Chapter Six

LEGAL CONSIDERATIONS FOR MAINE'S POLICY RESPONSE

Most tools that are likely to provide an effective policy response to sea-level rise are in the hands of state and local governments. As the preceding chapter indicated, federal legal authority to address rising sea level is limited to the federal flood insurance program, which has yet to incorporate assumptions of an accelerated rate of rise, and the financial and technical assistance for planning provided to states under the federal Coastal Zone Management Act. The activities of private organizations that operate on a local or regional level, such as land trusts, can be important components of a state-wide response strategy.

The response tools from which Maine can choose fall into three broad categories: regulatory, non-regulatory (i.e, market-based), and informational. The selection of appropriate tools can be based upon whether Maine decides to pursue a strategic retreat, accommodation, or resistance/protection course of action, or a combination of these approaches. In this part of the report, it is assumed that Maine will opt to pursue a retreat policy along most of the coast, based upon considerations and assumptions discussed in the preceding chapters.

This chapter examines the retreat policy tools available to Maine in terms of their legal feasibility and defensibility. The primary focus is on the potential constitutional challenges to those regulatory tools that reduce the land use choices of private landowners. While the legal authority to employ the non-regulatory, market-based tools is an important consideration, these approaches by definition present fewer bases for legal challenge, especially under the takings clause. Accordingly, their legal defensibility is discussed less extensively. The informational tools, which are very important to support both regulatory and non-regulatory approaches, are discussed only very briefly. However, it is important that Maine consider and select from the full array of tools available for a sea-level rise response; the legal feasibility is just one factor to consider in formulating the State's policies.

A. OVERVIEW OF POLICY RESPONSE OPTIONS AND TOOLS

Tools that are regulatory in nature are those within the broad range of land use controls and regulations that can be adapted for the special conditions of rising sea level. These include:

- static or dynamic construction setback lines which restrict new development next to the shoreline and are measured using either historic or accelerated shoreline erosion rates and the average useful life of structures;
- conditional land use permits for new shoreline development that require removal of structures once shoreline migration begins to occur[1] or which condition development on the conveyance of a rolling easement[2] or a covenant prohibiting the construction of a seawall or bulkhead;
- prohibitions on rebuilding of existing structures based upon projections of the future location of the tide line;
- building and engineering codes and design standards requiring new structures to be built at elevations above a future sea level; and
- buffer/no building zones around critical natural areas such as wetlands likely to migrate with rising sea level.[3]

Non-regulatory tools rely on market forces and voluntary actions rather than legal prescriptions to prevent development in areas subject to rising sea level. These include:

- public purchase of full or partial property rights such as flowage easements on land likely to be affected by rising sea level;
- incentives or subsidies for private owners to relocate development away from the shoreline;
- tax incentives to preserve undeveloped areas needed for wetland migration;
- development disincentives and exactions to pay public costs of erosion control; and
- transferable development rights to compensate landowners for development restrictions (used in conjunction with land use regulations).

Several states have already adopted many of the regulatory tools listed above in their efforts to control coastal erosion and hazards. A small number of states have expressly evaluated these tools for the purpose of anticipating a rising sea level associated with global climate change. A review of state programs with coastal hazard control and sea-level rise provisions is provided in Appendix B.

Few states have evaluated or adopted non-regulatory, market-based approaches for addressing sea-level rise. However, a number of these non-regulatory tools present advantages that should not be overlooked, especially when used in conjunction with a system of land use controls relevant for sea-level rise. The main advantage of non-regulatory tools like the voluntarily-conveyed, rolling easement is that they are useful when sea level rise forecasts are uncertain. They do not require the same degree of scientific and technical support as regulatory restrictions. These tools, while novel today, are likely to become more feasible in the near future. This will happen when the public becomes more familiar with alternatives to land use regulation and realizes that non-regulatory alternatives are less litigation-prone and can be more cost-effective than regulation. In the discussion

that follows, the feasibility of non-regulatory alternatives particularly suited for sea-level rise policy will be considered in light of Maine law in section D.

B. REGULATORY OPTIONS FOR MAINE'S SEA-LEVEL RESPONSE

Maine, like many other states, already has in place a system of land use control laws designed to control development in environmentally-sensitive areas and to prevent growth from overtaxing public infrastructure needed to support communities.[4] As described in Chapter Five, one of these laws, the Natural Resources Protection Act, through the Sand Dune Rules, already takes account of rising sea level in sand dune systems. That Act does not, however, expressly consider rising sea level in other coastal wetland or eroding bluff areas. Given this existing body of environmental and land use control laws and their gaps in coverage, it is likely that Maine's policy makers will wish to consider adopting several additional regulatory tools that are consciously designed to anticipate the movement of the shoreline.

Several opportunities exist for strengthening Maine's regulatory controls on land use and development that would improve the legal framework for dealing with sea-level rise. The purpose of this chapter is to examine one aspect of the feasibility of these measures—their ability to withstand legal challenge by property owners. Additional considerations are also important in determining overall feasibility, including availability of technical resources to support certain regulations, legislative willingness to adopt additional land use controls measures, and public understanding and acceptance of such measures. These factors must also be considered before a final sea-level response strategy can be developed.

In Chapter Five, one measure is described that would protect Maine's valuable and limited sand beach resources by establishing construction prohibition areas, commonly referred to as "setbacks," under the Natural Resources Protection Act and the Mandatory Shoreland Zoning Act. These "no building" areas would be based upon projections of accelerated sea-level rise for some structures and on historic erosion rates for other structures in a two-tiered system of setbacks. The first tier of setback lines would apply to smaller structures and would be established using 100 times the historic annual average erosion rate for a particular beach or beach segment. A setback line calculated on this basis could also apply to favored coastal uses such as buildings that support commercial water dependent uses, e.g., shipyards and fishing support facilities.

Larger structures and developments, and certain less-favored uses, e.g., non-water dependent commercial uses like restaurants and office buildings, would be subject to a setback requirement reflecting an assumed accelerated rate of sea-level rise, for instance, 3 feet over 100 years. All new development subject to the Natural Resources Protection Act would also be conditioned on removal if changes in the shoreline result in its interference with dynamic dune processes.

Both groups of setback lines would be published on maps available to landowners and municipal officials and would be subject to periodic review and revision as new information improves predictions of shoreline change.

To protect the irreplaceable wetland resources and their ecological functions along the Maine coast, Chapter Five suggests steps to provide for the landward migration of salt marshes as the level of the sea rises. These would include the adoption of measures under the Natural Resources

Protection Act and/or local shoreland zoning ordinances to restrict new development and to phase out existing development in uplands areas adjacent to protected wetlands that are needed for inland migration. These measures could take three forms:

- an increase in the minimum setback (currently 75 feet) from the upland edge of a coastal wetland based upon projected changes in shoreline;
- a requirement that applicants for high density development located adjacent to coastal wetlands prove during site plan review that the site is stable and that the proposed structures are set back from the wetland's new upland edge that would result from a projected 100 cm rise in sea level over the next 100 years; and
- a condition on all new development and replacement structures that they be removed if changes in shoreline result in their interference with natural migration of salt marsh vegetation or tidal flows of water.

To prevent development on eroding coastal bluffs, Chapter Five suggests these natural features should be incorporated into the Natural Resources Protection Act and regulations should be adopted which would parallel the Sand Dune Rules. In addition, or in the alternative, protection under local shoreland zoning ordinances should be substantially increased. These rules would limit new development, prevent the construction of bluff stabilization devices designed to protect existing structures, and would establish a retreat policy in the event of future bluff erosion.

With respect to engineered urban shoreline, stronger land use controls than are currently in place under state and local laws would help to minimize damage from sea-level rise. The primary action suggested would restrict building occupancy to uses that require a shorefront location in order to function, uses that are sometimes referred to as "water dependent." These restrictions are within the scope of existing zoning and land use controls and would require no special legal considerations if adopted to address sea-level rise. Such controls would clearly further important state interests and leave property owners with numerous economically beneficial uses.

The following discussion will focus on the preceding recommendations that may raise more difficult questions of legal defensibility. It focuses primarily on the measures designed to protect sand dune systems, wetlands, and eroding bluffs which may face challenges by land owners under the federal and Maine constitutional provisions prohibiting governmental "taking" of property through restrictive land use and environmental regulations.

C. POTENTIAL LEGAL CHALLENGES TO THE REGULATORY TOOLS

1. Overview: Due Process and Takings Clause Challenges

As with all land use regulatory measures that restrict the options of landowners, measures anticipating climate change-induced sea-level rise may be challenged in court. Some owners may pose what is referred to as a "substantive due process" challenge to the rationale for the restrictions. They would claim, for instance, that the sea-level rise projections rely on models and possible scenarios rather than on proven rates of shoreline change on their property, and that their property use choices should not be limited by these assumptions. Some landowners may also consider the economic impact of restrictions to be so burdensome or so inconsistent with their expectations that

they will accept the risks and costs of mounting a takings clause challenge.[5] Because of its scarcity and high demand, coastal property is among the highest value property in the nation. This increases the likelihood of landowners bringing legal claims, especially for monetary damages under the takings clause.

State and local land use regulations are very likely to survive the challenge that they lack a valid public purpose or a substantial basis in fact or scientific evidence. Legislative judgments, such as the decision to include eroding bluffs under the Natural Resources Protection Act, are afforded a presumption of validity by reviewing courts. The challenger/ landowner must prove to the court that the legislation or regulations are invalid. A Maine court will uphold the regulations unless the landowner proves that the laws do not promote the general welfare, use means that are not appropriate to achieve these public goals, or are being exercised in an arbitrary or capricious manner.[6] The court will presume that the regulations are valid; the challenger must prove that the regulations fail to meet at least one of these three standards.

Courts in Maine consider protection of environmental quality and preventing harm to life and property from coastal storms a valid objective of the police (legislative) power.[7] Likewise, Maine courts have found that restricting development in environmentally sensitive areas such as wetlands is an appropriate means of achieving these legislative objectives.[8] The courts are likely to find that additional regulations of the type described above are sufficiently based in fact to be upheld against a substantive due process challenge. This will be so as long as the regulations are based on some degree of scientific evidence, including, e.g., models and projections of sea-level rise that are reasonably credible, even if there are alternative interpretations. Similarly, if the regulations are not discriminatory and treat similar property in a similar manner, the courts will not find them either arbitrary or capricious.

If a court were to conclude, however, that one of these tests is not met, it would strike down or invalidate the particular regulation. In that event, the legislature, town council or selectmen would be free to enact a modified or alternative measure that would meet these tests and achieve the same ends. The outcome would be different, however, if the landowner concedes that the regulation is a valid exercise of the police power, but claims that it deprives her of all or substantially all of her property's value. If she can convince the court that the regulation constitutes a taking without compensation, the court will not invalidate the regulation, but will require the regulatory body to compensate the landowner for the appropriate measure of economic damage she sustained.

There are several ways in which regulators can design their laws in a manner that is sensitive to the interests of landowners but which can achieve the public policy objectives. Before describing these, it is necessary to set out the basic legal standards for regulatory takings under federal and Maine law.

2. Takings Clause Principles

A landowner's challenge to Maine's sea-level rise regulations could be brought under either the federal or state constitutional provision protecting private property against governmental takings without compensation. While the tests the courts will use to analyze the claim differ slightly, the fundamental considerations are the same: a largely factual inquiry into the purpose of the regulation and the effect it has on the particular property in question.

a. Federal Takings Law

The Fifth Amendment to the United States Constitution provides that government bodies shall not take "private property ... for public use without just compensation."[9] Although the original intent of the provision was to insure private property against physical seizure by the government, since the 1920s, the U.S. Supreme Court has held that the provision can be invoked against government regulations that effectively take private property by eliminating most of its value to the owner through restrictions on its uses. In his famous opinion in *Pennsylvania Coal Co. v. Mahon*,[10] Justice Holmes observed that while government could not function if it could not impose some constraints on private action, "if [a] regulation goes too far, it will be recognized as a taking."[11]

While the Supreme Court has consistently held that "no precise rule determines when property has been taken [by government regulation],"[12] the Court has generally recognized that a regulatory taking is effected where a land use regulation "does not substantially advance legitimate state interests, ... or denies an owner economically viable use of his land."[13] In cases where the enactment's legitimate state purpose is not seriously questioned, the Court's analysis has focused on the "economic impact of the regulation on the claimant and ... the extent to which the regulation has interfered with investment-backed expectations."[14]

The Supreme Court has developed a multi-factored balancing test, which courts are to use on a case-by-case basis, to determine when a regulatory burden is so significant that the affected property owner is entitled to compensation. The courts will look first at the character of the governmental action and will ask whether the regulation advances a legitimate state interest. Under this first test, the courts will look to see if the nature of the government action serves to cause a physical invasion of the private property, by either the imposition of a structure not owned by the property's owner or by allowing the general public to have access to the property. If a physical invasion is caused, the regulation will be considered a taking *per se*, and the courts will not look beyond that fact to consider the impact of that invasion upon the property's value.

If the regulation does not cause an invasion, and serves a legitimate state interest, the courts will then look at the extent to which the regulation affects the landowner's economic uses of the property. Under this standard, courts often look at the economic impact in two ways. They may consider the direct impact of the regulation on the market value of the property. However, regulations causing very significant reductions in market value have been sustained, so this test is not determinative of a taking, especially where the prohibited use is a public nuisance. Also, courts may consider the extent to which the restriction interferes with the owner's investment-backed expectations. This entails looking at the present uses of the property and whether the owner is enjoying some economic return on the property despite the restriction.

In essence the multi-factored test seeks to balance the public benefit of the regulation against the private costs that it imposes. To make this judgment, courts look at the specific facts of the case, including the rationale for the regulation and the circumstances of the property owner and similarly situated owners.

Courts, however, are not required to engage in this balancing process in all cases. In recent years, the Supreme Court has developed two categorical standards for finding a regulatory taking. If the regulation falls within either of these two categories, it will constitute a taking *per se* and the

property owner will be entitled to compensation regardless of the degree of the economic impact or the nature of the governmental interest served. The court will not balance the harm the regulation sought to prevent against the effect on the property owner's interests to determine whether the compensation is due.

As mentioned above, the first categorical standard requires compensation in any circumstance where the effect of the regulation is to require the physical occupation of any portion of the owner's property by someone other than the owner, or by some structure or equipment not owned by the property owner, even if the economic impact of such occupation is minimal or zero.

The second categorical taking is even more recent in origin and is particularly relevant to sea-level rise related regulation because of the facts of the case in which the rule was announced. This test states that when the effect of the regulation is the total elimination of all economic value of the property, the owner is entitled to compensation for that loss regardless of the public purpose the restriction sought to achieve. Even if the purpose is to prevent a serious public harm, this will not shield such "total takings" restrictions from the compensation requirement. This second category of *per se* takings, however, has exceptions, and courts will not order compensation to the land owner when these conditions triggering the exceptions are present. Unfortunately, when these conditions will be found is unclear, as the Supreme Court has only discussed the second category of *per se* takings in one recent case, and in that case strong dissenting opinions challenged the validity of the *per se* rule and questioned the exceptions.

The "total takings" categorical rule was announced in a case challenging a state's beach erosion setback lines which were enacted as part of the state's coastal management program. In *Lucas v. South Carolina Coastal Council*,[15] the U.S. Supreme Court held that when a land use regulation prohibits all economically beneficial use of the land, the takings clause requires compensation to the owner unless the regulation merely codifies restrictions inherent in the property or in the state's common law of nuisance.

While this rule is relatively easy to state, the decision in which it was announced provides little guidance on how to determine when a land use regulation strips a property of all economic value. When Mr. Lucas first brought his challenge to South Carolina's setback law, the state trial court agreed with his claim that the property had zero remaining value. For procedural reasons the U.S. Supreme Court assumed that this factual finding of a "total taking" was correct.[16] As a consequence, the Supreme Court operated on the assumption that the beachfront setback regulation itself had reduced the property's value to zero.

The Supreme Court stated, however, that there would be no taking if the state's property or nuisance law already imposed a restriction on the use of the property that is comparable to that brought about by the challenged regulation. Unfortunately, the *Lucas* case does not tell us what principles of state property or nuisance law would constitute exceptions to the total takings rule. When the case was remanded to the state supreme court for consideration of whether this exception applied, the court merely found, without explication, that no basis existed in South Carolina's common law to deny Mr. Lucas the right to build on his land. It then remanded the case to the trial court for a determination of the monetary damages to which Mr. Lucas was entitled.[17]

The meaning of the *Lucas* case is further complicated by the fact that the Court expressed different opinions on the new *per se* rule and on the meaning of the exceptions. In his concurring opinion, for example, Justice Kennedy stated that "[c]oastal property may present such unique concerns for a fragile land system that the State can go further in regulating its development and use than the common law of nuisance might otherwise permit."[18]

In light of the current Supreme Court's standards and views on the doctrine, the outcome of a takings claim under the federal Constitution will be hard to predict, especially where the regulation can be seen as depriving all uses of land. The implications of this uncertainty for a sea-level rise strategy will be discussed below, after the Maine law on takings is reviewed.

b. Maine Takings Law

Maine has a constitutional provision very similar to the Fifth Amendment of the U.S. Constitution. Article I, Section 6 provides that "[p]rivate property shall not be taken for public uses without just compensation; nor unless the public exigencies require it."[19] The Maine Law Court, much like the U.S. Supreme Court, has recognized that takings claims are subject to no set rule, but rather must be approached as a "factual inquiry into the substantiality of the diminution in value of the property involved."[20] Generally, a land use regulation will effect a taking under the Maine Constitution where the regulation renders the property in question "substantially useless," or where:

> it deprives an owner of one of its essential attributes, destroys its value, restricts or interrupts its common necessary, or profitable use, hampers the owners in the application of its use to the purpose of trade, or imposes conditions upon the right to hold or use it and thereby seriously impairs its value.[21]

Stated succinctly, "[t]he question is whether the right in question constitutes `a fundamental attribute of ownership' such that its extinguishment would render the property substantially useless."[22]

At the time of this report, the Maine courts have not had an opportunity to apply the total takings rule to a land use regulation case, so it is not clear if and how the *Lucas* decision will affect Maine's takings law. In Maine's own beachfront regulation cases, however, the Maine Supreme Court has shown a willingness to define broadly the economically beneficial uses that are open to property owners and has recognized the high economic value of land along the Maine coast, even if it cannot be built upon under the law.

3. Applications of Takings Clause Principles to Potential Sea-Level Rise Regulations

Are any of the regulatory measures recommended in Chapter Five for Maine's sea level response strategy vulnerable to successful regulatory takings challenges by landowners? As the following will demonstrate, despite the uncertainty that recent Supreme Court decisions have caused, contemporary takings law does not pose a high risk that state regulatory measures will be invalidated or found to require compensation.

a. Coastal Construction Setbacks

Construction setbacks and other development prohibitions stand a good chance of surviving legal challenges if they are carefully designed with a view toward current takings standards, including both the traditional balancing test and the categorical "total takings" rule.

Even if the construction setbacks or other development restrictions ban all new construction outright, the government will have several defenses against a takings challenge. For example, in most cases where setbacks are imposed, the restrictions will not deprive the landowner of all economically viable use of the parcel, but will only affect the shoreside portion. The government should be able to demonstrate that other valuable uses of land remain, or that the owner has already derived significant benefit from her ownership, either through subdivision and sale or through development elsewhere on the property.

Similarly, setback requirements and related prohibitions do not cause a permanent physical invasion of the property by other individuals. It is also unlikely that a court would find that similar prohibitions on holding back the sea with bulkheads or seawalls would result in a compensable physical invasion of the parcel.

Finally, the government can defeat a takings challenge if it can establish that the coastal protection regulations do not interfere with the owner's "reasonable investment-backed expectations." This may be done, for example, by emphasizing the dynamic nature of coastal property boundaries, which reflect the realities of natural cycles of accretion and erosion, and which may render the property unsuitable for the construction of a permanent residential structure. An argument may also be made that the regulations do not effect a taking because they merely serve to codify existing common law land use restrictions embodied in the principle known as the public trust doctrine. Thus, the regulations did not deprive the owner of a pre-existing, lawful use of her property.

Although the courts are likely to uphold the construction setbacks and other development prohibitions that ban new construction in identified hazard areas, it is impossible to predict this with certainty because the takings tests involve considerations of facts peculiar to the individual case.

Under Maine law, a landowner claiming a regulatory taking has the burden of proving the absence of residual beneficial uses of the regulated land before the court will find that a taking has occurred.[23] Arguably, a shorefront owner, although precluded from constructing a permanent residential structure, retains the ability to make valuable uses of her property in the face of the coastal protection regulations. She may, for instance, use her lot and the adjoining intertidal zone for sunbathing, picnicking, camping, and other nonresidential purposes. Indeed, the Maine Law Court, in *Bell v. Town of Wells*,[24] recognized the right of shorefront landowners to enjoy these uses of the adjacent intertidal zone to the exclusion of the general public.[25] As it would appear that challenging property owners would in fact retain beneficial use in their land and the adjoining intertidal zone even when the new coastal construction regulations were applied, the landowners would have a difficult time indeed establishing a regulatory taking under the "substantially useless" rule.

In fact, past Law Court decisions lend considerable weight to this argument. In *Hall v. Board of Envt'l Protection,*[26] for instance, the court reviewed a decision of the Superior Court holding that the landowners had suffered a regulatory taking of their shorefront property under the State's then-

current version of the "Sand Dune Law."[27] The trial court had found that the Board of Environmental Protection's (BEP) denial of a residential construction permit constituted a taking under the Maine and United States constitutions because the denial deprived the landowners of the right to put their land to its "highest and best use," which was, the court noted, as a site "for a single-family residence on a year-round basis."[28]

The Law Court rejected the lower court's analysis, holding that, even in the face of the BEP denial, the landowners retained sufficient beneficial uses of their land to allow the State law to survive the takings challenge. Specifically, the landowners were still able to use the property during the summer months by living in a motorized camper connected to utilities, to lease it for seasonal trailer use by others, or sell it for a substantial price as had many of the landowners' neighbors.[29]

If it can be shown that landowners affected by the coastal protection setbacks would still be able to make temporary, seasonal residential use of their shorefront properties, or would be able to sell them on the open market for "substantial sums," the regulations are likely to survive a takings challenge under the rationale of *Hall*. Thus, Maine may be able to prohibit all permanent residential development on shorefronts that are subject to rising sea level and still defeat a taking challenge which alleges absence of residual beneficial uses.

Another principle of Maine property law may influence a court's determination of what constitutes a shorefront property owner's "reasonable investment-backed expectations." Since 1884, it has been clear that seaward property lines of shorefront landowners move with the water line as sand accretes and erodes at the shoreline.[30] Oceanfront owners are on constructive notice that their property could be completely consumed by one of these natural processes. Because they are presumed to know of this risk, it is at least arguable that the challenging landowners had no reason to assume they could safely construct permanent residential structures on the shorefront, or that land of such ephemeral quality is suitable for these purposes.

There is no guarantee, however, that this second argument will allow Maine successfully to avoid a regulatory takings claim in every case. Although it is undeniably true that shorefront property is held subject to the effect of natural eroding forces (or rising sea level), it seems clear that a landowner may still hold some "reasonable investment-backed expectation" to develop the land in the face of this risk, particularly where the risk of erosion has been historically minimal. It may be accurate to say that a landowner holds no "reasonable expectation" to develop shorefront property for permanent residential occupation where historical data indicates the lot in question succumbs to erosion on a frequent basis. It may be difficult or impossible, however, to sustain such an argument where the lot has historically suffered only minor shorefront erosion over the course of several decades. Whether a particular lot owner has a "reasonable expectation" to develop the land for permanent residential use will thus depend upon the individual facts and circumstances surrounding the particular parcel in question.

A landowner's expectations concerning use of her property are probably not reasonable unless they are grounded in knowledge of historic erosion rates. However, at this time, due to scientific uncertainty and lack of public education about the possible impacts of accelerated sea level rise, it is probably unsupportable to expect landowners to have internalized global climate change-related sea-level rise projections into the "reasonable expectations" for their property. In other words, the rules of the game have not yet changed, although Maine's current Sand Dune Rules embody a

consideration of the location of the shoreline in 100 years, and the public is expected to be aware of these considerations.

Partially for these reasons of public awareness and expectations, Maine may wish to adopt two different setback requirements, one based on historic erosion rates and the other upon predicted, accelerated sea-level rise. The historic rate would be applicable to low intensity and publicly favored shoreline uses. The accelerated rate would be applicable to high-intensity and disfavored shoreline uses. All would be subject to retreat requirements.

The establishment of two different setback requirements and their application to different kinds of structures based upon the expected useful life and ease of mobility should not give rise to any unfairness claims. Both bases for setbacks can be supported by technical evidence. Maps are likely to be available on which the different shoreline positions can be calculated. Moreover, the differential treatment of structures based on mobility and use preferences is not arbitrary and is clearly related to the purpose of the regulation which is to allow some land use while providing protection for the landward movement of the shoreline.

In summary, the courts in Maine have already shown a willingness to sustain coastal construction restrictions under existing laws and regulations and are likely to follow their own precedents in subsequent cases. In addition, the following points should be emphasized respecting coastal setback lines:

1) setbacks which prohibit the construction of permanent residences outright based on evidence of threats to public health and safety are defensible, but their defensibility becomes more tenuous as the threat of harm becomes more remote or the evidence of harm less certain;

2) Maine's response strategy should prohibit new construction outright where it is likely to be affected by historic erosion rates, considering the useful life of the structure;

3) in areas not expected to be affected by the continuation of historic erosion rates within 100 years, but projected to be affected by sea-level rise, Maine should regulate to allow only low-intensity, temporary uses, so as to leave owners with some economically beneficial uses; and

4) Maine can couple the partial restriction to low-intensity uses with a retreat requirement, to remove all structures in the event of rising sea level. This requirement is analyzed more fully in a later section.

b. Rebuilding Prohibitions for Existing Structures

Because much of the "soft" coast of Maine is already developed, at least that portion adjacent to sand beaches, any comprehensive retreat strategy will have to include restrictions on the rebuilding of existing structures as they are damaged by storms and high tides. Rebuilding prohibitions are not uncommon in state beach management laws; these laws, for example, impose a ban once the structure is damaged by 50% or more. Rebuilding bans are used in conjunction with beachfront construction setback regulations.

South Carolina's Beachfront Management Act of 1988 included a rebuilding ban for existing structures located between the baseline (the crest of the primary dune) and the setback line, which the Act required to be located landward of the baseline to a distance which is forty times the average annual erosion rate.[31] The Act stated that any habitable structure "destroyed beyond repair" by natural causes or fire could not be rebuilt seaward of the baseline or between the baseline and the erosion setback line. South Carolina administrative regulations defined "destroyed beyond repair" to mean "more than two thirds (66 2/3%) of the building components making up the structure are damaged to such a degree that replacement is required in order for the structure to be habitable, functional or sound."[32] The law also restricted the construction of additions to existing structures or the installation of recreational amenities.

A number of beachfront landowners challenged these restrictions in South Carolina, claiming they amounted, on their face, to an unlawful taking of their property without compensation and a violation of due process. The federal Court of Appeals for the Fourth Circuit, however, disagreed. It held that the restriction served a legitimate state interest and bore a substantial relation to the Act's goals of protecting the state's beach/dune system. In addition, the restriction did not deprive the owners of economically viable use of their property. South Carolina's regulations allowed owners to continue the existing use of their property and dwellings in the same manner as they had prior to their enactment. The court rejected the owners' argument that the Act had diminished the market value of their property and had therefore caused a taking. It noted that even substantial market value reductions do not suffice to establish a taking. The owners were "significantly diminished only in their discretion to rebuild a structure in the speculative event of its virtually complete destruction."[33]

c. Permit Conditions Requiring Removal or Barring Future Construction of Protective Devices

Another potential measure that is contingent upon the occurence of a future event (e.g., a storm or shoreline retreat) would attach to state or local coastal land use permits special conditions requiring either removal of structures in the event of a rise in sea level or banning the construction of bulkheads. This approach offers certain advantages with respect to potential regulatory takings challenges. Removal conditions allow landowners to use or develop their property in the manner in which they desire, subject only to the contingency that a rise in sea level will necessitate the structure's removal. The regulations unquestionably afford the landowner a productive and beneficial use of the land. Because the regulation does not prohibit, for example, construction of a residential structure, its constitutional validity does not depend on a court's willingness to find, as in the *Hall* case, that other valuable uses of the property remain despite the ban on construction.

Maine's Sand Dune Rules already incorporate provisions which bar future bulkhead construction and require removal of new structures in the event of substantial damage or interference with dynamic sand dune systems. Similar regulations regulations should be extended to coastal wetlands and eroding bluffs.

Regulators should limit the objective of such permit conditions to structure removal or banning seawalls, to avoid complicating any legal challenge that may ensue. They may be tempted to modify the conditions in an effort to preserve public access and use of the shoreline and adjacent tidelands. While this is a legitimate goal, it will subject the conditions to a higher degree of legal scrutiny that increases the uncertainty that the measures will be sustained. This higher degree of constitutional

scrutiny would be triggered if, for example, landowners were allowed to construct seawalls if they agree to convey an easement for public access along the wall or adjacent upland area.

In a 1987 decision, the U.S. Supreme Court identified special criteria for regulatory conditions on coastal construction where the effect of the condition is to require the permanent physical invasion of the property by the general public or government or by structures or equipment, owned by someone other than the land owner. Such conditions must be designed to alleviate very directly the burdens which that development poses on the environment or on other public interests. If the conditions seems only marginally related to the project's impacts, the condition will not appear to "substantially advance legitimate state interests" and the court will require compensation for the owner.

This close fit test is referred to as the "nexus" requirement. It stems from the U.S. Supreme Court's decision in *Nollan v. California Coastal Comm'n*,[34] where the Commission had required property owners to grant a public easement on the dry sand portion of their lot in exchange for permission to rebuild and expand the dimensions of their house. Because the public easement did not mitigate the adverse visual impacts of the house, impacts that would have justified denial of the construction permit, the Supreme Court assumed that the agency was trying to expropriate the owner's right to exclude people from their beach without having to pay for it. The Court suggested, however, that outright denial of the permit would not have been unreasonable if the grounds had been the house's adverse visual impact on public views of the ocean from the public road landward of the house.

In a 1994 decision applying the *Nollan* rule, the Supreme Court struck down municipal permit conditions designed to prevent construction in a flood-prone area. In *Dolan v. City of Tigard*, the conditions required the landowner to dedicate a part of her parcel as a public greenway for stormwater drainage, to mitigate the impact of her proposed expansion of her commercial development. Part of the dedicated greenway would be used for a pedestrian and bicycle pathway.

The Supreme Court found that the "essential nexus" existed between the permit condition and the state interests sought to be served. The constitutional problem arose because the city had not demonstrated that the dedications related specifically to the degree of impact on stormwater flooding and increased traffic that the proposed land use expansion would have. The Court stated that "[n]o precise mathematical calculation is required, but the city must make some sort of individualized determination that the required dedication is related both in nature and extent to the impact of the proposed development."[35]

It is unlikely that the *Nollan/Dolan* test would arise in a challenge to coastal permit conditions that merely require moving structures in the event of rising sea level, but if it did, such conditions would be likely to be upheld. First, a permit for development which would lie in the path of projected change in shoreline position due to changing sea level could be denied outright and such denial, as discussed above, would likely survive a takings challenge. If, instead of denial, the structure is allowed with the condition that it be removed under certain circumstances, the requisite close fit is satisfied between the impacts that could justify denial and the condition.

Allowing the owner to undertake the development on the condition that it be removed provides flexibility in the event that sea-level rise predictions are revised downward. The condition is directly

related to the adverse impact the development would have on the ability of wetland vegetation to migrate in the event of rising sea level. It does not attempt to mitigate this adverse effect by an unrelated condition.[36]

Such retreat conditions may not in fact have to meet the *Nollan/Dolan* nexus test. The *Nollan* and *Dolan* decisions hold that conditions on land use that restrict an owner's right to exclude others must satisfy a particularly demanding standard of reasonableness, beyond the "rational basis" that is normally sufficient to meet the requirements of due process and equal protection.[37] It is important to keep in mind that the *Nollan* holding involved a perceived physical invasion by the general public through the public access condition, which the Supreme Court has held is almost always a compensable taking because the right to exclude is considered a fundamental attribute of land ownership.

Regulatory conditions that restrict or eliminate other aspects of ownership would not necessarily be subject to similar scrutiny or presumption of an intent to expropriate private property rights. Courts have not yet held, for example, that the bundle of ownership rights includes a right to protect property from erosion and other natural forces, especially where to do so will harm public resources or adjoining property.[38]

Although the permit retreat conditions are very likely to be upheld if challenged in court, other considerations may counsel for extreme caution if a strategy intends to rely on permit conditions to accomplish the intended protections. Any conditional removal is likely to occur in the distant future, and there is no guarantee that future legislatures or agencies will have the political will to maintain the restriction. It would therefore be more effective if the conditions took the form of deed restrictions or covenants that would run with the land. Given that the political pressure to amend a regulatory restriction if sea-level rise occurs is almost a certainty and future legislative action is unpredictable, the benefits in durability of a deed restriction or covenant approach outweigh any slightly increased chance of judicial invalidation. Again, it is still most likely that the restriction would meet a nexus test because of the adverse effect that the proscribed bulkheads and structures would have on migrating shoreline resources.

d. The Total Takings Rule and "Background" Principles of Maine Shoreline Property Law Including the Public Trust Doctrine

In *Lucas v. South Carolina Coastal Council*,[39] the Supreme Court suggests that certain state property law principles may so limit an owner's property as to preclude any basis for a regulatory takings challenge. In order to properly evaluate the magnitude of the economic impact of a regulation on a landowner's property, the Court suggests it is necessary to consider the extent to which the state's common law operates to limit the landowner's use of her land. If the legislation achieves nothing more than codification of a pre-existing, common law land use restriction, no taking may be found. The landowner occupies the same economic position with regard to her land both before and after the challenged legislation was enacted. The regulation has had no direct impact on the owner's reasonable investment-backed expectations.[40] If the legislation, however, reaches beyond the common law and places restrictions on land use that render the owner's property substantially useless, a regulatory taking will be found.

The question is whether the regulatory measures under consideration to anticipate rising sea level and migrating wetlands merely codify existing limitations on shoreline property use. It is difficult to state with any certainty whether existing Maine property law concepts would fall within this category. The Supreme Court's *Lucas* opinion illustrates this exception through hypothetical examples of potentially valid regulations but provides no definitive tests, relying instead on the common law concept of a nuisance. Nuisance, however, is a concept which the law defines only in general terms. Courts have to inquire into the specific facts and circumstances of a given land use, and then balance its utility against any harm caused to determine whether it is a nuisance under the law.

Given the examples the Court used in *Lucas*, however, it is possible that the regulatory measures would be considered as merely codifying concepts in Maine law concerning coastal property rights, both private and public.[41] An examination of these principles follows.

Coastal lands fall primarily into three distinct geographical areas that are defined by the action of the tides. Each of these areas has a different legal character in Maine and in all coastal states. The lands that are below the mean low tide line, and thus are continuously under sea water, are owned by the State.[42] These lands are called the submerged lands. Above the low tide line but below the mean high tide line, the area intermittently submerged by the daily tides is known as the foreshore or intertidal zone. In most American states, this area is also owned by the state and held in trust for the benefit of the public, along with the submerged lands. This rule of public ownership and use rights is referred to as the "public trust doctrine."

Above the mean high tide line, the land is subject to full private ownership, in most states. Some states have recognized public use rights or easements above the mean high tide line, sometimes to the line of vegetation above the mark of the high tide.[43] The mean high tide line, however, is not the division between public and private ownership in the State of Maine. Here, the English common law of tideland ownership, which recognized sovereign ownership of the foreshore and submerged lands, was changed by the colonists in Massachusetts. The Colonial Ordinance of 1641-48 granted to the owners of the adjacent upland private ownership rights to the foreshore, thus allowing private ownership to extend to the low tide line, subject to reserved public use rights of fishing, fowling, and navigation.[44]

With ownership rights defined on the basis of tide lines, ownership of shorefront property carries with it some inherent risks. If the ocean moves inland, as in the case of sea-level rise or land subsidence, the line of the tides moves inland as well. Under the common law in most states, the boundary between public and private property also moves with the tide line. It may happen that the shift causes the whole of what was once an owner's tract to now fall below whichever of the tide lines that defines the area of public ownership. This is known as the doctrine of erosion, and it holds that title rests with the state once the relevant tide line moves inland.[45] Title does not return to the private owner in the event that the land reemerges from the ocean.

On the other hand, private owners can benefit from shifts in the shoreline caused by the build-up of sand or soil along the shore. The doctrine of accretion holds that new land that builds up below the tide line which had previously defined private ownership belongs to the private owner.[46] Some states have modified this rule by retaining public ownership of accretions that are the result of the property owner's actions, such as through the construction of jetties or groins. In Massachusetts,

the Supreme Judicial Court has ruled that accretions belong to the littoral owner, even when the result of artificial causes, as long as they were not caused by the owner herself. If the accretions are created by government-built structures to aid navigation (e.g., by jetties), the accretions belong to the public rather than the littoral owner.[47] The Maine Law Court has not ruled on this question.

Most states recognize the public's right to use the wet sand area below the mean high tide line, either by virtue of public ownership or through public rights recognized under various common law doctrines, like the one adopted into Maine's law based upon the Massachusetts Colonial Ordinance. Several states also recognize the public's right to use dry sand areas above the high tide line. In these states, courts and legislatures have ruled that the public acquired these use rights through common law doctrines of prescription (similar to adverse possession or "squatters" rights), implied dedication to the public by the present or prior owner, or custom. In at least one state, the courts have interpreted the public trust doctrine, the principle of public ownership of lands covered by the tides, to include a public right to use the sand beach above the high tide line.[48] In states where these public rights have been acquired or recognized, the law characterizes these rights as migratory or dynamic, moving in or out as the shoreline erodes or accretes. Thus, over the years, the common law has evolved to define significant public rights in the shoreline. These rights are usually protected and supplemented by environmental and land use restrictions enacted under the police power as well as governmental programs designed to preserve the sand beaches and shorelines where the public rights apply.[49]

The common law also recognizes that owners of property bordered by navigable waters have certain property rights inherent in the land's location. Generally, these rights include the rights of ingress and egress over the submerged lands to the navigable channel. Similarly, the law recognizes the littoral owner's right to construct a pier or wharf, subject to police power regulations. Littoral property rights may also include a priority right to use the resources of the intertidal zone or the space overlying the submerged lands fronting on the littoral property to moor vessels. The littoral owner's rights do not include a right to build permanent structures that would block the public's use rights in the foreshore. Nor do they include the right to build a groin or jetty, if to do so would deprive a neighboring property of the natural movement and build-up of sand.[50] Also, state police power or public trust-based regulations can preclude uses of the public submerged lands.[51] The littoral owner does not have a property right to build protective structures in front of her property to control erosion.[52]

Moreover, the special rights or privileges that come with littoral property ownership are qualified by the recognition of a superior right of the public to use the navigational capacity of the waters.[53] This public navigational servitude on all navigable waters derives from the Commerce Clause of the U.S. Constitution.[54] Thus, a littoral owner may lose her ability to gain access to the navigable channel from her property when the government modifies the location of the channel, builds a jetty, or makes other improvements related to public navigation. The law holds that the navigational servitude exempts such government actions from the just compensation requirement of the Fifth Amendment's takings clause. The theory is that the littoral owner's title never included a right in perpetuity to access the navigable channel.[55]

While these rules and regulations restrain property owners from making uses injurious to the public interest, it is likely that when sea-level rise becomes a reality and begins to manifest itself in

increased coastal storms and erosion, pressure will be brought by homeowners to relax existing laws, regulations, or zoning restrictions, e.g., the prohibition of bulkheads. Litigation may challenge the reasonableness of development conditions that prevent shoreline armoring, requiring a determination that the restrictions substantially advance a legitimate state purpose. The restrictions could be overturned by the courts or by the legislative bodies, unless government officials prepare the public and property owners through educational efforts for the eventual retreat in the face of rising sea level.

In *Bell v. Town of Wells*,[56] the Law Court held that the public in Maine has an interest, in the nature of a "public easement," in lands lying beneath navigable tidal waters for the purposes of fishing, fowling, and navigation.[57] Although not using the term "public trust doctrine," the Law Court recognized that a set of public rights exists in the foreshore, very similar in nature to what other courts, including the U.S. Supreme Court, have described as the public trust doctrine.[58] Arguably, erosion setback lines, retreat or removal conditions, or other coastal protection measures enacted in anticipation of rising sea level would operate to prevent shorefront landowners from harming the public easement by preventing erosion and degradation of the shoreline, and hence merely reiterate the preexisting common law principle that no one may act to the detriment of the public trust. Under the *Lucas* analysis, then, no taking would be effected by the new regulations since the new rules will not cause shorefront property owners to suffer any "new" land use restrictions beyond what is imposed by existing state property and nuisance law principles.

The Maine Law Court, however, has yet to consider this question or suggest in a specific case that the public trust doctrine or public use easement can be invoked by the State to preclude land use activities occurring above the mean high tide line. Maine, like many other coastal states, has always referred to the mean high tide line as the landward boundary of the public easement.[59] Moreover, Maine's Law Court has indicated that the public trust doctrine or easement may be used only to protect the public's use of the intertidal zone for fishing, fowling, and navigation.[60] The Law Court has not shown an inclination to extend the doctrine to cover upland land use activities that do not actively interfere with one of these three public rights.[61] Thus, Maine will be able to avoid takings challenges to the coastal regulations under this legal theory only to the extent the State can demonstrate that the landowner's proposed permanent residential construction, either on the margin of a wetland, on an eroding coastal bluff, or on a sand dune area would interfere with the public's use of the intertidal zone for fishing, fowling, and navigation.

It would seem necessary, therefore, for Maine to establish in the course of permit proceedings or in conjunction with the promulgation of new coastal regulations that the intertidal zone is likely to shift landward within a 40-50 year period and that the prohibited construction would interfere with this landward migration.[62]

Given the uneven treatment the public trust doctrine has received in the Maine courts in the last decade,[63] the question arises whether sea-level rise strategies that depend upon the public trust doctrine are feasible in Maine. Would, for example, the Law Court find that the reserved public rights move inland with rising sea level? It probably would, following its case law concerning the doctrines of accretion and erosion. But whether the migratory nature of the reserved rights would serve as a basis for restrictions on building structures on land that is now dry is an open question. The courts in Maine, however, as previously noted, have shown an inclination to uphold significant

building restrictions in shoreland, wetlands, and sand dune areas under the Mandatory Shoreland Zoning Act and the Natural Resources Protection Act.[64]

The idea of a mobile public easement is illustrated in the Texas Open Beaches Act,[65] which serves to codify the common law public recreational use easement in dry sand beaches above the mean high tide line and below the line of vegetation. In a recent decision, a federal district court rejected a takings clause challenge to a provision of the Texas law which enjoins property owners from interfering with public use rights where the shoreline has migrated inland as a result of coastal erosion.[66] The court concluded, however, that the landward moving easement did not require the landowner to remove pre-existing structures that now find themselves below the line of vegetation.

A recent Massachusetts court ruling suggests that the public trust doctrine may have relevance to the takings issue and restrictions on coastal property. In 1988, several oceanfront property owners in Chatham, Massachusetts lost their homes when a winter storm broke through the barrier beach in front of their property. Regulations under the Massachusetts Wetlands Protection Act[67] had prohibited their construction of a stone revetment. Some homeowners brought suit against the Commonwealth, claiming that denial of the revetment license was an unconstitutional taking of their property. They sought several million dollars in damages.

Under the Massachusetts wetlands law, any dredging, filling, removing, or alteration of either "coastal banks" or "coastal dunes" is prohibited if it interferes with the ability of these land formations to perform their flood control and storm damage prevention functions.[68] Construction of stone revetments on dunes is prohibited unless it is determined that the dune in question is not significant to storm damage protection, flood control, or protection of wildlife habitat. Revetments may be built on coastal banks, if built to protect buildings constructed before August 10, 1978, if absolutely necessary, and if they minimize any adverse environmental impact.[69] Also, the Commissioner of the Department of Environmental Quality Engineering (now called the Department of Environmental Protection) may waive such regulatory restriction after an adjudicatory hearing, if "necessary to avoid [a restriction which] constitute[s] an unconstitutional taking without compensation" and if other conditions are met.[70]

The Massachusetts supreme court recently ruled that the Chatham homeowners were entitled to a trial on their takings claim against the Commonwealth.[71] The superior court had dismissed the claim without consideration. Before an appeal of this dismissal was heard, an intermediate court of appeals also found that the landowners were entitled to a trial on the takings claim. In comments directed at the trial court, the court of appeals identified several factors relevant to the question of a takings, including the possible relevance of the public trust doctrine:

> ... the facts as developed at trial might establish that the coastal areas in question are impressed with a public trust (citations omitted). If so, the plaintiffs, from the outset, have had only qualified rights to their shoreland and have no reasonable investment-backed expectations under which to mount a takings challenge....[72]

This language indicates that the public trust doctrine could be a background principle of law that could preclude finding a taking even if all economic value is lost by virtue of the regulation, under the exception to the *per se* total takings rule announced by the majority opinion in the *Lucas* decision.

While the Massachusetts supreme court agreed that the landowners were entitled to a trial on the merits, it said nothing about the potential application of the public trust doctrine. It did say, however, that the *Lucas* case would not help resolve the Chatham case due to significant differences in the facts. First, the *Lucas* case did not involve any administrative proceedings. Second, the total loss was due to natural forces while the administrative proceedings were pending, and the landowners had alleged no dilatory agency conduct. In the court's view, the Chatham case was distinguishable from *Lucas* because the Massachusetts regulation by itself did not render the property valueless, and because it squarely raised the question whether government may restrict particular uses of property that may adversely affect other owners and the state.[73]

Recent U.S. Supreme Court decisions applying the takings clause to state coastal regulations have not considered directly the relevance of the public trust doctrine. In *Nollan v. California Coastal Comm'n*[74] discussed above, the Supreme Court majority did not consider any arguments based upon the California public trust doctrine. Justice Brennan's dissent, however, found the doctrine to have an important bearing on the analysis. He stated that "[t]he Court's insistence on a precise fit between the forms of burden and condition on each individual parcel along the California coast would penalize the Commission for its flexibility [in balancing private development with preserving public shoreline access], hampering the ability to fulfill its public trust mandate."[75] He went on to argue, *inter alia*, that the status of tidelands under state law is relevant to whether a property owner's investment-backed expectations are affected.[76]

As in *Nollan*, the South Carolina Supreme Court in *Lucas v. South Carolina Coastal Council* did not hear arguments based upon the public trust doctrine, nor apparently on any of the special principles of property law that help to define public and private rights in coastal lands and waters. Thus, it is very difficult to say whether principles like the mean high tide line rule, the doctrine of accretion and erosion, riparian (or littoral) rights, the navigation servitude, or the public trust doctrine have relevance to the multi-factored analysis in regulatory takings cases.

The law of nuisance in Maine does not provide direct guidance on the question whether a seawall, bulkhead, or other structure that prevents the landward migration of the shoreline constitutes a nuisance to adjacent property owners or to the public. The courts generally employ a balancing test to determine the reasonableness of the challenged land use and whether its benefits outweigh the adverse effects it has on the public or on neighboring properties.[77] The Maine Law Court has held that:

> private property rights ... are subject to the implied condition that the property shall not be used for any purpose that injures or impairs the public health, morals, safety or welfare. If the use causes an actual and substantial injury or impairment of the public interest ... a regulating or restraining statute, or an ordinance ..., if itself reasonable and not merely arbitrary, and not violative of any constitutional limitation, is valid.[78]

Technical evidence is now available that shows the adverse effect that hard erosion control devices have on adjacent shoreline property and on the condition of the intertidal area. Thus, it is likely that a court would find that a regulatory ban on seawalls or bulkheads reflects existing principles of state nuisance law and that a landowner has no constitutionally guaranteed property right to protect her land from the sea's encroachment if to do so will damage adjacent property or public rights in the intertidal zone.

4. General Precautionary Measures to Reduce the Risks of Takings Claims

In the aftermath of the *Lucas* decision several commentators have identified ways in which state and local land use officials can structure their programs to avoid raising and potentially losing costly takings claims.[79] Some of these recommendations are reflected above, including the suggested approach of two tiers of setback lines, and allowing temporary, removable uses of land subject to sea-level rise and the landward migration of wetlands. To bolster the defensibility of these provisions, state laws, regulations and local ordinances that define these setback lines should expressly state that any construction seaward of the setback line that does not have a valid variance is a public nuisance and may be summarily removed without compensation. Florida's coastal construction setback law contains such a provision,[80] and similar language would seem appropriate in Maine, given the *Lucas* decision's emphasis on the nuisance exception.

In general, it is probably wise for Maine officials responsible for the sea-level response strategy to acknowledge that economic wipeouts may occur in certain cases due to the regulations and to be prepared to provide compensation. A portion of public funds should be encumbered for this purpose, or a fund could be created from the levying of additional real estate transfer taxes, shoreline retreat taxes, open space impact fees or other measures to raise revenues to help support the compensation and acquisition of property that must be restricted.[81]

It is also advisable to offer effective, non-litigation remedies for disputes over the burdens of land use regulations, including those necessary to anticipate rising sea level. Often, land use restrictions provide a variance procedure, for instance the one that provided under the Sand Dune Rules. In some instances, however, it may not be appropriate to allow variances, for example, where the affected land is needed for the landward migration of wetlands or eroding bluffs. Variances here could undercut the idea that these sea-level restrictions are necessary, unless they are limited to those instances when the landowner can prove by convincing evidence that their land does not meet the applicable criteria, i.e., will not be affected by nor interfere with sea-level rise. A non-judicial forum for considering the burdens of land use restrictions could also be a method for providing non-monetary compensation to affected landowners, through, for example, density increases, transferable development rights, credit toward impact or other real estate fees, or other non-cash forms of compensation.[82]

The *Lucas* decision highlights the need for administrative processes that allow landowners to hear the rationale behind application of restrictions to their property, such as coastal protection setbacks, and to seek relief from the restrictions if they seem to be unwarranted or unreasonable in their particular circumstances or excessively harsh. This could mean a greater use of quasi-judicial, administrative proceedings than is currently practiced under Maine's land use and environmental control laws, at least at the permit appeal stage, where the owner/ applicant has an opportunity to challenge the reasonableness of the restrictions with respect to her property.[83] *Lucas* may also suggest incorporation of carefully drafted variance provisions to provide relief in circumstances in which the property can support no other beneficial use than the one denied by the restriction. Several of the state laws described in Appendix B contain such variance provisions.

The owner/applicant must bear the burden of proof, however, that no other uses are feasible, or that the environmental conditions underlying the restrictions are not applicable in her case. In states

where a variance provision is available in the shoreline and wetland protection programs, the courts will require applicants to exhaust these appeal and variance provisions before the landowner can challenge the restrictions as a takings. This requirement ensures that an appropriate factual record is available for the trial court.

Any new, sea-level rise-related provisions of the Natural Resources Protection Act and municipal shoreland zoning ordinances should provide an administrative appeal process with explicit standards and burdens of proof. Such a process can elicit evidence on whether the owner has other viable uses or has already made valuable uses of her property.[84] By thus allowing agencies to establish this factual record, the process that will help the regulations survive any subsequent takings challenges.

D. POTENTIAL NON-REGULATORY OPTIONS FOR MAINE

1. Overview

The regulatory approaches described in the preceding sections may not be readily accepted by landowners and developers, particularly where they restrict current productive uses of land in exchange for future benefits if and when a rise in sea level occurs. Public education and careful implementation of land use restrictions can overcome some of this resistance and may limit the economic impact of the regulations. Nevertheless, Maine may wish to consider non-regulatory tools either as alternatives to or supplementary of regulations.

The outright purchase approach may be feasible for certain lands, for example, upland areas needed for the migration of a particularly significant salt marsh. But it clearly is not feasible for the State to purchase all the shoreland property that should be protected from development in the event of rising sea level. Private land trusts may be able to purchase additional areas, but again these entities are not likely to have the resources necessary to acquire all the needed areas.

As an alternative, one commentator suggests a "presumed mobility" approach that could be more affordable. Under this idea, the government buys the necessary property, either through eminent domain or a willing seller approach, and then leases it back to the owners for a period of time that would expire once the shoreline reaches a certain point. The principal proponent of this approach, James G. Titus of the U.S. Environmental Protection Agency, suggests it would allow current owners to develop their land on the condition that the structures will not be protected against inundation and must be removed in the event of sea-level rise.

Titus suggests that the purchase price of property interests which are realizable so far into the future would be less than 1% of the purchase price of the full fee simple title. The approach has the advantage of shifting the risk of sea-level rise from the environment (which will suffer if wetlands and other coastal resources are lost due to development) to the private property owners "by institutionalizing the presumption that development will have to make way for migrating ecosystems."[85] In the alternative, Titus suggests converting property rights to long-term leases that expire after 99 years or upon the rise of sea level enough to inundate the affected property.

A variation on this approach is suggested by Professor Joseph Sax who recommends the public purchase of a future flooding easement.[86] The easements would prohibit interference with any flooding caused by sea-level rise and would allow the easement holder to remove structures that

interfere with natural sea-level rise. The flood easements would be sold through negotiated sales or required as a condition on proposed development. The purchase price would be retained by the government and compounded over time and then distributed to owners in the event that a retreat from the shoreline is necessary. Sax also suggests that each owner be required to have insurance sufficient to cover the costs of subsequent inundation. The government would pay the premiums for this insurance. The insurance policy would be treated as an annuity payable at fixed sums in the event of rising sea level.

Another idea, proposed by Lisa St. Amand of the Environmental Law Institute, suggests an application of the approach the National Park Service takes in acquiring land from private owners. The Service acquires the land through donation, purchase, or condemnation, and then allows the previous owner to occupy their former lands for their lifetime under "reservations of use and occupancy."[87] The purchase price is calculated based upon the current value of the property less 1% for each year of the term of the reservation, or the life expectancy of the reservation holder. For purchases of land needed for wetlands migration the author suggests that the purchase price would be substantially discounted by the decades-long reservation reflecting the period expected before sea level rise becomes apparent.

St. Amand suggests another alternative that relies on providing land owners with incentives to refrain from development of their property in a manner that interferes with the natural migration of wetlands as sea-level rises. In this approach, a private land trust negotiates the creation and purchase of a "wetlands migration easement." The trust then enforces the easement in the event that a rise in sea level occurs at some distant time in the future. Again, with such a distant period for enforcement the author suggests that the easement could be purchased at a significant discount.[88]

A version of this same approach, suggested in 1990 by Judith Knapp, then a graduate student at the University of California at Berkeley,[89] advocates the use of the public trust doctrine in anticipation of actual rises in sea level. Knapp suggests that legislatures impose controls to reflect the future position of public trust resources such as the intertidal zone that will migrate landward as sea level rises.

2. Feasibility for Maine

Each of the above proposals involves changes to the legal framework that defines and regulates property rights in the State. For example, to institute the Titus proposal it would be necessary to change the nature of coastal ownership into a long-term leases. To do so would entail a program of eminent domain acquisition followed by leases back to current owners subject to the restrictions described above. This program would require legislative and administrative action, including a significant appropriation of funds for the purchases, to be refunded largely by the lease fees. It is not, however, precluded by any constitutional limitations on government action.

Similarly, the Sax proposal would require legislative action and an administrative agency that could first calculate the present discounted value of a future flood easement, according to agreed guidelines, and then decide where and when to apply them. Additionally, the Sax proposal would require a financial management entity to manage the annuities prior to the rise in sea level and their

disbursement to property owners. Such a system would require careful consideration by the legislature and cooperation between various departments of the government with differing expertise.

The Knapp proposal is less likely to be feasible in Maine because of important differences in the public trust doctrines in Maine and California. As the previous discussion of the *Bell v. Town of Wells* decision indicates, the courts in Maine do not yet recognize a legislative role in defining and applying the public trust principle to coastal lands and resources. California, on the other hand, recognizes full public ownership of the intertidal zone, not merely reserved public use rights. Moreover, a broader range of public uses, including ecological preservation, has been found to be within California's public trust. It is most unlikely that the current Maine Law Court would accept the anticipatory application of any public trust-based restrictions to lands that are not now but may in the future be covered by the tides.

Given the legislative and administrative demands involved in the non-regulatory approaches, they may not be practicable in the near term. With the possible exception of the anticipatory public trust doctrine approach, however, none are infeasible on purely legal grounds.

3. Government Informational Programs for Sea-Level Rise

Other governmental programs, particularly those that educate the public about the possibility of global climate change and the associated rise in sea level, are very important in an overall response strategy. Only by early information programs, alone or in conjunction with the adoption of regulations, will the public begin to accept the idea of limitations on property use to adapt to the changing conditions of the shoreline and to preserve vital natural resources. To ensure that regulatory programs will be sustained if challenged under constitu-tional standards, it is essential for the State to begin now to ensure that expectations about shoreline property use that would be incompatible with rising sea level do not crystallize in a manner that will defeat a prudent retreat strategy where it is appropriate.[90]

E. SUMMARY

Current standards for the protection of private property do not pose insurmountable hurdles to carefully drawn regulatory approaches to the problem of sea-level rise. The Maine Law Court has already upheld significant restrictions under the current Sand Dune Rules. This indicates a belief that such regulations do advance a legitimate state interest and do so in a manner that does not deprive land owners of their property rights in violation of the constitutional guarantee. The terseness of the *Hall* opinion, however, and the recent efforts of the federal courts to expand the protection of private property subject to government regulation may encourage other land owners to mount similar challenges to further regulation aimed at sea-level rise. In that event, the smaller the area of a parcel that is affected by the restriction, the more likely it is to be upheld.

If Maine chooses to pursue several of the regulatory options described in the preceding sections, it should develop and promulgate them as soon as possible. The earlier that the public is on notice of the likelihood of rising sea level the more likely the regulations are to withstand legal challenge. Property that is purchased after the regulations are adopted will be bought subject to the expectations that development restrictions will be applied in light of sea-level rise. The promulgation of regulations that require a wetland migration area on the upland margin or which prohibit the future

construction of bulkheads that would block such migration will help to clarify the expectations of landowners. When these expectations are clarified, if it is necessary to carry out removal conditions or enforce revised coastal setbacks, the effect will be a minimal disruption of settled expectations.

F. ENDNOTES

1. Such a measure would be an example of a "presumed mobility" or adaptive approach, which could also be achieved by government or non-governmental purchase of "flowage easements." *See, e.g.*, James G. Titus, *Greenhouse Effect and Coastal Wetland Policy: How Americans Could Abandon an Area the Size of Massachusetts at Minimum Cost*, 15 ENV'L MGT. 39 (1991) and Joseph L. Sax, *The Fate of Wetlands in the Face of Rising Sea Levels: A Strategic Proposal*, 9 J. ENV'L L. 143 (1991).

2. The term "rolling easement" is used in a general sense to describe a number of different concepts, all of which include a landowner's legal obligation to remove structures from land that becomes inundated by the rise in tides. The holder of the easement, usually a government entity or land trust, can enforce the commitment as a property right. *See generally* Titus, *supra* note 1.

3. *See* Paul N. Klarin, Kristi M. Branch, Marc J. Herschman, & Thomas F. Grant, Sea Level Rise Policy Alternatives Study: Volume 2, An Analytical Review of State and Federal Coastal Management Systems and Policy Responses to Sea Level Rise, Washington Dept. of Ecology (June 1990).

4. *See generally* Alison Rieser, *Managing the Cumulative Effects of Coastal Land Development: Can Maine Law Meet the Challenge?* 39 ME. L. REV. 2 (1987).

5. The tests courts apply under these two constitutional challenges are interrelated and land use regulations are often examined under both.

6. Tisei v. Town of Ogunquit, 491 A.2d 564, 569 (Me. 1985).

7. Hall v. Board of Envt'l Protection, 498 A.2d 260 (Me. 1985).

8. Plummer v. Town of Cape Elizabeth, 612 A.2d 856 (Me.1992).

9. U.S. Const. amend. V.

10. 260 U.S. 393 (1922).

11. *Id*. at 415.

12. Agins v. Tiburon, 447 U.S. 255, 260-261 (1980).

13. Keystone Bituminous Coal Ass'n v. DeBenedictus, 480 U.S. 470, 485, (1987) (quoting Agins v. Tiburon, 447 U.S. at 260).

14. Penn Central Transp. Co. v. City of New York, 438 U.S. 104, 124 (1978).

15. 112 S. Ct. 2886 (1992).

16. The trial court relied on the property's assessed value before and after the regulations, although there was no evidence in the record that the landowner actually intended to build or had no other uses of the property. In fact, in 1990 amendments to the South Carolina law, the legislature provided for the construction of structures despite the setback in certain cases upon application of the landowner. Mr. Lucas did not apply for this variance but instead proceeded to challenge the original legislation. In an unusual move that was criticized by members of the Court, the Court accepted the case for appeal without Mr. Lucas exhausting his remedies under the 1990 amendment.

17. Lucas v. South Carolina Coastal Council, 424 S.E.2d 484, 486 (S.C. 1992).

18. Lucas v. South Carolina Coastal Council, 112 S. Ct. 2886, 2903 (Kennedy, J., concurring).

19. Me. Const. art. I, sec. 21.

20. Seven Islands Land Co. v. Maine Land Use Regulatory Comm'n, 450 A.2d 475, 482 (Me. 1982).

21. State v. Johnson, 265 A.2d 711, 715 (Me. 1970) (citation omitted).

22. *Seven Islands Land Co.*, 450 A.2d at 482; Sibley v. Inhabitants of the Town of Wells, 462 A.2d 27, 31 (Me. 1983).

23. Curtis v. Main, 482 A.2d 1253, 1258 (Me. 1984).

24. 557 A.2d 168 (Me. 1989).

25. Id. at 173, 176 (shorefront owners hold the intertidal zone in fee, subject only to an "easement" for public uses reasonably related to fishing, fowling and navigation).

26. 528 A.2d 453 (Me. 1987).

27. 38 M.R.S.A. SS 471-478 (1987) (current version at 38 M.R.S.A. SS 480A-480U (West 1989 & Supp. 1991).

28. Hall v. Board of Envt'l Protection, No. CV-83-85, slip op. at 7 (Me. Super. Ct., Dec. 4, 1986).

29. Hall v. Board of Envt'l Protection, 528 A.2d at 456. In a later ruling, the Law Court in Rubin v. Board of Envt'l Protection, 577 A.2d 1189 (Me. 1990), again upheld the sand dune rules and the Board's denial of a variance for construction on a frontal dune.

30. 76 Me. 76 (1884). *See also* Lorusso v. Acapesket Improv. Ass'n, 564 N.E. 2d 360, 367 (Mass. 1990); Mastin v. Prescott, 444 A.2d 556, 558 (N.H. 1982); Michaelson v. Silver Beach Improv. Ass'n, 173 N.E. 2d 273, 275 (Mass. 1961).

31. S.C. CODE ANN. Section 48-39-290(B) (Supp. 1989).

32. A similar definition of "destroyed beyond repair" was added in the 1990 amendments, which defined the term to mean "more than sixty-six and two-thirds percent of the replacement value of the habitable structure ... has been destroyed." S.C. CODE ANN. 48-39-270(11) (Supp. 1989). The amendments also gave the South Carolina Coastal Council the power to issue special permits allowing construction or reconstruction of habitable structures under certain conditions, even if located seaward of the baseline. S.C.

CODE ANN. Section 48-39-290(D) (Supp. 1989).

33. Esposito v. South Carolina Coastal Council, 939 F.2d 165 (4th Cir. 1991), *cert. denied*, 112 S. Ct. 3027 (1992).

34. 483 U.S. 825 (1987).

35. Dolan v. City of Tigard, 662 LW 4576, 4580 (June 21, 1994).

36. *See* Surfside Colony, Ltd. v. Cal. Coastal Comm'n, 226 Cal. App. 3d 1260, 277 Cal. Rptr. 371 (1991) (Comm'n condition which seeks to mitigate cumulative impact of private erosion control structures on beach erosion through dedication of public access and recreational use easements was not supported by site-specific evidence that the revetment would cause further erosion at this particular location, thus failing to meet the nexus test of *Nollan*).

37. *Nollan* 483 U.S. at 834, n.3.

38. *See, e.g.*, Lummis v. Lilly, 429 N.E. 2d 1146 (Mass. 1982).

39. 112 S.Ct. 2886, 120 L.Ed. 2d 798 (1992).

40. *Id*. at 813, n.7. *See also* Orion Corp. v. State of Washington, 109 Wash. 2d 621, 747 P.2d 1062 (1987) (Washington's Shoreline Management Act does not deprive private tidelands owner of economically valuable uses if those uses are already denied by virtue of the state's public trust doctrine).

41. *See* Jon A. Kusler, *The Lucas Decision: Avoiding `Takings' Problems With Wetland and Floodplain Regulations*, 4 MD. J. OF CONT. LEG. ISSUES 73 (1992-93).

42. Phillips Petroleum Co. v. Mississippi, 484 U.S. 469 (1988) (State public trust extends to all lands subject to the ebb and flow of the tides).

43. *E.g.*, Hirtz v. Texas, 773 F. Supp. 6 (S.D. Tex. 1991), *rev'd on other grounds*, 974 F.2d 663 (5th Cir. 1992); Matthews v. Bay Head Improvement Ass'n, 471 A.2d 355, 365 (N.J. 1984), *cert. denied*, 469 U.S. 821 (1984).

44. *See* Bell v. Town of Wells, 557 A.2d 168 (Me. 1989).

45. *See* Shively v. Bowlby, 152 U.S. 1, 35 (1894); HARRIET HENRY, MAINE LAWS AFFECTING MARINE RESOURCES, vol. 2, at 214-215.

46. State v. Yates, 104 Me. 360, 363, 71 A. 1018 (1908) ("It is settled law that the owner of land bordering on ... the sea, which is added to by accretion, that is the gradual and imperceptible accumulation or deposit of land by natural causes, becomes thereby the owner of also of new made land.")

47. Michaelson v. Silver Beach Improv. Ass'n, 343 Mass. 251 (1961).

48. Matthews v. Bay Head Improv. Ass'n, 471 A.2d 355 (N.J. 1984).

49. See, e.g., Florida Beach and Shore Protection Act of 1987, FLA. STAT. ch. 161 (1990) (establishing construction setback regulations) and South Carolina Beachfront Management Act, S.C. GEN. LAWS 48-39-

270 to 360 (establishing setbacks and requiring local beach protection plans).

50. Lummis v. Lilly, 385 Mass. 41, 429 N.E. 2d 1146 (1982) (use of groin or jetty subject to a reasonable use rule applicable to riparian owners; relevant factors in determining reasonableness include purpose, existence of license, harm caused, practicality of avoiding harm, protection of existing values of land and water use, etc).

51. *See, e.g.*, Kreiter v. Chiles, 593 So. 2d 111 (Fla. Dist. Ct. App., Feb. 11, 1992), *cert. denied*, 61 USLW 3284, Oct. 13, 1992 (denial of permit to construct a private dock over submerged lands held in trust does not constitute a taking, absent a showing of the necessity of ingress and egress).

52. *See, e.g.*, Massachusetts v. Wilson, 413 Mass. 352, 597 N.E. 2d 43 (Mass. 1992).

53. Kaiser Aetna v. United States, 444 U.S. 164 (1979).

54. U.S. Const., art. I, sec. 8, cl. 3.

55. U.S. v. Rands, 389 U.S. 121 (1967).

56. 557 A.2d 168 (Me. 1989).

57. *Id.* at 173, 176.

58. *See* Phillips Petroleum Co. v. Mississippi, 484 U.S. 469 (1988).

59. *See* Bell v. Town of Wells, 557 A.2d at 171.

60. *Id.* at 173.

61. *Compare* Matthews v. Bay Head Improvement Ass'n, 471 A.2d 355 (N.J. 1984).

62. For a similar legal theory using California law, see Judith Knapp, "The Rising Sea Level and an Anticipatory Public Trust Doctrine in California," unpublished manuscript, U.Cal. Berkeley, Boalt Hall Law School, April 1990.

63. *Compare* Opinion of the Justices, 437 A.2d 597 (Me., 1981) with Bell v. Town of Wells, 537 A.2d 168 (M3. 1989).

64. *See* Hall v. Board of Envt'l Protection, 498 A.2d 564, 569 (Me. 1985); Drake v. Inhabitants of the Town of Sanford, Sup. Ct. No. CV-88-679 (Dec. 17. 1992) (court notes cumulative impact rationale in rejecting jury's finding that town shoreland zoning ordinance did not substantially advance legitimate state interests, but accepts jury's finding that ordinance did not deprive owner of all economically beneficial or productive uses); Plummer v. Town of Cape Elizabeth, 612 A.2d 856 (Me. Aug. 20, 1992) (local wetland ordinance does not violate substantive due process but developer is entitled to a trial on takings claim).

65. TEX. NAT. RES. CODE Sec. 61.012 (1990).

66. Hirtz v. Texas, 773 F. Supp. 6, *rev'd on other grounds*, 974 F.2d 663 (5th Cir. 1992).

67. G.L. c. 131, sec. 40 (1990).

68. 310 CODE MASS. REGS. Sec. 10.28(4) (1989).

69. Id. at 10.30 (3) (1989).

70. 310 CODE MASS. REGS. 10.36 (1989).

71. Wilson v. Commonwealth, 413 Mass. 352, 597 N.E.2d 43 (Mass. 1992).

72. Wilson v. Commonwealth, 31 Mass. App. Ct. 757, 768 (Jan. 9, 1992).

73. *Wilson*, 597 N.E.2d at 352, 44.

74. 483 U.S. 825 (1988).

75. *Nollan,* 483 U.S. at 847 (Brennan, J., dissenting).

76. *Id.* Justice Blackmun began his separate dissenting opinion with the following: "I do not understand the Court's opinion in this case to implicate in any way the public-trust doctrine. The Court certainly had no reason to address the issue, for the Court of Appeals of California did not rest its decision on Article X, section 4, of the California Constitution. Nor did the parties base their arguments before this Court on the doctrine." (Article X, adopted in 1879, protects the public right of way to navigable waters and the public right of free navigation, and is considered to be the constitutional basis of the public trust doctrine in California. *Id.* at 865.

77. *See, e.g.*, Lummis v. Lilly, 429 N.E. 2d 1146 (Mass. 1982).

78. Town of Windham v. LaPointe, 308 A.2d 286, 290-91 (Me. 1973).

79. *See, e.g.*, Terry D. Morgan, *Takings Law: Strategies for Dealing With* Lucas, LAND USE LAW & ZON. DIG. 3 (Jan. 1993); Eric Damian Kelly, *A Challenge to Planners: Solve the Takings Problem*, LAND USE LAW & ZON. DIG. 3 (Sept. 1993). Several of the suggestions in this section are based the recommendations of Kelly, *supra*.

80. FLA. STAT. Section 161.052(7) (1979).

81. Kelly, *supra* note 79.

82. Id.

83. *See* Rubin v. BEP, 577 A.2d 1189 (Me. 1990) (upholding Sand Dune Rules variance provision requiring applicant to prove that minimal impact on sand dune system would occur and structure would not be damaged within 100 years by shoreline changes).

84. *See* Fichter v. BEP, 604 A.2d 433 (Me. 1992) (BEP action was "quasi-legislative" in reviewing DEP's permit decision therefore applicant was not entitled to a full adjudicatory hearing on applicant's appeal of DEP finding that 100 year rise in sea level will cause the subject seawall to collapse, that seawall would interfere with the natural sand movement and redistribution and was located on a frontal dune).

85. Titus, *supra* note 1, at 45.

86. Sax, *supra* note 1.

87. *See* Lisa A. St. Amand, *Sea Level Rise and Coastal Wetlands: Opportunities for a Peaceful Migration*, 19 ENV'L AFF. 1, 18-19 (1991).

88. *Id.* at 23.

89. Knapp, *supra* note 62.

90. Regulations will still be required because the effectiveness of public education is unproven. As one commentator has noted, "development of beachfront property is not normally perceived as risky because of cognitive limitations on the perception of low-probability risks, culturally- or commercially-motivated distortions of risk level, and deliberate disregard or risk because of expected subsidization[.] Persistent publicity about risks, perhaps combined with recordation of risk information directly on deeds, could be expected to have some effect on risky land use choices eventually, but its extent would be uncertain." Marc R. Poirier, *Takings and Natural Hazards Policy: Public Choice in the Beachfront*, 46 RUTGERS L. REV. 243, 291-92 (1994).