Antaeus and the Public Trust Doctrine: A New Approach to Substantive Environmental Protection in the Common Law

Harry R. Bader
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I. INTRODUCTION

Alaska is a wilderness of beauty, hope, and wealth. To be sure, the Alaskan landscape is one that human beings, from Native Americans to the fur and gold seekers of a century ago, have altered. The land, however, adapted to these impacts, and its vast and varied ecosystems—from North Slope tundra to Pacific old-growth forests—remained healthy, the original denizens still present in their appropriate niches.

All this is now threatened. On the Delta River plain southeast of Fairbanks, dust claws the clean skies in clouds reminiscent of Dust Bowl ballads. Much of the wind-blown soil spawns from land made vulnerable when caterpillar tractors chained¹ spruce forest to make way for subsidized cash grain agriculture.² The Taylor Highway moves past bilious streams swollen with the silt of placer mines. (A judge described Birch Creek, a federally designated wild and scenic river as “practically barren” of life due to placer mine sediments.)³

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¹ Chaining involves the use of a large chain, each end of which is attached to a track-type tractor, to destroy small trees and heavy brush. The tractors drive parallel to one another, dragging the chain between them.

² In 1979, the state of Alaska created the Alaska Agricultural Action Council, which was designed to promote the clearing of 400,000 acres of land for large-scale industrial farming by 1990. The state made land disposals throughout the 1980s in the Delta River area. Due to poor soils, falling farm prices, and an inadequate infrastructure, the project has failed to realize its goals. See C. Engelbrecht & W. Thomas, Agricultural Policy Implementation in Alaska (1986).


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Enhancing substantive environmental law sufficiently to protect these resources that are threatened with destruction and degradation may require a new interpretation of the public trust doctrine. Alaska is no stranger to the trust doctrine. In its constitution and the decisions of its highest court, the state has clearly articulated its duty to maintain the broadest possible public access to fish, wildlife, and waters. Access, however, is an illusion if such resources exist only as atrophied forms of their former quality and quantity. To preserve access is not enough—the public trust doctrine must be applied as an affirmative instrument for ecological protection.

The development of doctrines protecting the resource wealth of Alaska is not a topic of esoteric interest. As the most natural resource-rich state in the nation, Alaska is the ecologic and economic storehouse from whose bounty we will fashion our nation's future. For example, Alaska's commercial fishery is by far the largest in the country, constituting forty-six percent of total United States fish production; it is expected soon to exceed fifty percent of the United States harvest. Furthermore, Alaska's coastal and continental shelf waters provide habitat for most of the nation's marine mammal population. In addition, beneath the state lies half of the nation's coal. Finally, of the wild waterfowl that hatch into life in United States wetlands, the majority do so under an Alaskan summer sun.

Section II of this Article briefly chronicles the general development of the public trust doctrine in the United States. Offered in Section III is a new theory for the application of the public trust doctrine. The Article concludes with summary observations regarding the doctrine in Section IV. Without fortification of this substantive environmental common law, cavalier development projects will jeopardize much of Alaska's and the rest of the nation's unique natural heritage.

II. THE PUBLIC TRUST DOCTRINE IN THE UNITED STATES

"Man does not make truth. Man, if he be not blind, only recognizes truth when he sees it." Thus, as the Emperor Justinian had 1400

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5 ALASKA SEA GRANT PROGRAM, UNIVERSITY OF ALASKA FAIRBANKS, ALASKA SEAFOOD INDUSTRY STUDY: A SUMMARY 13 (1989).


7 JACK LONDON, THE WATER BOY IN TO BUILD A FIRE & OTHER STORIES 357 (1982).
years earlier, an American court in *Arnold v. Mundy*\(^8\) turned its
eyes upon nature and observed truth. The court found that “by the
law of nature, which is the only true foundation of all the social
rights,” the rivers that ebb and flow, the bays, and the coasts are
custom to all citizens and are sources from which they can find their
sustenance.\(^9\) With this recognition, the public trust doctrine found a
home in American common law.

The doctrine has made an arduous journey from its nadir under
Roman law to its present position. Just as it has evolved into many
forms in its progressive rise, the doctrine must continue to change
if it is to retain its vibrancy in a world that increasing resource
demands and a new recognition of the complexities involved in eco­
system management have made difficult.

By Roman proclamation, the air, water, and sea were common
property, owned by no one.\(^10\) The use of these resources was avail­
able to all, so long as the conduct of one individual did not infringe
upon the use of the resources by others.\(^11\) The English adopted this
principle but replaced the notion of common ownership with that of
state ownership. The Crown held and protected these lands and
resources for the benefit of all its subjects.\(^12\) In this fiduciary role
the Crown could not appropriate the resources for its own use or
convey them to others.\(^13\)

The central preoccupation of the American public trust doctrine
has been to maintain the broadest possible access to certain natural
resources for public use.\(^14\) The United States Supreme Court made
the imperative of access clear in *Martin v. Waddell's Lessee*.\(^15\) In
*Martin*, the Court held that shores, rivers, and bays and the lands
beneath them are a public trust held open for the benefit of the whole
community.\(^16\) The principle impediment to expanding the scope of
the doctrine was the atavistic common law requirement\(^17\) that waters

\(^8\) 6 N.J.L. 1 (1821).
\(^9\) Id. at 76–78.
\(^10\) Jan S. Stevens, *The Public Trust: A Sovereign's Ancient Prerogative Becomes the
\(^11\) Id. at 197.
\(^12\) Timothy J. Conway, Note, National Audubon Society v. Superior Court: *The Expanding
\(^13\) Id. at 623.
\(^14\) CWC Fisheries, Inc. v. Bunker, 755 P.2d 1115, 1118 (Alaska 1988); Orion Corp. v. State,
747 P.2d 1062 (Wash. 1987); Montana Coalition for Stream Access, Inc. v. Curran, 682 P.2d
163 (Mont. 1984); Lamprey v. Metcalf, 53 N.W. 1139 (Minn. 1893).
\(^15\) 41 U.S. 367 (1842).
\(^16\) Id. at 413–14.
\(^17\) Independent of common law, some legislatures enacted statutes, such as the Great Pond
Ordinance of 1641 in Massachusetts, that protected access to certain resources.
and shores be navigable or influenced by the ebb and flow of tides to be subject to the state's trust protection. The courts eventually loosened the restriction of tidality to meet the practical needs of a continental nation with large inland rivers and lakes.\footnote{Stevens, supra note 10, at 202.} Courts likewise diluted navigability as a prerequisite for trust application. For example, the Minnesota Supreme Court in \textit{Lamprey v. Metcalf}\footnote{53 N.W. 1139, 1143 (Minn. 1893).} held that though many of the lakes in Minnesota could not be used for commercial purposes, this did not mean that the public right to fish, swim, and hunt was not protected. Reasoning that the importance of the lakes necessitated their protection in the future, the court concluded that it should not define navigability narrowly.\footnote{Id.; see also \textit{People v. Mack}, 97 Cal. Rptr. 448, 451 (1971) (public should not be denied use of waters because of narrow and outmoded interpretation of "navigability").}

The lodestar case in American public trust doctrine, upon which jurisdictions across the country have drawn, is \textit{Illinois Central Railroad Co. v. Illinois}.\footnote{146 U.S. 387 (1892).} In this case, the United States Supreme Court ruled that a state could not deny public access to trust resources by conveying them to individuals for private use.\footnote{Id. at 455.} The Court set forth a two-part test for conveyances\footnote{Id. at 453.} that remains the dominant law in many states today.\footnote{See, e.g., \textit{CWC Fisheries, Inc. v. Bunker}, 755 P.2d 1115, 1118 (Alaska 1988); \textit{Kootenai Envtl. Alliance, Inc. v. Panhandle Yacht Club, Inc.}, 671 P.2d 1085, 1088 (Idaho 1983); \textit{City of Berkeley v. Superior Court of Alameda County}, 606 P.2d 362, 365 (Cal. 1980).} It stated that "[t]he control of the State for the purposes of the trust can never be lost, except as to such parcels as are used in promoting the interests of the public therein, or can be disposed of without any substantial impairment of the public interest in the lands and waters remaining."\footnote{\textit{Illinois Cent.}, 146 U.S. at 453.} Many states since have refined this rule. Idaho, for example, considers several factors, including the degree of effect, the cumulative effects of similar actions, and the primary purposes for which a resource is best suited.\footnote{\textit{Kootenai Envtl. Alliance}, 671 P.2d at 1092-93; see also \textit{State v. Public Serv. Comm'n}, 81 N.W.2d 71, 73 (Wis. 1957).} California requires that the state's intent to abandon the trust be "clearly expressed or necessarily implied" by the legislature. Under California law, if any interpretation of a statute is "reasonably possible" that would maintain the public's interest in a trust resource, "the court must give the statute such an interpretation."\footnote{\textit{City of Berkeley}, 606 P.2d at 369.}
After World War Two, the public trust doctrine lapsed into relative disuse as a judicial tool until the classic article by Joseph L. Sax, "The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention," resuscitated it in 1970. Citing the principles that Sax proffered, courts began to employ this doctrine with renewed vigor and to protect many public uses of shorelines and waters. Courts have identified, among other things, hunting, fishing, boating, undertaking scientific studies, preserving wildlife habitat, swimming, maintaining ecological integrity and aesthetic beauty, and retaining open space as legitimate public expectations protected by the public trust doctrine.

Pressed by the need to balance resource protection with the demands of a burgeoning populace, California courts in particular have embraced public trust principles with alacrity. In National Audubon Society v. Superior Court of Alpine County—popularly known as the "Mono Lake" case—the California Supreme Court analyzed three aspects of the trust doctrine in the context of water appropriations. The court examined the purposes of trust theory, the scope of the trust, and the duties of the state as trustee. Noting the novelty of the issue, the majority found that public trust protection extends to nonnavigable tributaries of navigable waters where conduct on the tributaries affects the public trust values in the navigable waterway. Before an agency can approve a water diversion, the court declared, it must consider the impact that such diversions will have on trust resources. Even after the agency has approved the diversion, the state has a duty to continue supervision to ensure the protection of the resource. The court also examined vested appropriative water rights and concluded that they are not absolute and always have been subject to review and change under the trust doctrine.

Not all commentators are happy with the current structure of public trust theory. One major advantage of the public trust doc-

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31 Conway, supra note 12, at 631.
32 Id.
34 Id. at 712, 728.
35 Id. at 728.
trine—or disadvantage, depending on one’s philosophical perspective—is the immunity the doctrine enjoys from Fifth Amendment “takings” claims. In *Orion Corp. v. State of Washington*, the Washington Supreme Court held that the public trust doctrine precludes a constitutional claim for taking without compensation because title to trust resources are acquired subject to whatever state action may be necessary to protect the public’s interests in the trust resources. Despite recent decisions by the United States Supreme Court that have created a milieu more amenable towards takings challenges against regulations, there is no indication at the present time that these decisions will enervate trust doctrine.

Today, we must invigorate the doctrine with a consistent and pragmatic theory that will enable it to meet the needs for substantive environmental protection in the future. It is to this task that this Article now turns.

III. A NEW THEORY FOR THE APPLICATION OF THE PUBLIC TRUST DOCTRINE: FOCUSING ON THE BIOTIC COMMUNITY

The public trust doctrine did not arise simply to protect navigable waterways for navigation, commerce, and fishing. Rather, it reflects the fundamental precept that some resources in natural systems are so central to the well-being of the community that they must be protected by distinctive principles. In other words, the doctrine rests on the idea that the continued diminishment of these common heritage resources would have such inestimable consequences that the state cannot allow their impairment “to happen carelessly, accidentally, or by legerdemain.” Application of the public trust doctrine permits the state to wield immense power to restrict and rearrange property rights and expectations because of

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38 747 P.2d 1062 (Wash. 1987).
39 *Id.* at 1061–82.
the potential harm to future generations if the state did not have the authority to act. The doctrine places the state under a fiduciary obligation to protect trust resources and prevent private appropriation. So important are these resources and the need to protect them that the state cannot take any action to divest itself of its trusteeship. Succinctly phrased, the state no more can abdicate its trust obligations over public trust resources than it can abdicate its police powers in the administration of government and the preservation of peace.

Viewed in this context, the public trust doctrine is decidedly anthroposolipsistic. The goal of the doctrine is to protect certain resources not because it is either an ethical thing to do or a positive amenity, but because these resources are absolutely essential for human physical, spiritual, and economic well-being. The public trust doctrine therefore is not to be used as a general environmentalist tool, preserving a small fish here, a brine shrimp there, or someone's favorite pond or marsh. Rather, it should be used to maintain the health of natural systems.

Despite what many may wish to believe, we are all creatures evolved from the natural environment. As such, humans depend upon interactions with healthy ecosystems for food, fiber, health, and mental happiness. Reckless conduct, blind to the impacts upon the natural environment with which we must interact, may elicit devastating changes that could jeopardize our very existence. This concern is all the more critical today in light of the awesome power and enduring impacts of modern technology and its paraphernalia. It is too dangerous to impose reductionist simplicity for economic gain upon that which is so wondrously complex. An overly simplified biotic community no doubt would lack many of the qualities and vital forces upon which we depend for sound bodies and minds.

As the courts began to realize the importance of certain natural resources in sustaining the human species, they extended the scope

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47 Priewe v. Wisconsin State Land & Improvement Co., 79 N.W. 780, 781 (Wis. 1899).
49 This term was coined by human ecologist Gerald Young. It means "human only" values, as opposed to "human-centered" values.
50 There is a multitude of work on the subject concerning the need for interaction between humans and the environment. See A. McNARY, BIOLOGY AND SOCIETY (1975); MURRAY BOOKCHIN, OUR SYNTHETIC ENVIRONMENT (1974).
of the public trust doctrine. The Wisconsin Supreme Court, for example, applied the public trust doctrine's protection to wetlands, both publicly and privately owned, on the grounds that wetlands play an important role in a healthy environment.\textsuperscript{51} California has taken steps in the same direction, applying the doctrine to tidelands because of their importance as ecological units.\textsuperscript{52}

All of these judicial pronouncements, however, though consistent with public trust doctrine purposes, exemplify the inherent failure of this particular strategy. Judges are attempting the impossible by trying to identify which specific natural qualities and uses are necessary for social well-being and therefore deserving of public trust protection. Biotic systems are too complex, and our scientific understanding too rudimentary, to attempt to isolate individual components as essential. Instead, the public trust doctrine must be used to maintain the general health of natural systems. How can courts determine whether there is a proper integration of attributes in the natural environment to maintain human well-being? The answer lies in examining the natural biotic community.

In general, one can assume that the healthier the natural community, the greater the likelihood that humans will have access to and use of those attributes in the environment that we require. The health of the natural environment by no means requires the mirror of the ecological climax community,\textsuperscript{53} though that certainly would be indicative of health. Like all states of being, health is not a specific point on a continuum; rather, it spans a range that allows for variation. One can define environmental health for a given system by the balance between the diversity\textsuperscript{54} and the stability of the resident biotic community. In determining the health of a particular biotic community, one must consider the appropriate seral stage\textsuperscript{55} for the locale. Diversity is a function of both richness—the number of species in a given community—and evenness—the distribution of species

\textsuperscript{51} See Just v. Marinette County, 201 N.W.2d 761, 768-70 (Wis. 1972).
\textsuperscript{52} Marks v. Whitney, 491 P.2d 374, 380 (Cal. 1971).
\textsuperscript{53} The term "climax" means "the relatively stable stage or community attained by an available population of organisms in a given environment, often constituting the culminating development in a natural succession or being one of the transitory stable states through which many populations pass before attaining such culminating development." WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 423 (1986).
\textsuperscript{54} See BARBOUR ET AL., TERRESTRIAL PLANT ECOLOGY 139 (1980).
\textsuperscript{55} A "sere" is "a series of ecological communities that follow one another in the course of the biotic development of an area or formation from pioneer stage to climax." WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 2072 (1986).
within trophic levels. Stability means the ability of populations to maintain their numbers.56

The task of a reviewing court should be to determine whether a particular activity would be likely to impair substantially the health of a local ecological system. The court could accomplish this inquiry by assessing the impact of the activity in question upon the diversity and stability of the resident biotic community. If the activity is found to pose little or no threat to the biotic community, the planned project would survive judicial scrutiny so far as the public trust doctrine is concerned. Of course, the activity also would have to meet the burdens that statutes such as the Administrative Procedures Act,57 the National Environmental Policy Act,58 and the Clean Water Act59 impose. These statutory considerations, however, are quite independent of the common law principles of public trust doctrine. On the other hand, if the reviewing court determined that the activity did pose a threat to environmental health, then the court would have to order a modification of the activity or enjoin it altogether.

An important aspect of this proposed approach is that social policy "balancing" is not involved. There would be no extenuating circumstances that would justify ecosystem degradation. The public trust doctrine would afford absolute protection. Degradation, however, is not the same as modification, and for this reason, this approach would never demand "pure" preservation. An important departure that this proposed approach makes from current trust doctrine is that it would not immunize any resource from development activity that would not disrupt the biotic community, whether the community was a tideland, lake, or meadow. Thus, if a developer could prove that the biotic community would not incur a destabilizing stress due to the developer's conduct, then the public trust doctrine could not bar development. The obligation of the state to exercise continuing supervision under the trust principles of National Audubon Society v. Superior Court of Alpine County nonetheless would require the state to enjoin the development activity or issue specific compliance

orders if it later determined that the activity indeed was damaging. The state would have to take such action even if it already had approved the conduct.

The benefit of the public trust approach that this Article proposes is that it would accomplish absolute ecological protection while creating a powerful incentive for industry to embark upon an intensive program of research and development for environmentally sensitive technologies. Government would tell industry that the public trust doctrine was an inviolable shield protecting the environment, and that it would tolerate no balancing or cost/benefit analyses in the public trust inquiry. Government also would inform industry and business, however, that application of the doctrine would never foil their expectations for resource development so long as they employed techniques and technologies that safeguard ecological health. In essence, this approach would internalize the true cost of natural resource utilization and thereby fairly eliminate that bane of environmentalists, the negative externality.

To be effective, the court's scope of inquiry would have to extend to cumulative effects. That is, the court would have to examine a planned activity in light of other foreseeable projects as well as the synergistic effects produced when the activity is coupled with current activities. Moreover, the court would have to assess the intensity and extent of the destabilization that the planned activity might cause. The threshold of intolerable harm would be a function of both of these factors. The greater the damage, the less the extent of disruption necessary to prohibit the activity; similarly, the greater the breadth of disruption, the less the intensity of harm necessary to invoke the prohibitions of the public trust doctrine.

The problem of uncertainty will always haunt the courts. The assessment of uncertainty is inherently subjective. Moreover, ecology and its environmental science derivatives sometimes can appear to be more art than hard science, defying meaningful quantification. There will be room for honest, valid disagreement as to whether particular conduct may impair the health of a local environment. In such situations, it is important for courts to recognize that error may be inevitable. In those circumstances, it therefore would be appropriate for a court to err on the side of protection. This approach to scientific uncertainty is entirely consistent with public trust theory, which exhorts that the consequences of damage to public trust
resources are so grave that contemporary society and future generations cannot permit such degradation "accidentally or carelessly."61

An effective legal doctrine must be cohesive, consistent, and predictable. The judiciary has attained a powerful role in government while maintaining an unusual degree of autonomy from usual democratic processes. Therefore, courts must make great efforts to win the respect and confidence of the public they so intimately affect. A doctrine that waxes wildly or routinely disappoints valid expectations threatens not only its own life but the credibility of the judicial system as well. In order for a legal doctrine to be cohesive, there must be a rational connection between the core theory of the doctrine and the effects it produces. Second, the doctrine ought to be general enough that courts consistently can apply it to a wide variety of essentially similar situations without undertaking philosophical contortions of the "Rube Goldberg" genre. Finally, the doctrine must be sufficiently simple that the public can understand its fundamental tenets well enough to predict outcomes from its application, especially as it relates to their own conduct. This permits individuals to conform their behavior to established norms. The approach to the public trust doctrine that this Article advocates achieves cohesion, consistency, and predictability.

Reliance upon the Lotic community places the judicial inquiry squarely within a sphere of environmental science that is widely accepted and firmly established. For example, Daubenmire62 and Gleason pioneered the field of plant community types63 and established it as scientifically valid. Obviously, when courts base a principle upon the dictates of firm science, the legitimacy of their decisions is more readily accepted.

Consistency in the application of this proposed approach would result from courts’ adherence to the observations that human health depends upon a healthy environment, and that the public trust doctrine protects ecosystems from intolerable stress imposed by human

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61 See Blumm, supra note 43, at 587 (quoting WILLIAM H. RODGERS, ENVIRONMENTAL LAW 158–60 (1986)).

62 Rexford F. Daubenmire is an acclaimed ecologist whose work includes PLANT COMMUNITIES (1968) and PLANTS AND ENVIRONMENT (3d ed. 1974).

63 Ecologists reading this Article will be aware at once of the tension that exists between the discrete and the continuum views of community that Daubenmire and Gleason advocates respectively offer. Also, it should be pointed out that this work has been based upon plant communities; however, it is appropriate as an example for the theory of judicial inquiry advanced here.
conduct. No matter what the resource at issue, courts would adopt the same theory and mode of inquiry. No longer would they be placed in the position of having to contort definitions in order to apply the public trust doctrine to novel situations. Whether the controversy concerned a tidal flat, an intermittent stream, or an old-growth forest, a court would apply the same doctrine with the same standards, rules, procedures, and definitions.

Finally, the interpretation of the public trust doctrine under this Article's approach lends itself to predictability. Because courts would not be fashioning new terms and standards or suddenly finding unexpected sources of authority to address critical issues in novel situations, resource users would be able to rely on a stable judicial environment in which to plan and act. Just as current application of the public trust doctrine does not prevent some changes to the natural state of trust resources, neither would this new approach to the trust doctrine. As part of the natural environment, humans will, like any organism, cause changes in the environment in which they live. Modification is acceptable—degradation is not. For example, we can learn to farm with nature in order to provide for our sustenance, or we can wage an illusory war of conquest using destructive techniques. This Article's approach would not inherently equate resource use with resource degradation. Undoubtedly, human conduct will cause stress to the natural environment, but stress is not necessarily degradation. A drought is a stress on the prairie ecosystem, and an unusually cold and snowy winter adversely affects the wildlife of New England, but these are stresses that the immune system of a healthy environment in time can soothe and heal. Neither will induce a long-term or permanent disruption to the resident biological community.

An example of a region that is punctuated with the endeavors of human industry yet retains a viable degree of ecological health is the "Northeast Kingdom" in northern Vermont. There, farms, villages, and small lumber operations form a mosaic with more undeveloped areas. The presence of people and their accouterments no doubt imposes a biological stress on the environment in that area, but it does not now appear to pose any significant threat to the

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64 See State v. Public Serv. Comm'n, 81 N.W.2d 71, 74 (Wis. 1957); see also National Audubon Society, 658 P.2d at 727-29.
65 There are several good sources on this point. See, e.g., Eisenberg, Back to Eden, ATLANTIC MONTHLY, Nov. 1969, at 57. A more extensive work is MEETING THE EXPECTATIONS OF THE LAND (Jackson et al. eds., 1984).
diversity and stability of the biotic community there. It is a land worth working and living in. One may ask whether the public trust approach proposed here would impose an idyllic legal principle upon the environs of New York City. The answer to this question is no. The purpose of the public trust doctrine is to preserve natural systems. Much development in urban and industrial areas would not encroach upon natural systems. Where, however, such systems do occur, such as the Hudson River or open space parklands, a court would apply the trust doctrine.

The public trust doctrine recognizes that humans are part of, not apart from, the natural world by attempting to harmonize human needs with environmental health. Viewed in this light, the public trust doctrine becomes the doctrine of Antaeus, protecting us from cavalier conduct that threatens to cut us off from our natural roots. As surely as Antaeus lost his physical strength the moment he broke contact with the earth, we too will lose our vitality if we lose access to and use of a healthy natural environment. The public trust doctrine must be available to protect all the natural resources that humans require for their well-being. It ought to afford ecosystem protection by serving as a tool, for example, for enjoining conduct that wantonly fells the giants of old-growth forests in a manner jeopardizing anadromous fisheries and rare wildlife,66 and for protecting fragile wetlands that are necessary for water purification and flood protection. It is time to recognize that all natural resources—not just those associated with tides, navigability, and water—require trust protection.

IV. CONCLUSION

The marriage of absolute ecological protection with absolute access for the purpose of utilizing natural resources comes the closest to the true essence of the public trust doctrine. The impact of this approach, premised on the notion of environmental health, could be dramatic.

The Mono Lake calculus67 requires state courts and agencies to consider the effect of their decisions on the resources that the public trust protects.68 In dealing with the issue of water diversion, the

66 Jerry Franklin at the University of Washington points out that it may be possible to harvest old growth without disturbing ecological health. See Toward a New Forestry, AMERICAN FORESTS, Nov.–Dec. 1989, at 1–8.
67 See supra notes 30–35 and accompanying text.
68 National Audubon Society, 658 P.2d at 712.
court in the Mono Lake case required decisionmakers to attempt, so far as possible, to avoid or minimize any harm to interests protected by the public trust. Thus, the public trust doctrine as applied in that case is essentially procedural, with a weak substantive component—procedurally, decisionmakers must embark upon a policy balancing analysis, and substantively, they must attempt to minimize environmental harms.

The calculus advocated here would be very different than that the Mono Lake case outlined. If a court were to apply this Article's expanded public trust theory to the Mono Lake case, it would have to ask if the proposed water diversions posed a substantial threat to the diversity and stability of the ecosystem for which the lake is the focal point. To ascertain the answer, the court would have to examine whether the increased salinity resulting from the diversions would decrease the dominant phytoplankton population in the lake, and whether an increase in the more salt-tolerant organisms that currently make up only a small portion of the total species population in the lake would compensate for this loss in productivity. Next, the court would have to determine if the resident and migratory bird populations, which appear to be dependent on the lake, would be able to compensate for the loss of a productive Mono Lake. Predation, due to increased access to nests because of lowered lake levels, is another concern the court would have to address. If the answers to these questions indicated that either current or future water diversions would severely disrupt the ecosystem, the court would be obligated to issue either an injunction or specific compliance orders eliminating the threat posed by Los Angeles's water demands. The court would have to act regardless of social policy concerns. If, on the other hand, the diversions were to cause chemical changes in Mono Lake that altered the lake's biotic composition without substantively changing its stability and diversity, and if the waterfowl could compensate for the loss of their preferred food species, then the public trust doctrine would be powerless to bar the diversions.

69 Id.


71 Id. at 93.

72 Diversity can be maintained even though sweeping changes in the biotic composition of a community occurs. For example, if species A is reduced from 97% to 4% of total composition while species B increases from 7% to 96%, the original diversity still essentially would be maintained. The stability criteria would be met if the organisms in the new biotic arrangement were able to maintain their numbers.
A court could apply the same analysis to Alaska’s agricultural lands policy or to the old-growth timber harvests that are occurring under state jurisdiction on southeast Alaska’s public and private lands. Much to the dismay of many environmental preservationists, this type of consumptive use of natural resources could be permitted and even advocated under trust theory if the developers or users of these resources could demonstrate, for example, that advances in forest management practices could protect ecological diversity and stability. Courts could issue orders that modified damaging practices so as to ensure that the harvests did not impair the health of the environment while still permitting consumptive development. If, however, conduct could not be squared with the environmental health criteria, then the public trust doctrine conduct would absolutely bar it.

The public trust doctrine originated out of the desire to protect natural systems so as to ensure their beneficial use by society. Today, we must expand the doctrine in a manner that faithfully links environmental protection and resource utilization. The theory offered in this Article both accomplishes the task of protection, access, and use and creates incentives for the further development of environmentally sound enterprises.