



ENVIRO DECISIONS

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Our Estuaries and Coasts

Sun-washed beaches and cool-water breakers, ribbons of sand woven through marine nursery grounds, marsh grasses bordering green havens for wildlife — graceful birds, powerful reptiles, shy mammals, and silver-flashing fish.

Noisy boat motors and smelly gas fumes, floating garbage and sewage sludge, light bulbs and broken concrete — hypodermic needles, medical wastes, oil spills, dead fish, strangled shorebirds, drowned sea turtles, harassed marine mammals, beachfront development, and shoreline retreat.

What is happening to our coasts?

The Environmental Protection Agency (EPA) reports that even with the tremendous water quality improvements resulting from environmental regulation over the past 20 years, our estuaries and coastal waters are still plagued with pollution from many sources including industrial and wastewater outfalls, storm and sanitary sewage overflow systems, and exploding recreational activities. Added to these sources, called point sources, are a multitude of hard to trace non-point sources.

How good is our understanding of coastal pollution? Despite years of research, still poor. We have a growing awareness of the adverse impact of "nonpoint-source pollution"— pollution which comes not from sewer pipes but from urban streets, construction sites, farmlands, and even from the sky. EPA projects that nonpoint sources of pollution may be responsible for as much as 50 percent of the pollution found in coastal waters.

Instead of simply laying blame and targeting villains, EPA has sought to *define* the problems and explore possible solutions. Interestingly, rather than villains, EPA often found good intentions that had run into the brick walls of demographic budgetary and politi-

cal reality. Not too surprisingly, it seems that our capacity to regulate coastal water pollution is being outstripped by our capacity to create pollution. Likewise, stopping pollution costs money, lots of money. To no one's surprise there never seems to be enough. Local governments need millions for enforcement and monitoring of existing regulations and research to determine whether these regulations are working and just whether our management strategies are the best possible.

What can be done to counter the effects of pollution?

EPA suggests that governmental subsidies for development in environmentally fragile coastal waters and shifting landscapes must be stopped. Likewise they call for construction of new and better sewage treatment facilities recognizing the bitter reality that the U.S. Treasury does not have the monies to underwrite the costs. Consequently, fees will need to be assessed against all those who discharge potential pollutants into coastal waters. Such fees, it is believed would create a financial incentive not to pollute. Tied to these suggestions is a recommendation for enhancing a national coastal monitoring program to track the health of these vital ecosystems and to ensure compliance with pollution-discharge requirements.

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ENVIRODECISIONS

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The Audubon Institute seeks to cultivate awareness and an appreciation of life, the interdependence of all living things and to help conserve and enrich our natural and human-made world. This publication seeks to impart knowledge and understanding of nature and humankind and promote a balanced approach to understanding increasingly complex social and environmental issues.

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Editor's Corner

Having spent the day "catching up," as it were, on my reading, I am struck by the sober environmental messages emanating from so many different sources — sources ranging from government reports to environmental-advocacy publications. Certainly, mixed with these somber forecasts is a recognition of the significant environmental advances made, especially in the nation's air and water quality, since that first Earth Day 25 years ago. There are praises, too, for private/public partnerships protecting threatened habitats and disappearing species, as well as for the businesses and industries which have embraced practices and advanced technologies which clean up manufacturing and resource extraction processes. However, predictions covering the range of environmental issues — from global climate change to biodiversity to human population projections — are mostly gloomy. The common message seems to be that our earth, while incredibly resilient and self-healing, maintains a fragile balance. A balance increasingly stressed by unceasing manipulation, fragmentation, and degradation. Oh, there are naysayers who claim that such concerns are mostly fostered by extremists with their own political agendas. These doubters cite scientific studies as do their nemesises. So, who is right? Who has the higher moral ground? Who has the better science?

No one can unequivocally answer these questions. After all, such is the nature of science: to disprove false hypotheses, to make reliable predictions by extrapolation, to put forth theories which over time may accumulate enough support to become "laws." But science never proves "beyond all doubt," never purports to be the "truth"; scientific investigation raises as many questions as it answers. The nature of science is what can make it vulnerable to attack, not of its methods, but of its data-bound, necessarily non-conclusive findings. This being so, I wonder if this emphasis on who's science is "right" loses sight of a more fundamental concern. We as humans are part of the environment — the ecosystems, the energy networks, the climate patterns — as much as any other earthly critter. Arguments about the point at which poisons poured into the environment become lethal, or about the amount of conversion habitats can absorb before undergoing unrecoverable successional change, or about how many people the earth can support ignore agreement that there is some finite threshold for the environment to sustain these activities. These arguments are, after all, mostly over degree not substance.

Without a doubt, science must inform political decisions. But let us not forget that when we say science, we mean the best available science; and that when we speak of environment and ecosystems and species, we mean humans as one of those species within ecosystems and part of the natural environment and, therefore, vulnerable to stressed-induced, environmental vagaries.

Lida Durant

How Non-Issues Become Issues

by Robert A. Thomas

The Audubon Institute

We seem to be increasingly confronted with environmental issues that not only sharply divide the community, but seem to often confuse the advocates — one camp says it is an issue, the other says it is not, and there is no in-between. There are two ways I've seen this occur.

The first begins with science. Consider the following scenario. 1) A scientist performs experiments and gathers a data set. Based on these data, the scientist suggests that an environmental situation *may* arise. 2) Someone (an advocate of some sort) reacts to the information and makes a slight but ever so critical change: they say that based on a scientific investigation, a serious environmental dilemma *will* occur. 3) The news media may interview the advocate and a controversy is reported. 4) The public has an emotional response, frequently based on the spin placed on the report by the media. 5) Someone becomes the villain.

6) "Anchoring" occurs. Anchoring is a phenomenon recognized by the social sciences whereby once a controversy occurs, new information is suspect if it contradicts what is believed, even though the beliefs may be based on poor or misrepresented information. 7) Finally, the original scientist is forgotten.

The second begins with a misinterpretation. Someone simply misinterprets environmental information. It may be intentional (misrepresentation rather than misinterpretation), but I believe it is usually a case where a person feels very strongly about an issue, so they read studies in such a way that the data support their viewpoint. But, let me be more clear. I think most of this misinterpretation is a result of folks **not** consulting the scientific literature.

Instead, they repeat statements heard in meetings and/or conversations that either 1) contain personal opinions or 2) are not properly understood. Remember the childhood game "Gossip" where everyone sits in a circle and some individual whispers something to the next person and the message is supposed to be passed from one person to another until it circles the room? Remember how different it is at the end than it was at the start? The reason for this gradual change of information is that

Once a controversy occurs, new information is suspect if it contradicts what is believed, even though the beliefs may be based on poor or misrepresented information.

We as educators, must require ourselves to check and recheck the information we use in our programs and test ourselves constantly in order to avoid the trap of gradually interpreting fact into fiction.

each repeater puts his/her own interpretation on the "facts."

The bottom line is that we, as educators, must require ourselves to check and recheck the information we use in our programs and test ourselves constantly in order to avoid the trap of gradually interpreting fact into fiction. This clearly happens when we fail to return to the original information for a factual check.

ENVIRONMENTAL RESTRICTIONS ON LAND USE: THE "TAKINGS" ISSUE* by Paul Coreil

"That which is common to the greatest number has the least care bestowed upon it. Everyone thinks chiefly of his own, hardly at all the common interest; and only when he is himself concerned as an individual. Everybody is more inclined to neglect the duty which he expects another to fulfill." Aristotle

This article reviews the "takings" clause of the U.S. Constitution and how this body of law has and may continue to impact environmental quality in the United States. Recent *takings* cases decided by the U.S. Supreme Court will be reviewed, and wetland resource policy impacts will be evaluated in light of these decisions. Concepts related to externalities and efficiency gains will be discussed along with the economic benefits and economic costs of wetland resource policy. Key participants in this issue are private property owners (which hold substantial wetland holdings in Louisiana) and the general public.

Background

Since the 17th century many Americans have associated access to and control over natural resources with the rights of citizenship. The right to own private property is one such right of citizenship. The preservation of private property rights is included in "Takings Clause" of the 5th Amendment of the United States Constitution which states, "nor shall private property be taken for public use without just compensation." This clause prohibits the taking (seizure) of private property for public use without equitable compensation. Additionally, the U.S. Supreme Court has consistently ruled that state governments are similarly prohibited from "taking" private property without compensation by the Fourteenth Amendment's Due Process Clause. Each level of government has the constitutional authority to promote public well being (police power) and can regulate activities that can cause public harm. Unfortunately, determining the borderline between "taking" (requiring compensation) and "regulation" (typically not requiring compensation) in expressed and

implied government policy can present a dilemma. If a state is only regulating property use consistent with the state's police power, then compensation does not have to be paid, even if the use and value of the property has been reduced. Early dissenters of exclusive private property rights included U.S. Supreme Court Justice Stephen Field. In the late 1800s Justice Field said in a dissenting property rights opinion that "society can and must regulate the use of private property so that it does not interfere with another person's enjoyment of property or endanger the community's well being" (Scott 1977).

Examples of land use regulation falling in this category include zoning and environmental protection rules that typically do not require the transfer of title but do involve regulations restricting use of private property. These regulations usually involve goals related to protecting the public from harm (e.g., preventing "noxious" uses) or securing various public benefits (e.g., flood protection and water quality). Land use regulation is a taking only if it does not "substantially advance legitimate state interests" or it denies an owner "economically viable use" of his land (e.g., farming and ranching, oil and gas production, commercial and residential development, forest

STATE AND FEDERAL GOVERNMENTS HAVE THE RIGHT TO TAKE PRIVATE PROPERTY FOR PUBLIC USE; THIS POWER TO SEIZE PRIVATE PROPERTY FOR THE COMMON GOOD IS KNOWN AS EMINENT DOMAIN.

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production, commercial wildlife harvests, and recreational hunting and fishing enterprise development). Munzer (1991) defines taking as an adverse effect on private property caused by government action.

Wetland loss is considered harmful to the public. Protecting and regulating the use of wetlands, even privately-owned wetlands, has been seen as promoting the public good. Wetland resource policy (and other land use regulations) have frequently required court action to determine the distinction between a "taking" and a regulation. Although difficult to apply, these two requirements of a "takings" are now being reviewed in numerous court cases and will be discussed below.

In recent history, one of the strongest challenges to private property institutions has come from environmental policy and regulation, including wetland resource policy. Michael Kinsley, writing on the "takings" issue in *The New Republic*, said "...is the man whose land value is reduced through zoning more to be pitied than the man who has no land to begin with?" This statement represents the views of many non-property owners and clearly links the "takings" issue with quality (equality) of life. Even if property is clearly identified as an individual right in a society, many think it need not be confined to a right to exclude others from use or benefit of some thing; but may be an individual right not to be excluded by others from the use or benefit of some thing. Many

ecological economists see growing conflicts between private property institutions and needed environmental goals. Externalities exist whenever an

economic activity carried out by one group has an effect on the welfare of a second group who is not voluntarily a party to that activity. Private property economic values

THERE IS A GROWING VIEW AMONG ENVIRONMENTAL ECONOMISTS THAT NATURAL RESOURCES SHOULD BE VIEWED AS "MULTIPLE-USE OR MULTIPLE-USER NATURAL ASSETS, OWNED IN COMMON, WHICH MUST BE MANAGED THROUGH SOME COLLECTIVE CHOICE MECHANISM IF THEY ARE TO BE DEVELOPED, USED, AND CONSERVED EFFICIENTLY." E.G. DOLAN

and common property resource needs cannot be blindly separated due to the concept of externalities.

A key issue in the environmental debate centers around the proportion which

private landowners and the public should pay for the provision of environmental benefits. Many citizens believe in the "polluter should pay" philosophy and want private landowners/land users to absorb all of the costs associated with providing environmental amenities. Landowners, however, believe that most environmental benefits accrue to the public and, therefore, the provision of these benefits should be largely paid for by the public. This issue is at the center of the environmental debate: How does

government balance the need for food and fiber and the costs of mitigating the negative externalities associated with food and fiber production? How much should the landowner be willing to pay? How much should the public be willing to pay? When does environmental regulation go too far and result in a "taking" under the 5th Amendment of the Constitution? These and many other questions must be answered if we are to effectively address the conflicts associated with environmental regulation.

THE CONCEPTS OF EXTERNALITIES AND NATURAL RESOURCE CAPACITY LIMITS HAVE BECOME IMPORTANT ISSUES IN THE ENVIRONMENTAL POLICY AND PROPERTY RIGHTS DEBATE.

A KEY ISSUE IN THE ENVIRONMENTAL DEBATE CENTERS AROUND THE PROPORTION WHICH PRIVATE LANDOWNERS AND THE PUBLIC SHOULD PAY FOR THE PROVISION OF ENVIRONMENTAL BENEFITS.

Wetland Resources Regulatory Policy and the "Takings" Issues

The inclusion of section 404 of the 1972 Federal Water Pollution Control Act (Clean Water Act) amendments put the federal government

in the center of public concern for wetlands protection. Section 404 is administered by the Army Corps of Engineers (ACOE), with the Environmental Protection

Agency (EPA) providing considerable oversight. This section provides for issuance of permits for the discharge of dredged or fill material into the navigable waters of the U.S. The term "navigable waters" has been determined to include wetlands.

LANDOWNERS, HOWEVER, BELIEVE THAT MOST ENVIRONMENTAL BENEFITS ACCRUE TO THE PUBLIC AND, THEREFORE, THE PROVISION OF THESE BENEFITS SHOULD BE LARGELY PAID FOR BY THE PUBLIC.

The Coastal Zone Management Act of 1972 also attempted to address the problems related to wetland degradation associated with short-term coastal development.

Under this act state governments are the focal point for coastal management. States establish boundaries for the coastal zone and set forth permissible land and water uses that have direct and significant impact on coastal waters. These and other environmental protection regulations continue to take center stage in the national debate involving the protection of private property rights and the provision of public environmental benefits.

Protecting the environment has been found by many courts to be "legitimate state interests." Many people believe that protection of wetlands by regulation results in securing the many important functions and values of wetlands for everyone; a "legitimate state interest." These include 1) fisheries and wildlife habitat, 2) storm surge protection, 3) waste assimilation, 4) flood protection, 5) groundwater recharge, and 6) non-consumptive aesthetic values. However, there must be a relatively tight fit between the state interest and the regulation chosen.

Historical Review of "Takings" Jurisprudence

The issue of takings is deeply rooted in the American common law system. Constitutional development for more than a century after the adoption of the Bill of Rights applied the just compensation concept primarily to cases of traditional takings under the power of condemnation. Just compensation was triggered when the state exercised eminent domain. Regulation was not accompanied by compensation for any reduction in landowner use based upon the rationale that the land should be used in a manner designed to secure the

greatest common good for the community. Regulators had to establish a relationship between the regulation and the public welfare.

In one of the first U.S. Supreme Court cases addressing the issue of regulatory takings, Justice Holmes wrote for the majority in the landmark case, *Pennsylvania Coal v. Mahon* (1922), which involved state regulation of coal mines. In this case the court ruled that a taking could occur without the transfer of title to the government. Holmes' ruling stated that "...the general rule at least is, that while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking." This opinion indicated that as regulation of private property increases in degree, it reaches a point of which it "takes" such property. This ruling represented

a significant change in the notion that regulation (police power) is independent of the traditional basis for "taking" (eminent domain).

While laying down this general principle, Holmes still left unanswered the exact definition of a taking; and although implying that compensation was the remedy for a taking, the ruling did not clarify exactly what was just compensation.

Since the *Pennsylvania Coal* case, many cases in both state and federal courts have been called upon to determine whether a particular regulation violated the takings clause. Courts have generally outlined three questions used to test the constitutionality of a particular land use regulation on a case by case basis:

- What is the economic impact of the regulation on the landowner? What are the investment-backed expectations of the landowner?
- Is a valid police power objective promoted by the regulation? Does the regulation advance a legitimate state interest? How does the public benefit from the regulation?
- What is the character of the government action involved?

REGULATION WAS NOT ACCOMPANIED BY COMPENSATION FOR ANY REDUCTION IN LANDOWNER USE BASED UPON THE RATIONALE THAT THE LAND SHOULD BE USED IN A MANNER DESIGNED TO SECURE THE GREATEST COMMON GOOD FOR THE COMMUNITY.

"...THE GENERAL RULE AT LEAST IS, THAT WHILE PROPERTY MAY BE REGULATED TO A CERTAIN EXTENT, IF REGULATION GOES TOO FAR IT WILL BE RECOGNIZED AS A TAKING."

SUPREME COURT JUSTICE HOLMES

In determining the economic impact of a regulation on a property owner the court often looked at how much the value of the property is reduced by the regulation. This is often called the

"diminution of value" test. Many courts, however, applied a combination of tests including balancing the economic impact to the landowner with the "benefit" the regulation brings to the public. The greater the importance or purpose of the regulation in providing public benefits, the more likely the court will uphold land-use control despite serious economic losses to the landowner.

The U.S. Supreme Court did not substantially revisit the takings issue for several decades after the Pennsylvania Coal case. During this period land use issues were significantly affected by urbanization, growing exploitation of natural resources (especially fossil fuels) and an increased concern for environmental amenities. This increased public concern culminated in a national consensus for protection of natural resources through increased legislation and regulation. The confrontation between increased environmental regulation and the constraints imposed in the Pennsylvania Coal case brought the issue of regulatory taking once again to the Supreme Court in the 1980s.

In the *Penn Central v. New York City* (1978), the Court held that the purpose of the takings clause is to

THE GREATER THE IMPORTANCE OR PURPOSE OF THE REGULATION IN PROVIDING PUBLIC BENEFITS, THE MORE LIKELY THE COURT WILL UPHOLD LAND-USE CONTROL DESPITE SERIOUS ECONOMIC LOSSES TO THE LANDOWNER.

prevent the government from "...forcing some people alone to bear public burdens which, in all fairness and justice, should be born by the public as a whole." The principles of the Penn Central decision imply that

communi-ties have the authority to adopt laws and regulations that are designed to protect and enhance quality of life for their citizens; however, the regulation 1) must advance a legitimate state interest, and 2) the

property owner must retain some viable use of the property measured by the property owner's reasonable investment-backed expectations. Two key questions are 1) can the

property owner continue to use the property productively after the enactment of the regulation, and 2) if there has been an investment in the property, can the owner still obtain a reasonable return on the investment after the enactment of the regulation. Consideration must be given to the value of the property before the regulation was adopted to the value of the property after the regulation is in place. ♪

In 1980, the Court held in the *Aigins v. City of Tiburon* case that the regulation of property may

constitute a regulatory taking if the regulation either 1) fails to substantially advance a legitimate state interest or 2) denies an owner economically

viable use of his or her land.

Denial of a Section 404 permit has been tested as a takings in federal court. In the *Riverside Bayview Homes* case of 1985, the Court observed that a requirement that a person obtain a permit before engaging in a certain property use does not in itself "take" the property in any sense. Even if the permit is denied, the Court determined that there may be other viable uses available to the owner. Only when a permit is denied and the effect of the denial is to prevent "economically viable" use of the land in question can it be determined to be a taking. Being denied the "highest and best use" does not automatically constitute a taking.

In 1987, the Supreme Court handed down three major decisions which may significantly influence the parameters of environmental regulators in the

THE PURPOSE OF THE TAKINGS CLAUSE IS TO PREVENT THE GOVERNMENT FROM "...FORCING SOME PEOPLE ALONE TO BEAR PUBLIC BURDENS WHICH, IN ALL FAIRNESS AND JUSTICE, SHOULD BE BORN BY THE PUBLIC AS A WHOLE."

PENN CENTRAL V. NEW YORK CITY

future. In the *First Evangelical Lutheran Church of Glendale v. County of Los Angeles, CA* (Lutherglen) and the *Nolan et. ux. v. California Coastal Commission* (Nolan) cases the court reinforced the notion that

regulatory takings remains a vital part of the Fifth Amendment's proscription on uncompensated takings. In both cases the importance of inverse

however, the owner starts development and then must stop because of newly enacted restrictive regulations, courts have been more likely to find that a taking has occurred. When evaluating reasonable use, courts often ask if the owner has tried to sell or rent the property, or whether economically feasible alternative uses have been considered.

The most recent U.S. Supreme Court case regarding the takings issue is the *Lucas v. South Carolina Coastal Council* decision which was handed down on June 29, 1992. In 1986, Lucas bought two residential lots on a South Carolina island near Charleston. The lots were situated in an established residential area and there were single family homes on all sides, except for the ocean front. He intended to build single family homes on his lots like those on the adjacent lots. At the time of purchase, the lots were not subject to the South Carolina's Coastal Zone permitting requirements. In 1988, however, the state enacted the Beachfront Management Act, preventing Lucas from building habitable structures on his lots. The Coastal Council contended that the erection of structures on the two lots would significantly contribute to coastal erosion. Lucas then sued the S.C. Coastal Council claiming that the Act rendered his land valueless, effecting a taking requiring compensation under the Fifth and Fourteenth Amendments of the Constitution.

The original state court ruling found in Lucas' favor, deciding the land had indeed been rendered valueless. The S.C. Supreme Court, however, reversed this ruling; relying on the "nuisance exception" the court ruled that when a property use regulation exists to prevent "serious public harm," no compensation is due under the Takings Clause. The Beachfront Management Act, therefore, was ruled to be a valid exercise of police power, abating a nuisance.

A REDUCTION IN PROPERTY VALUE, EVEN IF SUBSTANTIAL, WILL NOT BE ENOUGH TO ESTABLISH A TAKING WHERE THERE IS A LEGITIMATE PUBLIC PURPOSE BEING SERVED.
KEYSTONE V. BENEDICTUS

condemnation in the planning processes of environmental regulators may have been significantly expanded. These rulings indicated that "interim" regulations and denials of use of property could become the subject of claims for just compensation. This means that a takings analysis probably should be performed prior to proposals advanced by regulatory agencies.

The *Keystone Bituminous Coal Association, et. al. v. Benedictus et. al.* case also heard in 1987 specifically addressed the issue of regulatory takings. This case reaffirmed the general rules developed in earlier cases for determining whether or not a taking had occurred. The court held that there must be a complete destruction of the claimant's property rights in order to be ruled a taking. A reduction in property value, even if substantial, will not be enough to establish a taking where there is a legitimate public purpose being served. Economic impact of land use regulation is often assessed by determining whether the owner is left with reasonable use of the property. What constitutes "reasonable" economic use is not clear in every case. Some courts have upheld wetland or floodplain zoning because the owner was left with aquaculture, recreational, and related uses, while other courts have found little value in these uses.

Because both diminution (reduction) in value and reasonable use tests for economic impact are not precise, lower courts have often asked if the owner knew of the restriction when the property was purchased, or whether the restrictions were enacted afterwards. If the regulations were in effect at the time of purchase, courts generally pay less attention to diminution of value. If,

... A STATE MAY HAVE TO COMPENSATE AN INDIVIDUAL WHO IS PREVENTED FROM DEVELOPING PROPERTY DUE TO ENVIRONMENTAL REGULATION WHEN A RESTRICTION "DENIES AN OWNER ECONOMICALLY VIABLE USE OF HIS LAND."
LUCAS V. SOUTH CAROLINA

Mr. Lucas appealed this ruling and the U.S. Supreme Court rendered yet another opposing view. The court stated

OWNERS MAY HAVE TO BE COMPENSATED IN THE SAME WAY AS IF THE PROPERTY WAS TAKEN UNDER POWER OF CONDEMNATION (EMINENT DOMAIN) FOR PURPOSES SIMILAR TO A FREEWAY RIGHT-OF-WAY.

At stake in Lucas' case is a presumption underlying huge areas of environmental

that takings jurisprudence did not support a noxious-use exception where regulation "eliminated" the value of a claimant's land. While landowners might expect some land use restrictions, they do not take title to property subject to an implied limitation that government may

subsequently eliminate all economically valuable use of the land. The court ruled that a state may have to compensate an individual who is prevented from developing

THE AUTHORITY OF GOVERNMENT TO PREVENT "NOXIOUS USES" OF PROPERTY MAY BE LIMITED IN THE FUTURE BY THE LUCAS CASE, UNLESS COMPENSATION IS PAID TO SECURE PUBLIC BENEFITS THROUGH REGULATION.

property due to environmental regulation when a restriction "denies a landowner economically viable use of his land." The court did not specifically order compensation, however, the case was sent back to the S.C. Supreme Court with specific instructions. The instructions stated that if regulation effectively prohibits all of the economically productive or beneficial uses of a private property, then compensation must be paid. The state of South Carolina eventually was forced to purchase the two lots from Mr. Lucas as a result of this ruling.

Through the ruling in the Lucas case, the court seems to be saying that when a regulation strips all economic value from property, a legitimate public purpose (police power) is not enough. The question of how far government can go before compensation is required is still extremely complex and open to speculation. It seems that in those rare cases where regulation leaves property owners without any economical viable use, the Lucas case may provide guidance leaning toward compensation; however, it is still unclear where that line should be drawn and how traditional public nuisance laws may allow for government avoidance of compensatory requirements.

legislation that has assumed that government has the authority to make laws and regulations both to protect the public from harm and to secure public benefits. The authority of government to prevent "noxious uses" of property may be limited in the future by the Lucas case, unless compensation is paid for the securing of public benefits through regulation.

When to Compensate?

It is implausible to maintain that the government should always compensate a landowner when a regulation is applied to protect a public good. Anytime government standards are imposed, it is vital to assess the costs and benefits of the action itself and the cost of and benefits of paying compensation. Wetland regulatory policy decisions require the prioritizing or assessment of wetland restoration or

protection projects. Policy makers must show what social, economic, and cultural considerations are considered in wetland policy decision, and how

these considerations are added to or incorporated with ecological considerations. Valuing wetlands benefits becomes extremely complex due to society's inconsistent views regarding non-market resources. Additionally, the lack of consensus regarding alternative wetland valuation methods also raises questions regarding the ability to generalize wetland values across wetland types, functions and geographic regions.

The value of a wetland good or service to society can be defined as the amount the public is willing to pay for that good or service rather than be without it. This approach to valuing wetlands functions is called "Willingness To Pay". Shabman and Batie (1988)

THE MULTIPLE USE CHARACTERISTICS OF WETLANDS HAVE RESULTED IN USER CONFLICTS AMONG THOSE VALUING WETLANDS ACCORDING TO DIFFERENT FUNCTIONS.

identified the following possible services of "unaltered" wetlands: 1) water supply enhancement; 2) flood hazard reduction; 3) commercial harvest of fish and game; 5) visual, cultural, and educational benefits; 6) recreational harvest of fish and game; 7) non-consumptive recreational use of fish and game; 8) reduction in the damage caused by erosion; 9) aquaculture (mariculture); and 10) maintenance of natural stability, diversity, and gene pool.

HUGE AREAS OF ENVIRONMENTAL LEGISLATION HAVE ASSUMED THAT GOVERNMENT HAS THE AUTHORITY TO MAKE LAWS AND REGULATIONS BOTH TO PROTECT THE PUBLIC FROM HARM AND TO SECURE PUBLIC BENEFITS

access to transportation or markets for commercial development of site; and 6) transportation services (pipeline routes, highways, ports). Although not specifically mentioned, oil and gas extraction would be considered a developed wetland service or value that is extremely significant in many parts of the Gulf coast region.

Ecological economists must attempt to access all of the possible wetland services affected by a policy decision so that a reliable benefit/cost analysis can accurately evaluate efficiency gains associated with a regulatory policy. If compensation is judged to be necessary, government can determine just payments to losers from these analyses.

Proposed/Approved "Takings" Legislation

Two "takings" related bills are expected to be debated in the U.S. Congress in 1995. Louisiana Congressman Billy Tauzin's "Private Property Bill of Rights" would require government compensation when a landowner loses 50% or more of the market value or use of affected property. Congressman Jimmy Hayes, also of Louisiana has introduced a wetland policy reauthorization bill which would rank wetlands according

to their function and value and require compensation for highest value wetlands.

In the states of Delaware, Washington, Utah, Indiana, and Arizona, legislation has passed that addresses the takings issue. Additionally, a "50% Bill" was introduced in 10 states in 1993 that would basically require compensation if a landowner can show that affected property has lost 50% or more of its value due to a regulation.

Conclusions

With regulatory takings jurisprudence in the United States still undecided, questions still remain as to 1) when does a takings take place, and 2) how government should determine just compensation to a landowner when a takings is found to have occurred. It is clear from the U.S. Supreme Court ruling in the Lucas case that a regulatory takings can occur if all viable economically valuable use of property is stripped, even for a legitimate public purpose. If some economic use of property remains, however, the court has generally ruled against takings suits, and has not required compensation.

Wetland policy decisions addressing externalities — economic activities carried out by one group which affect the welfare of another group — must attempt to embrace Pareto-relevancy. Pareto-relevant externalities are externalities which may be modified to make the externally affected party better off without making the acting party worse off. Externalities in which the affected party is worse off by the activities of the acting party are an external diceconomy. The Takings Clause of the 5th Amendment attempted to make externalities Pareto-relevant. Policy makers should strive to make society better off, without making the landowner worse off (approach Pareto safety). Instruments (i.e., incentive-based programs) must be implemented that will help wetland landowners achieve society's environmental management goals. Additionally, policy makers must be sensitive to landowner liability costs when regulating wetland services (e.g., flood protection and aesthetic values). When the private landowner costs associated with maintaining these wetland services exceed the revenues that can be obtained from the land, then society must be willing to: 1) provide economic assistance, or 2) through consensus, agree that certain wetland services should be protected through long-term property easements

or mutually agreeable acquisition at fair market value. In light of the traditional private property tradition in the United States, a combination of these two approaches should be encouraged. ☪

* This is an abridged version of a paper presented by Paul Coreil at the Louisiana Wildlife Biologists Association Symposium on Natural Resources Economics at the Louisiana Department of Wildlife and Fisheries in Baton Rouge, October 1994. An unabridged paper with complete references and a full bibliography is available upon request from the Envirodecision editor.

ENVIRONMENTAL LAND-USE RESTRICTIONS AN INCENTIVE-BASED APPROACH SUCCESS STORY

The Wetland Reserve Program (WRP) was authorized in the 1985 Farm Bill and funded in the 1990 Farm Bill. This incentive-based program pays landowners market value for cropland that is restored to vegetated wetlands in exchange for perpetual easements. Additionally, landowners are reimbursed up to 75% of the restoration costs. The landowner maintains title to the land and is granted several compatible uses which includes selective timber production, sport hunting/fishing enterprises, limited grazing, and trapping.

The first sign-up for the WRP was held in 1992 and interest was extremely high (see 1992 WRP Table). Almost 2,500 landowners in the nine pilot program states offered almost 446,000 acres. Funding limited final acreage acceptance to 50,000 acres nationwide.

In 1994, twenty states participated in the second WRP sign-up and interest was again high (see 1994 WRP table). Over 5,700 landowners offered almost 600,000 acres. Again, limited funding held final acreage acceptance to 75,000 acres nationwide.

The Wetland Reserve Program is an excellent example of an effective incentive-based program that will ultimately lead to the restoration of thousands of acres of wetlands, and the provision of associated public benefits, throughout the U.S. This successful program should serve as a model for the development of effective incentive-based environmental policy in the U.S.