.”<sup>69</sup> The Secretary of the Interior has further defined the word “harm” to include a “significant

67. Endangered Species Act of 1973, Pub. L. No. 93-205, 87 Stat. 884 (1973) (codified as amended at 16 U.S.C. §§ 1531-44 (1994)) [hereinafter ESA].

68. *See id.* § 9(a)(1), 16 U.S.C. § 1538(a)(1). The statute states: Except as provided in sections 1535(g)(2) and 1539 of this title, with respect to any endangered species of fish or wildlife listed pursuant to section 1533 of this title it is unlawful for any person subject to the jurisdiction of the United States to:

(A) import any such species into, or export any such species from the United States;

(B) take any such species within the United States or the territorial sea of the United States;

(C) take any such species upon the high seas;

(D) possess, sell, deliver, carry, transport, or ship, by any means whatsoever, any such species taken in violation of subparagraphs (B) and (C);

(E) deliver, receive, carry, transport, or ship in interstate or foreign commerce, by any means whatsoever and in the course of a commercial activity, any such species;

(F) sell or offer for sale in interstate or foreign commerce any such species; or

(G) violate any regulation pertaining to such species or to any threatened species of fish or wildlife listed pursuant to authority provided by this chapter.

*Id.* This section can be enforced either by federal government action or by a citizen suit. *See id.* § 11(e) & (g), 42 U.S.C. § 1540(e) & (g); *see also* Tennessee Valley Auth. v. Hill, 437 U.S. 153, 177 (1978) (noting that legislative proceedings creating ESA were “replete with expressions of concern over the risk that might lie in the loss of any endangered species”).

Even though legislation had been enacted prior to the creation of ESA in 1973, species were still being lost at a rate of one per year. *See Tennessee Valley Auth.*, 437 U.S. at 176. At the time of the Congressional hearings concerning ESA, Congress had been told:

[M]an and his technology [sic] continued at an ever-increasing rate to disrupt the natural ecosystem. This has resulted in a dramatic rise in the number and severity of the threats faced by the world’s wildlife. The truth in this is apparent when one realizes that half of the recorded extinctions of mammals over the past 2000 years have occurred in the most recent 50-year period.

*Id.* (citing *Hearings on Endangered Species Before the Subcomm. of the House Comm. on the Merchant Marine and Fisheries*, 93rd Cong. 202 (1973) (statement of Assistant Secretary of the Interior). Essentially, Congress was concerned about the unknown uses of endangered species and the “unforeseeable place” such species might have in the earth’s “chain of life.” *See id.* at 178-79; *see also* 50 C.F.R. § 17.11(h) (1980) (listing West Indian Manatee as among endangered species).

69. ESA § 3(19), 16 U.S.C. § 1532(19) (emphasis added). ESA itself does not further define the term “take” anywhere within the statute. *See* Babbitt v. Sweet Home Chapter of Communities for a Greater Oregon, 515 U.S. 687, 691 (1995) (noting that ESA does not elaborate on definition of “take”). Despite the lack of additional definitions, ESA does provide that federal agencies must ensure that none of their activities will jeopardize the existence of endangered species “or result in the destruction or adverse modification of habitat of such species which is

*habitat* modification or degradation where it actually kills or injures wildlife by impairing essential behavioral patterns, including breeding, feeding, or sheltering.”<sup>70</sup> The Supreme Court in *Babbitt v. Sweet Home* endorsed this particular interpretation of the term “harm.”<sup>71</sup>

The problem with this interpretation of “harm”, however, is that it leaves the term “habitat” undefined.<sup>72</sup> In the manatees’ case, the term “habitat” could have two alternative meanings. “Habitat” could be defined to mean either (1) the *present* habitat as it currently exists or (2) the *natural* habitat as it existed before human technology altered it.

If we construe the term “habitat” to mean the *present* habitat as it exists now, then ESA would probably prohibit the Energy Agency from deregulating the utility industry because the act of deregulation would constitute “harm” within the purview of the Act.<sup>73</sup> Deregulation may significantly modify the manatees’ present habitat

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determined by the Secretary . . . to be critical.” ESA § 7(a)(2), 16 U.S.C. § 1536(a)(2).

70. 50 C.F.R. § 17.3 (1994). “Harm” means “an act which actually kills or injures wildlife.” *Id.* Additionally, the term “harass” under ESA’s “take” formulation has been defined as “an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering.” *Marbled Murrelet v. Pacific Lumber Co.*, 880 F. Supp. 1343, 1367 (N.D. Cal. 1995).

71. *See Sweet Home*, 515 U.S. at 708. The Supreme Court held that “[t]he proper interpretation of a term such as ‘harm’ involves a complex policy choice.” *Id.* at 708. The Court stated that it was unwilling to substitute its views for those views of the Secretary of Interior, with whom Congress had entrusted broad discretion. *See id.* at 707. The Court concluded that, based on ESA’s language, structure, and legislative history, “the Secretary reasonably construed intent of Congress when he defined ‘harm’ to include ‘significant habitat modification or degradation that actually kills or injures wildlife.’” *Id.*

At issue in *Sweet Home* was the definition of “harm” under ESA’s “take” rhetoric, “particularly the inclusion of habitat modification and degradation in the definition.” *Id.* at 692. The respondents in the case were small landowners, logging companies, and families living in the Pacific Northwest and Southwest, who were dependent on the forest products and industries located in these areas. *See id.* The respondents challenged the meaning of “harm” on its face, specifically stating that “the red-cockaded woodpecker, an endangered species, and the northern spotted owl, a threatened species, had injured them economically.” *Id.*

72. *See* ESA § 3, 16 U.S.C. § 1532 (failing to define “habitat”); *Sweet Home*, 505 U.S. at 708 (failing to define “habitat” and leaving to Secretary of Interior role of determining what constitutes “harm”); *Marbled Murrelet*, 880 F. Supp. at 1367 (making no clarification of term habitat).

73. *See* ESA § 3(19), 16 U.S.C. § 1532(19). The harm would result from taking the species by destroying this warm-water habitat. This destruction of the manatee environment would result because of the potential closing of power plants when they are forced out of business by competition after deregulation.

and thereby adversely impair their present behavioral patterns.<sup>74</sup> But what if the authors of ESA did not intend the term “habitat” to include a technologically-altered environment?<sup>75</sup>

If we were to interpret the term “habitat” to mean the *natural* habitat as it once existed, then ESA would probably allow the Energy Agency to deregulate the utility industry.<sup>76</sup> Deregulation would, in effect, take away the artificial warm-water discharges and thereby restore the Florida rivers to their natural condition. Which of these definitions of “habitat” is the desirable one? The answer depends on just how endangered the manatees are.

By construing the term to mean *present* habitat, ESA affords the manatees a short-term protection against abnormally cold winters; but, in the long run, their dependency on human technology would place their survival at the mercy of humans. In other words, the manatees would be weak and domesticated. On the other hand, by interpreting the term to mean *natural* habitat, ESA would remove human technology from nature, which could kill many manatees in the short-term; however, restoring their habitat to its natural state would benefit the manatee in the long run. Those most able to adapt to cold weather would survive and produce a line of hardy manatees. In short, these manatees would remain strong and wild.

Therefore, if the population of the manatees is large enough to survive short-term, cold-related fatalities, then the protective law should aim to keep wildlife habitats *natural*. On the other hand, if the manatees are so endangered that any substantial loss in one winter season could push them into extinction, then the law should seek to maintain their *present* habitat, even if it is a technologically-altered one.

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74. For a discussion of the effect of utility deregulation on the manatee population, see *supra* notes 7-14 and accompanying text.

75. For purposes of this Article, the term “technologically-altered environment” denotes an environment that has been altered by human technology to such an extent that the indigenous life forms therein have substantially modified their primary behavioral patterns to adapt to the altered environment. For example, if we construct a garbage dump in a forest, and the local bears become so used to picking through the garbage that the dump becomes an essential food source for the bears, then we have substantially modified their primary feeding pattern. The forest area that surrounds the dump is then a “technologically-altered environment.” But if we build a log cabin in a forest, and the bears do not change their lifestyle other than to avoid the area surrounding the cabin, then we are not substantially modifying their primary behavioral patterns. In this case, the forest area that surrounds the cabin is not a “technologically-altered environment.”

76. See ESA § 9(a)(1), 16 U.S.C. § 1538(a)(1). Deregulation would be permitted because it would potentially return the environment to its natural status, thus undoing the harm created by man-made factories.

Assuming that the manatees are so close to extinction that their survival is now dependent upon the thermal technology, how far will ESA go to preserve their artificial habitat? In *Tennessee Valley Authority v. Hill*,<sup>77</sup> the Supreme Court held that ESA creates in all federal agencies a substantive duty to save endangered species and that this duty is paramount.<sup>78</sup> There, the Court upheld an injunction against the completion of a federal dam based on the finding that if operational, the dam would threaten an endangered species of fish called the snail darter.<sup>79</sup> Even though Congress had already spent more than \$100 million on its construction, and the dam was essentially ready for operation, the Court nevertheless halted its completion simply because the operation of the dam would violate ESA.<sup>80</sup>

#### IV. CONSTITUTIONAL LIMITATIONS

Under this “at-all-cost” approach of ESA, regardless of how the Energy Agency solves its deregulation problem, the Agency would not be allowed to disturb the thermal effluents. One practical solution would be to deregulate the power plants subject to the proviso that the new private owners agree to keep the plants in operation during unusually harsh winter seasons (the Winter Provision). But would this Winter Provision pass constitutional muster? Specifically, would it violate the Takings Clause of the Fifth Amendment?

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77. 437 U.S. 153 (1978).

78. *See id.* at 174 (declaring upon “examination of the language, history and structure of the [ESA] under review here indicates beyond doubt that Congress intended endangered species to be afforded the *highest of priorities*”) (emphasis added). The Supreme Court declared that “[t]he plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost.” *Id.* at 184.

79. *See id.* at 162 (quoting then Secretary of Interior as stating “[t]he proposed impoundment of water behind the proposed Tellico Dam would result in *total destruction* of the snail darter’s habitat”) (emphasis added). The Secretary was primarily concerned that the completion of the dam would result in destroying that portion of the Little Tennessee River where the snail darter lived by creating a reservoir in which the snail darter would be completely inundated. *See id.* at 161.

80. *See id.* at 172. The Supreme Court indicated that regardless of the amount spent on the dam, the explicit provisions of ESA required that construction be halted because survival of the snail darter was threatened. *See id.* The Court additionally noted that “Congress has spoken in the plainest of words, making it abundantly clear that the balance has been struck in favor of affording endangered species the highest of priorities, thereby adopting a policy which it describes as ‘institutionalized caution.’” *Id.* at 194. Moreover, the Court remarked that it was not its place to preempt congressional action. *See id.* The Court stated, “Once the meaning of an enactment is discerned and its constitutionality determined, the judicial process comes to an end. We do not sit as a committee of review, nor are we vested with the power of veto.” *Id.* at 194-95.

## A. Eminent Domain

One of the sovereign powers of the government (either state or federal) is the power of eminent domain.<sup>81</sup> When the government exercises this power, it has the right to take property away from a private owner, with or without consent.<sup>82</sup> The power of eminent domain, however, is not absolute. Upon dispossession, the government is required to pay the property owner just compensation.<sup>83</sup> If the government fails to do so, then the seizure amounts to an unlawful expropriation.

## B. Police Power

Another sovereign power of the government is its police power.<sup>84</sup> When a government exercises its police power to regulate the use of private property for the purpose of protecting public welfare, the regulation usually diminishes the value of the affected property. Unlike the power of eminent domain, however, when a government is exercising its police power, the government does not have to compensate the private owner for his loss.<sup>85</sup>

Oftentimes, the line between police power and eminent domain is blurred. In these situations, the central issue is whether the government's police power has become so intrusive that it constitutes an impermissible "taking". Or, as Justice Oliver Wendell Holmes stated, "[t]he general rule at least is, that while property

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81. See JOHN E. NOWAK & RONALD D. ROTUNDA, CONSTITUTIONAL LAW § 11.10 (4th ed. 1991) (stating that "[s]cholars and judges generally classify eminent domain as an incidental power and a means of fulfilling other governmental responsibilities").

82. See *id.*

83. See U.S. CONST. amend. V ("No person . . . shall be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation."); see also ERWIN CHEMERINSKY, CONSTITUTIONAL LAW: PRINCIPLES AND POLICIES §8.4.5 (1997) (stating that "[t]he Supreme Court has consistently ruled that just compensation is measured in terms of the loss to the owner; the gain to the taker is irrelevant. Long ago, Justice Oliver Wendell Holmes declared that the measure is 'what has the owner lost, not what the taker gained'" (citing *Boston Chamber of Commerce v. Boston*, 217 U.S. 189, 195 (1910))).

84. See NOWAK & ROTUNDA, *supra* note 81, § 11.10 (stating that "the term 'police power' is used to designate the inherent power of the government to take acts to promote the public health, safety, welfare or morals").

85. See *id.* (stating that "in the area of eminent domain cases and analysis, 'police power' is used more narrowly to designate only the power of government to regulate the use of land and property without the payment of compensation").



may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking.”<sup>86</sup>

### C. Regulatory Taking

The Takings Clause prohibits the government from taking (i.e. expropriating) *private* property for public use without compensating the dispossessed property owner.<sup>87</sup> With the snail darters, the Takings Clause did not come into play because the property that was “taken” for public use was a *public* one.<sup>88</sup> With the manatees, however, the property at issue will be *private*, thus the Takings Clause may be pertinent.

In determining whether the Takings Clause applies, we need to figure out whether the Winter Provision amounts to an exercise of police power or eminent domain. To make this determination, a court will usually balance the following five tests.<sup>89</sup> Note that under the balancing approach, no single test, in and of itself, is dispositive.

#### 1. Diminution in Value Test

Under the diminution in value test, if the regulation affects a person’s property in such a way that the property can no longer generate a reasonable economic return, then the regulation amounts to an impermissible taking.<sup>90</sup> Applying this test to the

86. *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393, 415 (1922). Justice Holmes additionally stated that “[t]he protection of private property in the Fifth Amendment presupposes that it is wanted for public use, but provides that it shall not be taken for such use without compensation.” *Id.* He also pointed out that a similar presumption is made in decisions regarding the Fourteenth Amendment. *See id.*

87. *See* U.S. CONST. amend. V (noting “nor shall *private* property be taken for public use, without just compensation”) (emphasis added).

88. *See Tennessee Valley Auth. v. Hill*, 437 U.S. 153, 157 (1978) (acknowledging that “public use” can also mean saving endangered species). The Supreme Court allowed the taking because the property “taken” was already public property being used for the construction of a federal dam. *See id.*

89. *See Pennsylvania Cent. Trans. Co. v. New York*, 438 U.S. 104, 121 (1978) (providing that whether there was denial of substantive due process turns on whether restrictions deprived property owner of reasonable return).

90. *See Pennsylvania Coal Co.*, 260 U.S. at 413. The Supreme Court’s decision in *Pennsylvania Coal Co.* stands for the proposition that all property is subject to the sovereign power of the State if that property threatens the life, health, or safety of the public. *See id.* at 405. Determining that in ordinary private affairs the public interest does not warrant interference, the Court stated:

As long recognized, some values are enjoyed under an implied limitation and must yield to the police power. But obviously the implied limitation must have its limits, or the contract and due process clauses are gone. One fact for consideration in determining such limits is the extent of diminution. When it reaches a certain magnitude, in most if not all cases

manatees' case, if compliance with the Winter Provision costs more than earnings derived from running the power plant, then the Winter Provision constitutes an illegal taking. Whether the cost of complying with the Winter Provision will exceed the plant's revenue depends on the pace of scientific progress.

If science has progressed to the point where electricity can be generated more cheaply and cleanly, without employing river water to cool the power plant, then it would not be reasonable to force a power plant to use antiquated and costly technology during unusually cold winter seasons. But if science has yet to advance beyond the existing pass-through-cooling system, then requiring the plant to remain in operation is reasonable. This is so because, at the same level of technology, the operating cost of running the plant during unusually cold winter months will not deviate much from the average year-round operating cost. In short, a plant is not likely to lose money during the winter months; it will just make a smaller profit.

## 2. *Reciprocity of Advantage Test*

Applying the reciprocity of advantage test, if the property owner benefits from the regulation, then the regulation is more likely to be a valid exercise of the government's police power than an impermissible taking.<sup>91</sup> In the manatees' case, whether a power plant owner will benefit from the Winter Provision depends on how enterprising the owner is. For example, an owner could build an observation deck near the plant and charge tourists an admission fee for the opportunity to watch manatees congregate in unnaturally large numbers. If the revenue from this undertaking exceeds its cost, then the owner benefits from the Winter Provision. In that instance, the Winter Provision would be a valid exercise of police power.

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there must be an exercise of eminent domain and compensation to sustain the act. So the question depends upon the particular facts.

*Id.* at 413. The Court continued by stating that, even though the legislature receives the greatest weight in rendering its decisions, the public always has the option to contend that the legislature has exceeded the bounds of its constitutional power in performing the taking. *See id.*

91. *See Pennsylvania Central*, 438 U.S. at 124-25 (acknowledging Court's dismissals of previous takings challenges on grounds that, although government action caused injury, it did not interfere with property owners' interests that were connected to reasonable expectations of property under Fifth Amendment); *see also United States v. Willow River Power Co.*, 324 U.S. 499 (1945) (holding that interest in high-water level of river for runoff of tailwaters to maintain power is not property).

Again, the advancement of science plays an important role. If a technological paradigm-shift occurs in the near future, and the resulting new technology dramatically reduces the cost of producing electricity such that the savings from switching to this new technology is greater than the tourism profit, then the plant owner will not derive an advantage from the Winter Provision. In that case, the Winter Provision would constitute an impermissible taking.

### 3. *Investment-Backed Expectations Test*

Under the investment-backed expectations test, if (1) an owner expects to derive some sort of economic gain from his property, (2) the owner backs this expectation up with investments, and (3) the regulation interferes with his expectation, then the court is likely to find an unconstitutional taking.<sup>92</sup> In the manatees' case, when the Energy Agency auctions off the power plants to prospective purchasers, the purchasers would have received notice that the sale is subject to the Winter Provision. In that case, the buyers would have figured the cost of complying with the Winter Provision into their expectations of economic gain. Accordingly, the informed purchasers cannot later complain about interference with their profit expectations.

Unlike the previous tests, scientific progress does not play a role here. It is true that the deregulation of the utility industry is still several years away, and the aforementioned technological paradigm-shift could take place at any time.<sup>93</sup> Regardless of the form of technology that the prospective buyers eventually invest in, however, the cost of implementing the Winter Provision would still be part of their calculation. The only difference is that before the paradigm-shift, the cost of complying with the Winter Provision is relatively low, but after the shift, the cost may be high.

### 4. *Harm-Benefit Test*

Under the harm-benefit test, if the underlying purpose of the regulation is to protect the public from harm, then the regulation is probably an exercise of legitimate police power. If, however, the purpose is to extract a public benefit, then the regulation probably

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92. See *Hadachek v. Sebastian*, 289 U.S. 394, 410-11 (1915) (commenting that justification for prohibition resulted from state's interest regarding health and comfort of community).

93. See *Nollan v. California Coastal Community*, 483 U.S. 825, 832-33 (1987) (remarking that placing condition on property rights through police power must involve substantial state interest).

constitutes an illegal taking.<sup>94</sup> In the manatees' case, the goal of the Winter Provision is to protect the manatees from extinction by preserving their habitat. If conservation of endangered species is beneficial to society, then the Winter Provision serves to extract a public benefit, and the Winter Provision would constitute an illegal taking. This conclusion remains the same regardless of whether the technological paradigm-shift occurs.

### 5. *Conditional Nexus Test*

Under the conditional nexus test, if a regulation imposes an extraneous economic cost as a condition to carrying on the economic activity, then the court will apply an intensified judicial scrutiny to the regulation's justification.<sup>95</sup> For the regulation to be a justifiable exercise of police power, a nexus must exist between what the regulation is trying to extract from the owner on one hand, and what public interest the regulation seeks to serve on the other.<sup>96</sup> In other words, (1) the objective must serve a legitimate public interest, and (2) the means must substantially advance the objective.<sup>97</sup>

The Winter Provision should have little problem passing the intensified judicial review given that (1) the objective of saving the manatees serves a legitimate public interest and (2) the means (i.e., requiring the owners to keep the plant running during unusually cold winters) substantially advance this objective. Regardless of whether a technological paradigm-shift takes place or not, saving

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94. *See id.* at 838 (explaining that conditions and regulations placed on property must reasonably relate to public need or burden). The Court in *Nollan* faced the issue of whether the California Coastal Commission could condition the issuance of a building permit for a house on a beachfront lot on the builders' transferring to the public an easement across their beachfront property. *See id.* at 827. In resolving the issue, the Court held that such a condition was constitutionally protected and allowable so long as the regulation "substantially advance[d] [a] legitimate state interest." *Id.* at 834.

95. *See id.* (citing *Agins v. Tiburon*, 447 U.S. 255, 260 (1980)) (recognizing that land-use regulation "does not effect a taking if it 'substantially advance[s] legitimate state interests' and does not 'deny an owner economically viable use of his land'").

96. *See id.* at 834. The case does not clarify the standards for determining what constitutes a legitimate state interest or what type of connection between the regulation and the state interest satisfies the requirements. *See id.* It is clear, however, that a broad range of governmental purposes and regulations can satisfy the requirements. *See id.* at 834-35.

97. *See id.* at 834 n.3 (citing *Agins*, 447 U.S. at 260) (noting that Supreme Court has not outlined standard for what constitutes substantially advancing legitimate state interests).

the manatees is still a legitimate public interest, and keeping their habitats safe and warm would still advance this objective.

### 6. *Balancing the Five Tests*

Looking at all five tests *in toto*, it appears that scientific progress plays a decisive role in determining the outcome. If the technological paradigm-shift does not occur before the deregulation, then a court is likely to uphold the Winter Provision as a legitimate exercise of police power. If a technological breakthrough occurs, however, then the court is likely to strike down the Winter Provision as an impermissible taking.

This conclusion is vulnerable to criticism because it assumes that each test carries an equal weight. According to the doctrine of legal realism, a judicial outcome is determined by the sociological, psychological and political makeup of the individual judge.<sup>98</sup> If this doctrine is correct, then the amount of weight attached to each test could vary greatly from jurisdiction to jurisdiction.

In any event, if the government is determined to privatize the utility industry and wishes to avoid any specter of a takings problem, the government could always impose a special manatee tax under which the revenue would be given to the plant owners as just compensation. Whether people would vote in favor of such a tax depends on their view of moral obligation.

## V. CONCLUSION

Where technology has altered the natural environment to such an extent that the survival of an indigenous species has become dependent on the man-made habitat, do we have a duty to maintain the existence of that technology? If we are talking about moral obligation, then there is no objective answer to this question. But if we are talking about legal duty, then the answer is yes. The extent to which the law may reach to maintain the technologically-altered environment, however, is limited by constitutional considerations. As we have seen, constitutional considerations, in turn, are determined by the state of scientific advancement.

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98. See JEROME FRANK, *LAW AND THE MODERN MIND* 46-52 (1963) (providing judicial outcome results from law which depending on situation "is either (a) actual law, i.e., a specific past decision, as to that situation, or (b) probably law, i.e., a guess as to a specific future decision").