

SYMPOSIUM ESSAY

HUMAN-CENTERED  
ENVIRONMENTAL VALUES VERSUS  
NATURE-CENTRIC  
ENVIRONMENTAL VALUES—IS THIS  
THE QUESTION?

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The challenging background context for much of the discussion and cogitation in the panels and pages of this conference is the unfortunate fact that environmental protection law in virtually all its manifestations is currently faring rather poorly in the public policy arenas of national government. From the public health hazards of residual substances in consumer goods and human breast milk<sup>1</sup> to the mighty troubles of human-caused climate disruption, many of the most significant structures of societal governance are locked in political and financial dysfunctions and impasses.

Given the conference's goal to "explore more deeply the relationship between environmental protection and public health and how it should inform our efforts to become better stewards of the environment,"<sup>2</sup> this present essay carries an assignment to address the relationship between human-centric values (including public health concerns) on the one hand, and nature-centric (or "ecocentric," or "biocentric") values on the other. Should wise and fitting societal policies of the day give primacy to concerns for human health and welfare, or to the far more diffuse and intricate concerns and values represented by the natural laws and complex creatures and ecosystems coming to us from three billion years of evolving (animate/carbon-based) life on Earth?

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1. See COLBORN ET AL., *infra* note 22 and accompanying text.
2. David M. Uhlmann, *Welcome*, introductory page of 2013 *Environmental Law and Public Health Conference*, U. MICH. L. SCH., <http://www.law.umich.edu/centersandprograms/environmentallaw/lecturesandforums/conference/Pages/default.aspx> (last visited Mar. 22, 2014).

The putative relevance of my presence within this conference's academic inquiry is that my students and I once carried a classic endangered species case from Tennessee up through federal agencies, congressional politics, the media, and the U.S. Supreme Court, defending a very small fish of no known economic value against a Tennessee Valley Authority (TVA) dam project presumed to represent a significant step forward in human progress.<sup>3</sup> How should the protection of an endangered species' right to exist be weighed against human health and welfare concerns?

On one level, this inquiry raises deeply engaging philosophical issues. Over the past four decades since an international treaty and domestic U.S. legislation launched unprecedented protections for creatures threatened with extinction,<sup>4</sup> a lively flow of literature and scholarship has plumbed the spectrum of moral reasons how and why humans should care for fellow species on the planet.<sup>5</sup> Unfortunately, because of this conference's current societal context, its analyses and discussions only rarely ponder the philosophical underpinnings of the policies and implementations it addresses. We are ineluctably drawn into the pragmatic arguments and realities of the environmental and public health issues as they are being addressed (or not) by our governing structures—local, state, national, and international.

So here is a parable to illustrate the most useful perception I can draw from the assigned inquiry, a parable that has the further virtue of possibly being true.<sup>6</sup>

There once was a hearing in the U.S. House of Representatives on reauthorization of the federal Endangered Species Act (ESA). (The ESA, like some other "public interest" laws, is burdened in the legislative process

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3. See generally *Tenn. Valley Auth. v. Hill*, 437 U.S. 153 (1978). A book has (finally) appeared chronicling the long-running citizen campaign against the TVA's last of 69 dams: ZYGMUNT J.B. PLATER, *THE SNAIL DARTER AND THE DAM: HOW PORK-BARREL POLITICS ENDANGERED A LITTLE FISH AND KILLED A RIVER* (2013) [hereinafter *THE SNAIL DARTER AND THE DAM*]. That fish story is re-visited *infra* at note 25. See also KENNETH M. MURCHISON, *THE SNAIL DARTER CASE* (2007) (detailing the legal proceedings in the agencies, courts, and Congress, based on text from official records).

4. The CITES Convention, Convention on International Trade in Endangered Species of Wild Fauna and Flora, Mar. 3, 1973, 27 U.S.T. 1087, 993 U.N.T.S. 243, available at <http://www.cites.org/sites/default/files/eng/disc/E-Text.pdf>, was signed by eighty countries and entered in force with the requisite ratifications on July 1, 1975. The Endangered Species Act (ESA), 16 U.S.C. § 1531 et seq. (1973), was signed into law on December 28, 1973. Note that plants, too, are protected as "creatures" by both ESA and CITES.

5. See, e.g., HOLMES ROLSTON III, *ENVIRONMENTAL ETHICS: DUTIES TO AND VALUES IN THE NATURAL WORLD* (1989); Steve Brown et al., *Why Save Endangered Species: An Ethical Perspective*, 2 *ENDANGERED SPECIES* no. 7, May 1985, at 1; Holmes Rolston III, *Is There an Ecological Ethic?*, 18 *ETHICS* 93 (1975); Mark Sagoff, *On Preserving the Natural Environment*, 84 *YALE L. J.* 205 (1974); Harry B. Wilson, *Finding an Ethical Basis for Section 7 of the Endangered Species Act*, 3 *J. UNDERGRADUATE SCI.* 85 (1996).

6. This legislative history was related to the author some thirty years ago by the federal biologist who spoke there.

by a “sunset” provision that terminates it automatically after a set term unless its authority is renewed by Congress.<sup>7</sup>) As recounted to me by one of the citizen participants, during the hearing a parade of mostly citizen groups came forward to testify in favor of continuing and strengthening the endangered species protections of the Act.<sup>8</sup>

The testifying citizens eloquently set out most of the many philosophical values reinforcing human protection of creatures at risk: these are God’s creations, and humans should not erase them;<sup>9</sup> all living things should be recognized as having the right to existence;<sup>10</sup> *noblesse oblige*: humans, as beings that alone on Earth have the power of holistic intellection and responsive action, have a *noblesse* obligation to care for the Earth and species less fortunate; a “Deep Ecology” imperative;<sup>11</sup> and the canonic injunction of Aldo Leopold: “A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.”<sup>12</sup>

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7. For example, the so-called “assault weapons ban,” a progressive piece of legislation, was sunsetted and is no longer effective after 2004. See Pub. L. No. 103-322, § 110105(2), 108 Stat. 2000 (1994) (establishing sunset for ban). As for the ESA, its authorized term set originally in 1973 was five years. See Pub. L. No. 93-205, 87 Stat. 884 (codified as amended at 16 U.S.C. § 1531 et seq. (1973)). The ESA was thereafter reauthorized in 1978, 1982, 1988, and 1992, but has not been reauthorized since 1992, instead surviving on annual “continuing resolutions.” Most sunsetted statutes are not terminated, but they hang in limbo, without the gravitas of established law. Rebecca Kysar argues, in the budget sunset setting, “that due to certain pathologies of the legislative process, legislation enacted with sunset provisions” generally harms the political process and its output. Rebecca M. Kysar, *Lasting Legislation*, 159 U. PA. L. REV. 1007 (2011).

8. This legislative history was related to the author some years after the fact by the federal biologist who spoke there; the hearing record has not been located as of the date of this writing.

9. Some now read the Old Testament, particularly the Noah story, as affirming the sanctity and uniqueness of every living species, and setting humans the task of preserving the Earth’s natural heritage. Some new Christian scholarship urges an active ethic of human “stewardship” over all Creation. See generally EARTHKEEPING: CHRISTIAN STEWARDSHIP OF NATURAL RESOURCES (Loren Wilkinson ed., 1980).

10. The great Jewish philosopher Maimonides dramatically recanted his early Greek-inspired view of human primacy: “It should not be believed that all beings exist for the sake of the existence of man. On the contrary, all the other beings, too, have been intended for their own sakes and not for the sake of something else.” JOHN PASSMORE, MAN’S RESPONSIBILITY FOR NATURE 12 (2d. ed. 1980). Goethe and Henry More were early outposts in the resistance to the human-centeredness of Bacon and Descartes. *Id.* 18–25.

11. Deep ecology takes a proto-anarchic approach to environmental values. See generally MURRAY BOOKCHIN ET AL., DEEP ECOLOGY AND ANARCHISM (1993); ARNE NÆSS, ECOLOGY, COMMUNITY AND LIFESTYLE (1989).

12. ALDO LEOPOLD, A SAND COUNTY ALMANAC 262 (1949). See also, e.g., Henry Beston:

We need another and a wiser and perhaps a more mystical concept of animals . . . . In a world older and more complete than ours, they move finished and complete, gifted with the extension of the senses we have lost or never attained,

And there were also some general statements of human-based utility—we should not “burn books before we learn to read them”: if protected from extinction some endangered species might in the future be revealed to cure some form of cancer.<sup>13</sup> The First Law of Ecology holds that everything is connected to everything else,<sup>14</sup> so to make a distinction between human-centric and nature-centric values is fundamentally impractical.

At the committee room dais sat a scattering of representatives who were attending the hearing at the behest of the chairman but were visibly unengaged in the subject matter as the citizen testimony continued. At one point, however, a federal biologist at the witness table began to describe a specific endangered species discovery: in the straits off the coast of Florida an endangered subspecies of cone snail<sup>15</sup> appeared to contain a metabolic substance that represses genital herpes. “What? What’s that you said?!” one of the representatives interrupted, lurching forward in his seat and suddenly riveting attention upon the biologist witness. The hearing audience reacted to his sudden enthusiasm with suppressed laughter. Realizing it, the representative quickly eased back in his seat and modulated his response, “Uh, yes, thank you; very interesting.”

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living by voices we shall never hear. They are not brethren, they are not underlings: they are other nations, caught with ourselves in the net of life and time, fellow prisoners of the splendour and travail of the earth.

HENRY BESTON, *THE OUTERMOST HOUSE: A YEAR OF LIFE ON THE GREAT BEACH OF CAPE COD* 25 (1963).

13. See, e.g., JORDAN GOODMAN & VIVIEN WALSH, *THE STORY OF TAXOL: NATURE AND POLITICS IN THE PURSUIT OF AN ANTI-CANCER DRUG* (2001) (exploring how the Pacific yew, an endangered conifer, was found to have a component substance, taxol, that offers potential benefits in repressing breast cancer).

14. As the wilderness prophet and Sierra Club founder John Muir said: “When we try to pick out anything by itself, we find it hitched to everything else in the universe.” JOHN MUIR, *MY FIRST SUMMER IN THE SIERRA* 211 (1911).

15. Cone snails are members of the large *Conus* genus of predatory sea snails, marine gastropod mollusks in the subfamily Coninae within the family Conidae.



Cone Snail

But I submit that that moment said it all. There exists a wide array of significant societal values potentially undergirding policies of environmental protection—religious, philosophical, morality-based, aesthetic, scientific, and more. And it is important that these values be explored, weighed, nurtured, and cherished in the academy and in ongoing civil discourse among citizens who are concerned about how we manage our lives and collective existence.

But the unfortunate pragmatic reality is that in the realm of societal governance practice, direct human-centered utility, not nature-centric value, is almost always a subordinating consideration. Nature-centric values and arguments may provide an attractive backdrop for instrumental environmental policy discussions, but even in that role, it is strategic references to the *human* repercussions of ecological integrity, for example, that inevitably reinforce the invocation of ecocentric values.

#### I. THE OTHER-CENTRISM: POLITICO-CENTRISM

There's a further sobering reality, however, that needs to be injected into the discussion. Focusing upon the tilts and debates between nature-centric and human-centric justifications for particular public policies of environmental protection and public health misses the practical point that both may be irrelevant to the process by which current policies and programs are shaped, implemented, and developed or trashed. In the tumultuous and increasingly dysfunctional political context that dominates

our federal government, with reverberations in the states, it is all too often internal tribalistic politics rather than the public merits of an issue that dominate and determine policies and outcomes.

As Environmental Protection Agency (EPA) Administrator Gina McCarthy and others in this conference have noted, even the inherent linkage between human public health concerns and environmentalism is no guarantee of governmental responsiveness. Our current political gridlocks have tended to subordinate the societal imperatives of public health issues, as well as of environmental urgencies, to other agendas. In an era when government's lawmaking and policies are so dominated by powerful external forces—what Acemoglu and Robinson<sup>16</sup> described as historically “extractive élites”—in a Congress-centered process so characterized by surface spin and short-term logic, even inherently utilitarian justifications for public health and environmental protection can be minimized and ignored.

In the public health field, for instance, one prime example of political inertia in the face of serious imminent public harms lies in the area of manifold human exposures to metabolically disruptive chemical substances. The statistics are befuddling. Despite general knowledge that chemical exposures can have extremely serious potential consequences in the cumulative long-term as well as short-term incidents, the vast majority of chemicals to which children, adolescents, and adults are exposed in the course of daily life have never been tested for relevant hazardousness parameters. In 1997, Professor Dernbach found that “[n]o toxicity information is available for 78% of the 12,860 chemicals that are used in commerce in quantities of more than one million pounds per year, and only minimal toxicity information is available concerning the rest.”<sup>17</sup>

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16. See generally DARON ACEMOGLU & JAMES A. ROBINSON, *WHY NATIONS FAIL: THE ORIGINS OF POWER, PROSPERITY, AND POVERTY* (2011) (surveying the trajectories of the Roman Empire, Mayan city-states, medieval Venice, the Soviet Union, Latin America, England, Europe, the United States, and Africa, and finding that a society's sustainable long-term quality of life depends on a continuing dynamic interplay between widely inclusive political and economic institutions). When narrow extractive élites come to dominate a system's economy, its sources of information, its utilization of power, and its cultural expressions, the eventual result is stagnation and entropy. As the book's précis summarized the relevant inquiry, “[a]re we [in the United States] moving from a virtuous circle in which efforts by élites to aggrandize power are resisted, to a vicious one that enriches and empowers a small minority?” *Id.*

17. John C. Dernbach, *The Unfocused Regulation of Toxic and Hazardous Pollutants*, 21 HARV. ENVTL. L. REV. 1, 28 (1997). While those numbers have improved over the years, many more chemicals (as many as 70,000) have since been added to those used in commerce, such that many now call for reforms to the Toxic Substances Control Act (TSCA) in order to address this exploding numbers and the inability of the current law to effectively regulate their production. Congress has yet to act, unsurprisingly. For a history of proposed legislation amending TSCA, see generally JERRY H. YEN, CONG. RESEARCH SERV., PROPOSED REFORM OF THE TOXIC SUBSTANCES CONTROL ACT (TSCA) IN THE 113TH CONGRESS: S.

Lying beyond the standard approaches to testing acute toxicity, moreover, are a frightening array of attenuated but drastic chemical effects surfacing over long latency terms, stemming from unfamiliar causations like endocrine disruptions, particularly hormone blocks and hormone mimics that apparently can seriously change the growth and development of exposed humans.<sup>18</sup> As Dernbach notes:

For the relatively few chemicals that have been tested for human health effects, there is considerable information concerning carcinogenicity and acute toxicity, but much less information concerning chronic toxicity. Only 10% of chemicals in commerce other than pharmaceuticals have been tested for neurotoxicity. Very little information is available concerning the synergistic effects of pollutants on human health. Even less information exists concerning the effects of various pollutants on other living things.<sup>19</sup>

The precautionary principle has been incorporated in many international protocols since the 1980s, and particularly the Rio Declaration of 1992,<sup>20</sup> but has been successfully resisted in the laws and diplomacy of the United States by the dominant political phalanxes of the nation's business establishment.<sup>21</sup>

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1009 COMPARED WITH S. 696 AND CURRENT LAW (2013), available at <https://www.fas.org/sgp/crs/misc/R43136.pdf>. See generally THEO COLBORN ET AL., OUR STOLEN FUTURE: ARE WE THREATENING OUR FERTILITY, INTELLIGENCE, AND SURVIVAL?—A SCIENTIFIC DETECTIVE STORY (1997) (discussing an encyclopedic survey of the global exposures to chemical threats in human metabolisms).

18. COLBORN ET AL., *supra* note 17, at 29–87.

19. Dernbach, *supra* note 17, at 28.

20. When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the proponent of an activity, rather than the public, should bear the burden of proof. The process of applying the precautionary principle must be open, informed, and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action. Peter Saunders, *The Precautionary Principle*, in POLICY RESPONSES TO SOCIETAL CONCERNS IN FOOD AND AGRICULTURE: PROCEEDINGS OF AN OECD WORKSHOP 47 (2010), available at <http://www.oecd.org/tad/agricultural-policies/46838007.pdf>. The World Charter for Nature adopted by the United Nations General Assembly in 1982 was the first official enunciation of the precautionary principle; subsequently it was incorporated within the provisions of the Montreal Protocol in 1987. The principle subsequently has been incorporated in many other legally binding international treaties including the 1972 Rio Declaration on the Environment and the 1997 Kyoto Protocol. See, e.g., Minna Pyhälä et al., *The Precautionary Principle*, in RESEARCH HANDBOOK ON INTERNATIONAL ENVIRONMENTAL LAW 203, 205–06 (2010).

21. For a prime and disheartening example of domestic industries successfully pressuring the U.S. government to undercut international application of the precautionary principle in the classic ozone protocol, see generally BRIAN J. GAREAU, FROM PRECAUTION

Some environmental-public health concerns suspected to be attributable to environmental chemical exposures would seem sufficiently dramatic to arouse political attention—sperm counts 50 percent or more lower than our grandfathers', a stew of chlorinated hydrocarbons cumulated in mammary glands and breast milk, and gender ambiguities occurring in sensitive non-human species.<sup>22</sup> But the inertia in governmental protection against environmental exposures to chemicals largely continues, not only because of regressive political resistance by the industry, but also because the suspected harmful exposures are typically indirect, diffuse, opaquely synergistic, and cumulative over long spans of time, with unclear or unknown paths of causation.<sup>23</sup>

Arguably, then, the most instrumental values in environment and public health are not philosophical—neither nature-centered nor human-centered—but political. And within that syllogism a fundamental challenge lies in the sad possibility that there is a large and growing gap between what we know and what we do about it.<sup>24</sup>

## II. NATURE-/HUMAN-/POLITICO-CENTRISM: A SMALL PARABLE FROM TENNESSEE

This societal perplex is reflected in the citizen campaign that, as noted earlier, undoubtedly prompted my invitation to this conference: three-plus decades ago, for more than five years my Tennessee students and I carried a classic endangered species case up through four federal agencies, two Congresses, two White Houses, and the Supreme Court.<sup>25</sup>

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TO PROFIT: CONTEMPORARY CHALLENGES TO ENVIRONMENTAL PROTECTION IN THE MONTREAL PROTOCOL (2013) (discussing the controversial phase-out of methyl bromide under the Montreal Protocol).

22. Many reproductive and developmental dysfunctions have been deductively traced to a variety of chemical exposures. COLBORN ET AL., *supra* note 17 (sperm count, at 172–79; mammary gland infiltration, at 106–09; seagulls gender confusion, at 23; Lake Apopka alligators gender confusion, at 150–53).

23. Long-term latency is one of the characteristic difficulties posed by illnesses caused by single or multiple synergistic environmental exposures. See ZYGMUNT PLATER ET AL., ENVIRONMENTAL LAW & POLICY: NATURE, LAW & SOCIETY 152, 167, and ch. 4 generally (4th ed. 2010).

24. On that gap dysfunction in contemporary governance, see the “Four Horsemen of the Ecocalypse,” an egregious pun in Zygmunt J.B. Plater, *Environmental Law as a Mirror of the Future: Civic Values Confronting Market Force Dynamics in a Time of Counter-Revolution*, 23 B.C. ENVTL. AFF. L. REV. 733, 738–39 (1996).

25. *Tenn. Valley Auth. v. Hill*, 437 U.S. 153 (1978); see also, *THE SNAIL DARTER AND THE DAM*, *supra* note 3.



The snail darter saga<sup>26</sup> was a protracted, many-layered case from the 1970s that, because of its Supreme Court appearance, probably leveraged the modern era of serious ESA implementation. The case affirmed the strength of the Act's prohibitions and widened the perceived spectrum of actions requiring ESA compliance. The case also galvanized an ongoing political reaction against the ESA, and still holds some lessons for the process of environmental protection.

The snail darter, *Percina tanasi*, is a small fish in the perch family, rarely more than two-and-a-half inches at maturity, highly adapted to feeding off small crustaceans, snails, and caddis larvae in the clean rocky substrates of shallow, rapid-flowing big river habitat in the Southeast's Piedmont region west of the Appalachians.

As so often happens, the snail darter was an endangered species because of habitat alteration. At one time, scientists presume, it lived widely in the Alabama, Tennessee, and Kentucky river systems between the Appalachian Mountains and the Mississippi River. Little by little its populations were extirpated by thermal changes, pollution, and, most directly, by damming. Dams inundate spawning shoals and cover their substrates with silt. By 1973, TVA had built more than sixty dams, turning 2,500 linear river miles in the relatively flat, gently-rolling region into sluggish, silted, serpentine impoundments, leaving only thirty-three undammed river miles of the Little Tennessee River as the last clean flowing stretch of big river in the region, and its 25,000 snail darters as the last major—and then the only known—natural population of the species. The river valley was likewise extraordinary in human terms, with more than 300 family farms on some of richest soils left in the region, as well as unique archeological and historical features.<sup>27</sup>

The public policy merits of the snail darter's case were equally strong in nature-centric and human-centric terms. In its ecological context, the species' last significant population was linked to a rich, complex ecosystem that had evolved over 200 million years and, after so many dams, was as rare and threatened as the fish itself. In human terms, moreover, the implicated interests included threatened public economics and the interests of a

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26. See MURCHISON, *supra* note 3; WILLIAM BRUCE WHEELER & MICHAEL J. McDONALD, *TVA AND THE TELlico DAM 1936-1979*, 184–213 (1986); see also Zygmunt J.B. Plater, *In the Wake of the Snail Darter: An Environmental Law Paradigm and Its Consequences*, 19 U. MICH. J.L. REFORM 805 (1986).

27. Telephone Interview with Alfred Davis, Chair of the Tellico Dispossessed Landowners Ass'n (Feb. 18, 2014). The site contained the oldest sites of continuous human habitation in North America, and also included Cherokee and colonial settlement sites including Chota, the Cherokees' Jerusalem, and Fort Loudon, a southernmost defensive outpost from the French and Indian War, and the birthplace of Chief Sequoyah. See *THE SNAIL DARTER AND THE DAM*, *supra* note 3, at 7, 9, 10; WHEELER & McDONALD, *supra* note 26, at 49.

vibrant farming community, the cultural values of the Eastern Cherokee, and significant colonial history.

The dam that threatened the fish and its valley was a pork-barrel classic. Because Tellico Dam could not be cost-justified for normal dam purposes like power, water supply, or flood control because of its small size and its location as surrounded by other dams, the project was leveraged on novel accounting justifications. The two major benefits officially claimed were recreation enhancement and resale of shorelands.<sup>28</sup> The agency would condemn more than 300 family farms at low prices and projected that it would then sell off the land, at a profit, in partnership with the Boeing Company, which would build a model industrial city to be called Timberlake, which might use the dammed river for barge traffic.

This program made no common sense, of course,<sup>29</sup> and Boeing quickly bowed out when promised subsidies failed to materialize. But backed by the congressional pork-barrel appropriations committees, TVA implacably continued to push construction on the little dam and the thirty-three-mile reservoir, and given the agency's dominant powers, it would take something extraordinary to force a commonsense reconsideration of the threat to the Little Tennessee River ecosystem.

In the political context, there was no practicable way in which the economic dysfunctions and human community disruptions of the project, never mind its destruction of ecological values, could be challenged. No amount of citizen testimony, of university economic studies critiquing the project's chimerical justifications, of negative analyses from other federal and state entities, could slow the momentum of the iron triangle politics behind the dam.<sup>30</sup> Year after year the congressional "pork" appropriations committees

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28. MURCHISON *supra* note 3, at 13–14. Neither of the claims were then, nor since have proved to be, economically credible. There were no generators in the dam, though a small amount of power could be generated by diverted flows into a neighboring dam. Flood control benefits of a small impoundment in the middle of a network of more than sixty dams were trivial. *See id.* at 15, 16, 18. The desperate internal agency pressures to justify the project are chronicled in WHEELER & MCDONALD, *supra* note 26, at 184–88.

29. *See* EDWARD M. GRAMLICH, A GUIDE TO BENEFIT-COST ANALYSIS 143–47 (2nd ed. 1990) (noting Tellico's dubious economic merits).

30. The term "iron triangles" describes an interlocking linkage in an array of national political spheres—mining, ranching, agri-business, chemicals, timber and forest products, highways, water projects, housing construction, banking and finance, and a host of others—where three power foci lock together: private industrial and business interests, and the members of Congress and the government agencies that service them. Triangles are secured by the flow of campaign finance, revolving door career positions, preferential subsidies, and regulatory powers. THE SNAIL DARTER AND THE DAM, *supra* note 3 at 78–79; FRED POWLEDGE, WATER: THE NATURE, USES, AND FUTURE OF OUR MOST PRECIOUS AND ABUSED RESOURCE 286–89 (1982). In many situations, as in the environmental field, the triangles' lobbyists and foundations work together to counteract public interest initiatives. To depict the dysfunctions of current political culture as a phenomenon of a latter-day

welcomed the TVA requests for more money and ignored the merits of the project. And the media, which in our political system can have a decisive effect if it focuses public awareness on the weaknesses of public projects and programs, was supine in its coverage of the controversy, never exploring the integrity of the numbers and justifications behind the dam.<sup>31</sup>

But for a time the little snail darter proved to create an extraordinary wedge into that unresponsive political ecosystem. The case started when law student Hiram “Hank” Hill heard about the darter from beer-drinking fish biologist friends and asked his teacher whether that would be enough for a ten-page paper. It was, and then some.

The facts and law of the darter case were not difficult: if the agency was jeopardizing a listed species and destroying its habitat, the Sixth Circuit and the Supreme Court both said Section 7 of the ESA had to be enforced.<sup>32</sup>

Why protect the snail darter? During oral argument Justice Powell asked, “Mr. Plater . . . [a]part from biological interest, which I say you do not challenge, what *purpose* is there, if any, by these little darters? Are they used for food? . . . Are they suitable for bait?”<sup>33</sup>

It was a utilitarian question, pretty clearly an attempt to elicit evidence of what the Justice later described as an “absurd result”—protecting a little species worthless to humans. The answer was no, but the question provided an opportunity for us to demonstrate a beautiful lithograph, Exhibit 12 at trial, showing the qualities of the fish’s clear, clean, swift-flowing river that had been eliminated everywhere else, for humans as well as darters, by the sixty-plus prior dams.

“tribalism” can clarify some perplexing current events. See generally Zygmunt J.B. Plater, *A Modern Political Tribalism in Natural Resources Management*, 11 PUBL. LAND L. REV. 1 (1990).

31. THE SNAIL DARTER AND THE DAM, *supra* note 3, at 120–21, 167–78, 298–99, 302, 311–12.

32. Hill v. Tenn. Valley Auth., 549 F.2d 1064, 1070 (6th Cir. 1977), *aff’d*, 437 U.S. 153, 172–73 (1978). The case was brought by the author, his student Hank Hill, and a colleague, joined later by an association of biologists and a state chapter of the National Audubon Society, supported by several hundred active citizens, including farmers, Eastern Band Cherokees, fishermen, river recreationists, garden clubbers, historians, and environmentalists. THE SNAIL DARTER AND THE DAM, *supra* note 3, at 3, 94.

Section Seven of the Endangered Species Act of 1973, 16 U.S.C. § 1536, drafted by several environmental activists in and around Capitol Hill, contained 129 obscurantist words. Hidden within that legislative foliage were 23 instrumental words: “All . . . Federal . . . agencies shall . . . insure [sic] that actions authorized, funded, or carried out . . . do not jeopardize the continued existence of . . . endangered species or result in the destruction of habitat . . . determined . . . critical.” Endangered Species Act of 1973, Pub. L. No. 93-205, § 7, 87 Stat. 884, 892 (1973) (current version at 16 U.S.C. § 1536 (2012)). Those 23 words created the two counts of our complaint. (Which of these was easier to prove?)

33. Transcript of Oral Argument at 43–44, Tenn. Valley Auth. v. Hill, 437 U.S. 153 (1978) (No. 76-1701) (emphasis added).



EXHIBIT 12 AT TRIAL: Lithograph print of *Percinca tanasi* created by Dolores Roberson, copies of which were distributed by the Clerk of the U.S. Supreme Court to justices during oral argument

The fundamental point, almost entirely missed by the media coverage of the snail darter saga, and in most subsequent debates over the ESA, was that the fish operated as a “canary-in-the-coalmine”—a sensitive little creature that, when suffering threats to its existence (odorless poison methane gas in coal mine shafts) served as an indicator warning to human society that human welfare too was threatened with harm.<sup>34</sup>

The canary metaphor nicely integrates the nature-centric into the human-centric, a literal reminder of the canonic First Law of Ecology—that

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34.     Canaries were used as indicators of human welfare hazards in underground mines as late as the last decades of the twentieth century. See Photograph of Coal Miner and Canary in 1987, FLICKR, <http://www.flickr.com/photos/philipdunn/3118096659/> (last visited Mar. 20, 2014); see also William H. van der Schalie et al., *Animals as Sentinels of Human Health Hazards of Environmental Chemicals*, 107 ENVTL. HEALTH PERSP. 309, 309 (1999), available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1566523/pdf/envhper00509-0101.pdf> (citing Calvin W. Schwabe, *Animal Monitors of the Environment*, in VETERINARY MEDICINE AND HUMAN HEALTH 562–78 (3rd ed. 1984) and George A. Burrell & Frank M. Seibert, Dep’t of the Interior, *Gases Found In Coal Mines*, in MINERS’ CIRCULAR 14, at 5, (3rd ed. 1916)).

everything is connected to everything else.<sup>35</sup> The non-human ecological reality was inherently linked to the human ecological reality, and an understanding of the former provided an important practical cautionary service to the latter. By its threatened relict existence in the Little Tennessee River, the fish identified a critical resource that was being lost to humans as well—a public asset that should not be destroyed without good reason, threatened by an ongoing process that was more destructive than it would be humanly beneficial.

The farmers, fishermen, and environmentalists who loved the Little Tennessee River had tried to show the extraordinary natural values of the river and valley, the trivial benefits of the dam project, the true social costs, including the loss of farms and the river, and the economically lucrative and available alternatives. As so often is the case, however, there was no forum for a realistic social accounting. Without some extraordinary forum for citizen outsiders to force an accounting, some stupefyingly stupid projects and programs will inexorably roll on.

After the injunction, the public works lobby led by Senator Howard Baker (R-Tenn.) persuaded Congress to create a so-called “God Committee,” or “God Squad,” with the power to override the ESA species protection provisions if an accurate overall economic accounting demonstrated a social necessity to do so.<sup>36</sup> The God Committee strenuously reviewed the Tellico Dam under the 1978 ESA amendments and unanimously decided that in terms of public economics the dam had been an economic non-starter. As Chairman Charles Schultze of the Council of Economic Advisors (CEA) declared, “The interesting phenomenon is that here is a project that is 95 percent complete and if one takes just the cost of finishing it against the [total] benefits and does it properly, it doesn’t pay, which says something about the original design!”<sup>37</sup>

The God Committee issued a dramatic unanimous verdict: though the project had been rolling unhindered for eighteen years, and most of its construction was finished, in economic terms endangered species protection still outweighed the merits of the official development project. A river-based development without the dam could accomplish far greater economic benefits. It was a vivid refutation of a familiar false truism, the assertion

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35. See MUIR, *supra* note 14. Barry Commoner and many others have used the First Law rubric to emphasize the fact that the planet is a closed system. See BARRY COMMONER, *THE CLOSING CIRCLE: NATURE, MAN & TECHNOLOGY* 17 (1971).

36. See 16 U.S.C. §§ 1536(e)–(h) (2012).

37. Proceedings of the Endangered Species Comm., Hearing Before the U.S. Dept. of the Interior, at 26 (1979) (statement of Charles Schultze, Chairman, Council of Econ. Advisers, Endangered Species Comm., Tellico Dam & Reservoir Project) (unpublished transcript of public hearing), available at [http://lawdigitalcommons.bc.edu/cgi/viewcontent.cgi?article=1001&context=darter\\_materials](http://lawdigitalcommons.bc.edu/cgi/viewcontent.cgi?article=1001&context=darter_materials).

that a human society must repeatedly make an intrinsic pragmatic choice between environmental protection or economic progress—it's an ineluctable tradeoff: we cannot have both. The facts of the snail darter case demonstrated that the necessity for such a tradeoff was a false axiom, although the indispensable human-centric utility served by the fish did not clearly register with the God Committee's chairman, Secretary of Interior Cecil Andrus: "Frankly, I hate to see the snail darter get the credit for stopping a project that was so ill-conceived and uneconomic in the first place."<sup>38</sup>

But more importantly, the national media that for two years had been framing the story as environmental extremism versus electric power failed to deliver into the public forum the God Committee's dramatic and potentially strategic affirmation of the economic human-utility of the ESA. The snail darter continued to be excoriated in public discourse as a ludicrously trivial fish misused by radical environmentalists to obstruct a large and critically important hydroelectric dam. That image was driven by continuing concerted opposition from the political tribalism of the iron triangles.<sup>39</sup> Ultimately a congressional override engineered by Tennessee's Senator Howard Baker overrode the Supreme Court and God Committee decisions in favor of the darter and ordered completion of the dam project.<sup>40</sup> President Jimmy Carter did not deliver a threatened veto and the snail darter's last significant natural population became extinct.<sup>41</sup> Transplanted darters have survived in two regional rivers, but they remain threatened and on life support.<sup>42</sup>

Can this story, on several levels, serve as a useful parable? For one, isn't it quite clear that if the fish's imminent extinction in its natural habitat had stood alone in a vacuum, unconnected to human concerns or high-profile natural resource issues, it is unlikely that it would have received such a substantial amount of legal procedure? It might never even have been the basis of any proceedings at all. Would the Tennessee citizen activists, my students, and I have spent so many hundreds of uncompensated hours at the expense of families, marriages, tenure, and careers if it was only about the fish—if the sensitive little species did not serve a strategic canary-in-

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38. MARCOS LUNA, *THE ENVIRONMENT SINCE 1945* 178 (2012).

39. See *THE SNAIL DARTER AND THE DAM*, *supra* note 3.

40. See *id.*, at 305–23.

41. See *id.*, at 324–28 (presidential non-veto). Two very small natural populations were found, but the fish's last significant population of 25,000, in the Little Tennessee, was lost. The fish remains "threatened" on the national endangered species list.

42. The transplanted populations in the Holston and French Broad Rivers have climbed to numbers approximating the extinct population in the Little Tennessee, but they are on life support, requiring oxygen-injecting aeration bubbling pipes in dam discharge areas above the transplant locations during late-summer low-oxygen conditions; without the oxygen injection, the transplant populations would be decimated. Telephone Interviews with Dr. David Etnier, Emeritus Professor, Univ. of Tenn. (Jan. 5, 2014 & Aug. 2013).

the-coalmine function? There are literally hundreds of thousands of species on the brink of extinction,<sup>43</sup> and only a tiny fraction will ever find activists in or out of government to defend them.

Yet there is a persistent (and perhaps natural) skepticism when environmental activists are seen to be defending a species in a context that impacts and appears motivated by other environmental goals. As Justice Burger disparagingly noted,

I am sure that they [the plaintiffs—the author standing in front of him, his student Hank Hill, a colleague, and two Tennessee groups] *just do not want* this project . . . . When the snail darter was discovered . . . it became a *handy handle* to hold on to.<sup>44</sup>

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43. There may be a million or more species truly in danger of extinction. Harvard's E.O. Wilson, the nation's premier endangered species biologist, puts the number at 1.8 million. On the official U.S. endangered species list, only about 1,200 species to date have been listed as endangered. *Summary of Listed Species Listed Populations and Recovery Plans*, U.S. FISH & WILDLIFE SERVICE, [http://ecos.fws.gov/tess\\_public/pub/boxScore.jsp](http://ecos.fws.gov/tess_public/pub/boxScore.jsp) (last updated Mar. 21, 2014). As of 2013, on the International Union for the Conservation of Nature (IUCN) official Red List, 21,286 species had been adequately described and listed as vulnerable, endangered, or critically endangered. *Table 1: Numbers of Threatened Species by Major Groups of Organisms*, IUCN, [http://cmsdocs.s3.amazonaws.com/summarystats/2013\\_2\\_RL\\_Stats\\_Table1.pdf](http://cmsdocs.s3.amazonaws.com/summarystats/2013_2_RL_Stats_Table1.pdf) (last visited Mar. 21, 2014).

To date scientists have named and cataloged 1.3 million species, of which a general estimate is that 1 percent would be threatened with extinction. In 2011, Dr. Camilo Mora at Dalhousie University and his colleagues published a study stating that the latest estimate of how many species there are, based on a new method they have developed, is that there are 8.7 million species on the planet, plus or minus 1.3 million, which would put a guesstimate for the number of endangered species at 870,000. Camilo Mora et al., *How Many Species Are There on Earth and in the Ocean?*, 9 PLOS BIOLOGY 1 (2011), available at <http://www.plosbiology.org/article/info:doi/10.1371/journal.pbio.1001127>.

Historically there have been five mass extinctions—the Ordovician period extinction 439 million years ago; Devonian, 360 million years ago; Permian, 364 million years ago; Permian-Triassic, 251 million years ago; End Triassic, 199-214 million years ago; and Cretaceous-Tertiary, 65 million years ago. *The Five Worst Mass Extinctions*, ENDANGERED SPECIES INT'L, <http://www.endangeredspeciesinternational.org/overview.html> (last visited Mar. 21, 2014). The sixth mass extinction may now be in progress, "with animals going extinct 100 to 1,000 times (possibly even 1,000 to 10,000 times) faster than at the normal background extinction rate, which is about 10 to 25 species per year." *Id.* Researchers claim that the current mass extinction event is happening even "faster than the Cretaceous-Tertiary extinction which wiped out the dinosaurs." *Id.* There is general agreement that one prime cause of extinction and the threat of extinction is human destruction of habitat. *Id.* Other major causes, likewise largely anthropogenic, are displacement of native species through the entry of alien species, with resultant predation, competition, and disease; pollution; and overharvesting (hunting, fishing, and gathering). *Id.*; see also ELIZABETH KOLBERT, *THE SIXTH EXTINCTION: AN UNNATURAL HISTORY* (2014).

44. Transcript of Oral Argument at 26, *Tenn. Valley Auth. v. Hill*, 437 U.S. 153 (1978) (emphasis added), available at [http://lawdigitalcommons.bc.edu/darter\\_materials/44/](http://lawdigitalcommons.bc.edu/darter_materials/44/).

Thus, paradoxically, judicial skeptics who disparagingly doubted whether the darter served any human-centric utilitarian purposes that might justify its defense at the same time deprecated us, the species' citizen defenders, because we were motivated in part by a human utilitarian conservation agenda, not by wholly "pure" and solely species-centric values.

It wasn't just conservative justices and pundits. Many of the citizen environmental groups in Washington, D.C. expressed varying degrees of dismay ranging all the way to fury as we persisted with our snail darter case, asking, did we really care about the little fish and the ESA that we were using? In our obsession to use that uncharismatic, unphotogenic little fish and the species law to stop an admittedly destructive dam, weren't we putting the entire Act and the environmental movement itself at severe political risk? We tried to argue that the potential benefits of the case justified the risks: if the supposedly most extreme environmental case ever turned out to make more common sense, economic as well as ecological, than the official development project that had been implacably cradled by Establishment politics for more than a decade, that would enhance the credibility and momentum of environmentalism and environmental analysis.

When the snail darter won unanimously in the God Committee on economic grounds, the sensitive little creature had done its job, dramatically fulfilling its utilitarian role as a canary-in-the-coalmine. It vividly demonstrated that good ecology can equal good economics. Without the darter, the nation would never have had the practical legal opportunities, strategic information, and forum to reassess and reconsider an on-rolling official mistake that would destroy far more than it could ever create. But even that dramatic objective vindication of the citizens' arguments for protecting the river and valley's natural resources, and of the darter's service in protecting national and human welfare, was largely ignored in the media and ultimately came to naught in the calculus of the Capitol's politics.

Our experiences in the conflict between the snail darter and the Tellico Dam ultimately provide a small window through which a much larger scene of national governance can be observed. As is the case in so many other fields of public interest policy, public health and environmental protection initiatives are regularly constrained by an unfortunate combination of iron triangles and polarized political tribalism, reflecting an increasingly unconstrained manifestation of what Acemoglu and Robinson called extractive élites.<sup>45</sup> National policymaking and governmental implementation too often take place in a context in which the actual public merits of issues get lost in the internecine maneuvers of the powerful blocs of inside players.

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45. See ACEMOGLU & ROBINSON, *supra* note 16.



### III. SUMMARY

Despite the First Law of Ecology—which holds that everything is connected to everything else—in an imperfect world there is a discernable inherent distinction between human-centered values and nature-centric (or “biocentric,” or “ecocentric”) values, with an understandable tilt toward the former. It is a tribute to the evolved depth and complexity of our human species’ powers of reflective thought and moral philosophy that a rich discourse on values other than strictly human utility has continued over the centuries. But as multiple conversations in this conference have reflected, in the realms of public health and environmental protection, even pragmatic invocation of the human-centric importance of these issues and initiatives does not guarantee the attention and support of our current mechanisms of governance. Endangered species law, as reflected in our snail darter tale from Tennessee, provides a useful reference for the pragmatic as well as the philosophical point. The particular form of politico-centricity that characterizes current national governance proceeds without consistent regard for the actual public merits of the issues before it, whether nature-centric or human-centric. The accomplishment of public interest societal initiatives continues to reflect the need for an ongoing progressive evolution in science, responsive politics, media, and public awareness of all that is at stake.

