



Oregon

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January 2, 2009

TO: Land Conservation and Development Commission

FROM: Richard Whitman, Director

SUBJECT: Agenda Item 6, January 15-16, 2009, LCDC Meeting

PETITION FOR ADOPTION OF A NEW STATEWIDE LAND USE PLANNING
GOAL 20: CLIMATE CHANGE – SEA LEVEL RISE
(TO CREATE AND IMPLEMENT MECHANISMS TO ANTICIPATE AND
ADAPT TO THE EFFECTS OF SEA LEVEL RISE)

I. AGENDA ITEM SUMMARY

This is a report to the Commission regarding a petition to adopt a new statewide land use planning goal to require planning for adaptation to sea level rise resulting from climate change. The Commission's authority to adopt a new goal is derived from ORS 197.225 to 197.245. The process for adoption of a new goal is set forth in ORS 197.245. If the Commission elects to proceed with the process for adopting the proposed goal, it would be promulgated as an amendment to OAR 660-015-0010 (the rules containing the existing statewide land use planning goals), and is therefore also subject to the requirements for rulemaking by state agencies in ORS 183.390, as follows:

183.390 Petitions requesting adoption of rules. (1) An interested person may petition an agency requesting the promulgation, amendment or repeal of a rule. The Attorney General shall prescribe by rule the form for such petitions and the procedure for their submission, consideration and disposition. Not later than 90 days after the date of submission of a petition, the agency either shall deny the petition in writing or shall initiate rulemaking proceedings in accordance with ORS 183.335.

The petition for Goal 20 was submitted on August 1, 2008, and (after an initial agreement to extend the date for action) was originally scheduled to be heard by the Commission at the December 4, 2008 meeting. The Department staff met with the petitioners prior to that meeting and, with their agreement, the hearing was postponed until the January 15th meeting, so that the Commission could hear a comprehensive discussion of adaptation issues stemming from predicted climate change.

This report provides a review and analysis of the petition and a recommendation to the Commission. For additional information, please contact Bob Bailey, Coastal Division Manager 503-373-0050 ext. 281, bob.bailey@state.or.us or Paul Klarin, Coastal Policy Analyst 503-373-0050 ext. 249, paul.klarin@state.or.us.

II. SUMMARY OF RECOMMENDED ACTION

The Department recommends the Commission deny the petition to initiate rulemaking to adopt Goal 20 Climate Change – Sea Level Rise and that the Commission instead consider whether to develop new administrative rules for land use planning efforts to assist communities in planning for adaptation to climate change as part of its policy agenda for 2009-2010.

III. SUMMARY OF PETITION

Goal 20 Climate Change – Sea Level Rise

Petitioners propose that the Commission adopt a new Statewide Planning Goal 20 Climate Change – Sea Level Rise.

The purpose of the proposed goal is to “create and implement mechanisms to anticipate and adapt to the effects of sea level rise.” The objectives include “reducing the hazard to human life and property; minimizing the adverse effects upon water quality, species, and fish and wildlife habitat; and protecting and restoring the resources and benefits of Oregon’s beaches, dunes, shorelands and coastal lowlands, all of which are impaired by sea level rise.”

Programs and authorities of several state agencies would be affected by the proposed goal. State agencies would be required to develop and adopt rules that set standards for vulnerability and risk assessments, to develop and adopt sea level rise adaptation and mitigation plans, and to adopt other associated policies. State agencies specifically affected by the proposed goal include the Oregon Department of Land Conservation and Development (DLCD), Oregon Department of Geology and Mineral Industries (DOGAMI), Oregon Office of Emergency Management, Oregon Department of Transportation (ODOT), and Oregon Global Warming Commission (OGWC).

Local governments would be required to take a variety of actions in response to information about sea level rise. Local governments would be required to assess vulnerability and risk associated with sea level rise, prepare and implement adaptation plans, and take other actions.

The proposed goal would create a program of Transferable Development Rights (TDRs) to compensate owners of oceanfront property affected by sea-level rise. Local governments statewide could be affected as receiving areas for TDRs.

IV. ELEMENTS OF THE PROPOSED GOAL

A. Proposed Inventory and Plan Requirements

The proposed goal sets some specific time requirements for the preparation and adoption of inventories and plans by the Commission, the Department, other state agencies and local governments. These proposed requirements are summarized below.

Within 6 months of adoption of Goal 20: DOGAMI (in coordination with the Office of Emergency Management) must produce maps of the entire coast, showing the highest predicted storm surge at 25 and 100-year periods, and to revise those maps every five years. The proposed goal is not clear on exactly how the DOGAMI maps with “storm surge” lines would be used by local governments. Presumably these maps would be incorporated into local comprehensive plans via requirements of Goal 7, Natural Hazards.

Within 18 months of adoption of Goal 20: DLCD, DOGAMI, and other agencies would be required to provide local governments with maps and models to assess vulnerability to risk from increased tidal elevations in coastal shorelands. LCDC would be required to adopt “rules to set standards for vulnerability and risk assessments, requirements for an adaptation plan, and policies to accommodate increasing tidal elevations in coastal shorelands.” The petition is unclear as to whom the rules related to “adaptation plans” and “policies” are intended to apply, but it is presumed they would set standards for both local governments and state agencies.

Within 36 months of adoption of Goal 20: State agencies and local governments would be required to complete an assessment of the vulnerability of resources within their jurisdiction to the effects of: increases in greenhouse gas concentrations, associated global and regional warming, sea level rise, and storm surge.

Within 48 months of adoption of Goal 20: Local governments would be required to adopt an adaptation plan as an amendment their comprehensive plan. It appears that the adaptation plans would have to include revised standards for issuance of permits in at-risk areas. State agencies also would be required to adopt an adaptation plan for resources within their jurisdiction. The plans must include strategies for adaptation and mitigation to minimize risk to human life, coastal property and natural resources. The plans also must specify how these strategies will be implemented. **If state agencies or local governments fail to revise their plans and standards within 48 months, then they would be prohibited from issuing further permits or approvals in the coastal zone until they complete such revisions** and (in the case of local governments) the revisions are acknowledged.

B. Interim Planning Requirements

Until state agencies adopt a rule implementing the proposed Goal (presumably adopting an adaptation plan, as specified above), and until local governments have their adaptation plans acknowledged, the new goal would impose specific numerical planning standards for the amount of sea level rise and horizontal flooding that state agencies and local

governments must use. The proposed goal also directs DLCD and LCDC to adopt these standards as part of Oregon’s Coastal Zone Management Program, and to submit the standards to the federal government for approval as a program change. If approved by the federal government (the National Oceanic and Atmospheric Administration (NOAA)), federal agency actions would be required to be consistent with these standards.

The interim standards are a minimum of a 1.94 foot rise in sea level by 2100, and a 100-year storm surge of 53 horizontal feet. It is not clear what the intended legal effect of these interim standards is, but presumably the standards would apply at least to decisions of state agencies and local governments to adopt or amend their regulations and/or plans. It may be intended that the standards apply directly to state and local permitting and other regulatory and land management decisions as well – in which case presumably the standards would prohibit development within the mapped future hazard areas.

C. Other State Regulatory and Land Management Requirements

The proposed goal includes a general requirement that state agencies consider information about projected sea level rise in adopting and amending state regulations that control permits, land use plans and other implementing actions.

Oregon Department of Transportation (ODOT): The proposed goal specifically directs ODOT to avoid the use of shoreline protective structures and other devices seaward of the 100-year “storm surge” line. In addition, ODOT is directed to develop and implement a plan to move state highways, including Highway 101 as well as state-funded local roads, landward of the 100-year storm surge line.

Oregon Global Warming Commission (OGWC): The proposed goal would require the OGWC to update the sea level rise and 100-year storm surge planning standards every five years. In addition, the proposed goal would direct OGWC to "adopt any additional necessary standards * * * to match what it deems to be reliable scientific forecasts and predictions at the time of restatement [e.g., update]." The proposed goal would require all state and local government agencies to revise their adaptation plans and standards within 18 months to reflect the new numerical standards and to submit them to LCDC for acknowledgement.

Department of Land Conservation and Development (DLCD): The proposed goal would affect the Department in three ways. One is through specific requirements that LCDC establish a program for transferable development rights (TDR) “for areas affected by this Goal.” This aspect of the proposed goal is described below. The second is review and approval through “acknowledgement” every five years of all adaptation plans and standards adopted by local governments and all revised state agency coordination agreements prepared pursuant to the requirements of this proposed goal. The third is implied through general program responsibilities to assist local governments with planning and implementation measures.

Oregon Parks and Recreation Department (OPRD): The proposed goal does not specify how or whether the statutory authorities of OPRD for administering the Ocean Shore Recreation Area and approving shorefront protective structures would be affected.

Oregon Department of State Lands (DSL): The proposed goal does not specify how or whether the authorities of the DSL with respect to submerged and submersible lands and to coastal wetlands would be affected.

D. Transferable Development Rights

The proposed goal would require LCDC to establish a program for transferable development rights (TDRs) “for areas affected by this Goal.” It is not clear whether this area means the 25-year or 100-year “storm surge” areas identified by DOGMI, or the areas subject to the interim standards contained in the proposed Goal (projected sea level rise) and updated by the OGWC. The proposed TDR program appears to be directed only to owners of private properties that cannot be developed because of anticipated sea level rise or “wave surge” (a different term from “storm surge”). Development rights from these sending areas could be transferred to receiving areas inside of urban growth boundaries anywhere in the state. LCDC would require cities to designate specific receiving areas where development density could be increased through the use of TDRs generated from sending areas. The proposed goal outlines a methodology for determining property value for TDR purposes, but is not entirely clear as to how such a program would work in relation to currently developed properties. In general, the program would provide property owners with credits roughly proportional in value to the value of their properties *after* inundation. The program would also accommodate actively farmed land within diking districts outside of urban growth areas that are within the projected 25-year surge line.

E. Alteration of the Definition of the Ocean Shore

The proposed goal would alter the definition of the Oregon Shore under ORS 390.605(2) (the petition contains a typographical error – citing to ORS 390.065) to extend landward to the 25-year Surge Line if that line is landward of the statutory vegetation line.

F. Prohibition Insuring, Guaranteeing or Spending Funds on Development or Construction Seaward of the 100-year Surge Line

The proposed goal would prohibit all state agencies from insuring, guaranteeing or spending public monies to develop, construct or reconstruct any structures, infrastructure or public facilities seaward of the projected 100-year storm surge line. The prohibition would apply to state assistance to private entities, as well as direct state expenditures.

V. ANALYSIS OF THE PROPOSED GOAL

A. Proposed Goal Statement of Need

The petition includes a purpose statement related to sea level rise and other effects of climate change to provide a context for the specific requirements that the new goal would

impose on state agencies and local governments. The proposed goal would then establish a single numerical standard for sea level rise and an associated standard for horizontal inundation by the projected 100-year storm surge.

One concern with the proposed goal is that projections for the rate and amount of sea level rise on the Oregon coast vary widely. A coast-wide numerical standard likely would misstate actual conditions in any given location.

B. Dynamic Standards to Address Sea Level Rise

Petitioners appear to misunderstand current provisions in Oregon's existing statewide planning goals and state law that account for the dynamic aspects of the ocean shore and other coastal shorelands. These provisions already provide tools to address issues associated with sea level rise and other predicted effects of climate change.

Beach Bill:

Although the 1967 Beach Bill established the 16' elevation line as a statutory line of vegetation and the landward edge of the public use easement on the beach, the legislature subsequently amended the law to provide for state jurisdiction (administered by OPRD) over the area seaward of either the line of *actual* vegetation or the statutory beach zone line, *whichever is farthest inland*. The state's line is not static, and will move landward with changes in ocean shore geomorphology. Thus, as sea level rises and beaches migrate landward, the actual line of vegetation and OPRD's jurisdiction move landward. This is the case without regard to the proposed Goal 20 provisions concerning the definition of "ocean shore."

Goals 17 and 18:

The requirements of Goal 17, Coastal Shorelands, and Goal 18, Beaches and Dunes, specifically account for the dynamic nature of Oregon's coastal shorelands. Goal 17 requires local governments to inventory coastal shoreland areas for hazard areas such as areas prone to flooding and areas of geologic instability in or adjacent to shorelines. As areas flood or become unstable, the restrictions on development in Goal 17 apply to them. Goal 18 prohibits development on beaches and active foredunes and other foredunes that are conditionally stable, and that are *subject to ocean undercutting or wave overtopping, and the interdune areas that are subject to ocean flooding*. Goal 18 also prohibits shorefront protective structures on lands developed after 1977.

Goal 7:

The requirements of Goal 7, Areas Subject to Natural Hazards, as amended in 2002, specifically require local governments to respond to new information about a range of hazards, including coastal and riverine flooding and erosion, as information becomes available. The goal also addresses the need to site essential facilities so as to mitigate the potential risk to those facilities from various sources, while taking into account the primary need to provide essential emergency services.

C. Purpose of the Goal

The preamble of the proposed goal asserts that the purpose of the goal is to “reduce the hazard to human life and property,” and the implementation requirements of the goal seem to be designed for that purpose. The goal also asserts an objective to “minimize the adverse effects on water quality, species, and fish and wildlife habitat, protecting and restoring the resources and benefits of beaches, dunes, estuaries, shorelands and coastal lowlands.” It is unclear how the proposed goal would achieve those objectives. Its requirements do not appear to propose measures that would result in these specific outcomes.

D. Plan and Inventory Requirements

The proposed goal requires DOGAMI and DLCD within 18 months to produce maps and other forms of geospatial data and models, presumably in a time-series format. The scope, specifications or scale for the data and maps are not described in the goal requirements. However, to meet the stated objectives of the goal and to be useful to local governments, the data would need to be mapped at a scale necessary to accurately assess the risk posed by sea level rise at the tax lot level for the entire coastal zone. This is a significant task that will require substantial financial resources to complete, particularly if the work is to be completed in the time frame specified in the proposed goal (18 months).

[Note: these data are likely to be very similar to data being acquired through a cooperating technical partnership agreement with the Federal Emergency Management Agency (FEMA) to publish all-hazards maps for the entire Oregon coastal zone.]

E. Interim Numerical Standards

The technical and scientific basis is not clear for the proposed interim standard of 1.94 ft. sea level rise by 2100, as proposed by the goal. It appears that the standard is based on the most recent projection of the International Panel on Climate Change (IPCC) made in 2007, which is that the global average sea level will rise between 0.6 and 2 feet (0.18 to 0.59 meters) in the next century. If such a standard is to be established, it should be based on defensible scientific projections of regional or local sea level changes. Similarly, the proposed 100-year storm surge line of 53 ft. horizontal setback purports to be based on DOGAMI beach erosion modeling, but that is not a correct interpretation of that Department’s research or mapping efforts.

Adoption of a numerical standard may have significant consequences. As noted in the discussion above, the goal, including any numerical standards, would be submitted to NOAA for approval as a program amendment. If approved, the requirements of the goal would be applied to the actions of federal agencies, and would affect the issuance of permits and licenses, as well as federal funding for public facilities and infrastructure such as roads, bridges and highways.

It appears that the numeric standards stated in the proposed goal would apply only “[u]ntil an affected state agency adopts rules implementing this Goal or until a coastal city or county implementation plan is acknowledged. * * *” In other words, once LCDC adopts implementing rules and local governments and state agencies adopt conforming

plan and rule amendments, the numeric standards would no longer apply. From the context of the proposed goal, it appears that the intent is to prohibit all development within the hazard areas during the interim. If this is the case, then it may conflict with statutes that circumscribe the authority of cities, counties and special districts to adopt a development moratorium. ORS 197.505 to 197.540. Similarly, other state agencies may have statutory provisions for issuance of authorizations that conflict with the proposed goal requirements if they are read to prohibit issuance of permits.

Even once local adaptation plans are adopted, other parts of the proposed goal appear to prohibit at least any *state* funding or guarantee for development within the "Surge Line" regardless of the status of adaptation plans. This prohibition would appear to apply to ODOT, regardless of the status of its planning efforts (required in other parts of the proposed Goal), and would appear to prohibit any further state funding to maintain roads within the "Surge Line."

F. Authority of the Oregon Global Warming Commission

The proposed goal would purport to authorize the Oregon Global Warming Commission to update the interim numerical standards every 5 years. State and local agencies would have 18 months to revise their plans and standards to account for the new standards. At present, the Oregon Global Warming Commission is only authorized to develop recommendations for policy makers. Expanding the OGWC's authority to include regulatory matters is more appropriately done through action of the Oregon Legislature.

G. ODOT Infrastructure Relocation and Restrictions

Under Goals 17 and 18, ODOT is required to analyze alternatives, including relocation, for highway projects to address shoreline erosion issues. The proposed goal would limit alternatives by requiring ODOT to "avoid the use of shoreline protective structures, such as rip rapping, and other devices to stabilize roadways seaward of the proposed 100-year surge line." The goal would also require ODOT "to develop and implement a multi-year plan to move state highways (including Hwy 101) and state-funded local roadways landward of the 100-year surge line." The goal would proscribe the ability of ODOT to use alternatives to relocation and does not recognize that for many coastal areas there are no alternative routes that are not also subject to geologic hazards or that would result in detrimental effects on environmental resources.

H. Transfer Development Rights (TDRs)

The proposed statewide TDR program would be applicable in three situations: a) in "areas affected by this goal;" b) where there is "private property that cannot be developed" and that "has not been significantly damaged;" and c) on actively farmed land seaward of the 25-year surge line that is within a diking district. The TDR could be used to transfer a development right from the coastal area to any urban growth area statewide to provide increased density.

It is unclear as to whether a TDR would apply to developed properties under any circumstances or, except for c), properties within the 25-year or 100-year surge line mapped by DOGAMI. A TDR program applied to developed properties would duplicate the FEMA insurance and hazard mitigation grant programs and may duplicate some private insurance programs that are evolving to better respond to hazard risks and damage claims.

The proposed TDR program has the potential to shift responsibility for investing in risk-prone areas from private owner to the public and could encourage risky purchases and development in hazard locations with the potential for a private benefit elsewhere in the state. TDR programs are typically based on the premise that the public at large will receive a permanent benefit, usually close at hand, in exchange for accepting a change in normal development standards such as higher development densities. In this case the TDR could be used in any urban growth area statewide to increase density, a presumed public benefit. It is unclear why there would be a market for higher densities in urban areas, when the state planning program already is requiring local governments to lead the market in terms of urban densities (prior to expanding urban growth boundaries). Relatedly, the proposed goal limits the value of the development rights be transferred to be "roughly proportional to the value of the land after inundation * * *." It appears that such values – and the resulting "compensation" – would be minimal. While this may make it easier to construct a viable TDR program (because only minimal value increases as a result of higher densities would be needed), it calls into question the whole notion of providing "compensation" for the effects of climate change on particular classes of property owners.

A mandatory statewide TDR program, enacted in isolation under a new statewide planning goal rather than through a comprehensive assessment of where such tools are most appropriately combined with regulatory measures, is not recommended. Current proposed legislation would expand the ability of communities to use TDRs, including on an inter-jurisdictional basis.

I. State-Mandated Programs

The proposed goal would require substantial new and ongoing expenditures by state agencies and local governments for planning and implementation, keyed on a five-year cycle of updates. The proposed goal would require state agencies to impose planning requirements on cities and counties. If the local governments failed to carry out these planning requirements, it appears that the intent of the proposed goal is to have the interim proposed standards apply directly.

The Oregon Constitution addresses state agency mandates on local governments for new programs and projects under Article XI Section 15 (Measure 30):

Section 15. Funding of programs imposed upon local governments; exceptions.

(1) Except as provided in subsection (7) of this section, when the Legislative Assembly or any state agency requires any local government to establish a new program or provide an increased level of service for an existing program, the State of

Oregon shall appropriate and allocate to the local government moneys sufficient to pay the ongoing, usual and reasonable costs of performing the mandated service or activity.

Should the Legislature not provide adequate funding as required above, the Constitution provides that local governments need not, in all circumstances, comply with the mandate:

(3) A local government is not required to comply with any state law or administrative rule or order enacted or adopted after January 1, 1997, that requires the expenditure of money by the local government for a new program or increased level of service for an existing program until the state appropriates and allocates to the local government reimbursement for any costs incurred to carry out the law, rule or order and unless the Legislative Assembly provides, by appropriation, reimbursement in each succeeding year for such costs.

To the extent that the proposed goal gives local governments an option, by allowing them to do nothing and have the proposed goal's "interim" standards apply to uses in the areas at risk of sea-level rise and storm surge, the goal *may* avoid a Measure 30 problem. However, if the Commission wishes to proceed with the proposal, DLCDC recommends that legal advice be sought concerning this question.

J. Measure 49 Claims

Under 2007 Ballot Measure 49, a new regulatory restriction on a residential use of private real property that reduces the value of that property can create a basis for new Measure 49 claims for compensation or a waiver of the new regulation. It appears that the proposed goal would qualify as a new land use regulation to the extent that it restricts residential uses that are currently allowed. While there are exceptions in Measure 49 that may apply to the proposed goal, DLCDC recommends that if the Commission wishes to proceed with the proposal, a careful analysis of the application of the exceptions to the proposal first be completed.

K. Department Initiatives

The Department proposed a major initiative in the arena of climate change adaptation planning in its proposed policy option packages for the Governor's recommended budget for 2009-2011. This initiative would have included funding for both grants to local governments to begin adaptation planning on the coast related to sea-level rise, and for increased technical capacity within DLCDC to provide direct assistance to coastal communities in carrying out such planning. The policy option package was not approved.

Nevertheless, using existing resources, the Department has begun several initiatives to start to address the issues that local communities face in adapting to climate change, including sea level rise. The Coastal Management Program recently completed a report titled "Climate Ready Communities: A Strategy for Adapting to Impacts of Climate Change on the Oregon Coast." Among other actions, the strategy calls for the

Department to work closely with state agencies and local governments to develop specific actions, including risk assessments and adaptation planning, to address the effects of climate change at the local level.

As part of this strategy, the Coastal Services Division applied for and has been approved for a NOAA Coastal Fellow 2009 - 2011 to carry out a project to identify the location, ownership, and uses of dikes, levees, and other structures in Oregon estuaries that could be affected by increased tidal elevations. This will provide state and federal agencies, landowners, local governments, and non-governmental organizations with information to develop long term policy and action options.

The Department provides federal coastal funding to DOGAMI to support a long-term ocean shore-monitoring program to identify changes to specific ocean shore beaches due to a variety of oceanic and climatic events, including sea level rise. This work will improve understanding of changes to beaches and ocean shorelands over time.

VI. CONCLUSION:

The objectives of the proposed goal are timely and worth pursuing. Climate change is a complex new reality that will transform Oregon's communities and environment over time. The Department agrees that state agencies and communities need to lay the groundwork for adapting to the likely effects of climate and to reduce or mitigate causes of greenhouse gasses that contribute to climate change. The Department agrees that Oregon's statewide planning program provides an appropriate means to guide local governments and state agencies in planning for climate adaptation. The statewide planning goals, administrative rules, and local plans and ordinances provide tools that can be directed at this on-coming, multi-faceted problem.

The challenge of planning for adaptation to climate change is daunting for most of Oregon's small coastal communities that already struggle to meet the day-to-day operational and planning needs. Likewise, the ability of state agencies to gather and provide technical information, create meaningful policies and programs, and provide assistance to local governments is hampered by lack of financial capacity. Neither of these realities is an excuse to not begin work on this critical challenge. However, a comprehensive, careful and well-coordinated strategy is in order. Key to such an approach is to effectively use existing tools before adding new and untested ones.

The petition for Goal 20 Climate Change – Sea Level Rise, attempts to address one facet of the complex effects of climate change on the Oregon coast. The reality for many coastal communities is that sea level rise, particularly along the ocean shore, is only one of many effects that are almost certain to manifest over time. The concept of the proposed goal requirements is to compel communities and state agencies to retreat from areas that are potentially subject to permanent inundation or loss. However, the proposed goal would not provide for a comprehensive review of all long-term physical risks and constraints, or for any balancing of relative risks or of the magnitude of relative risks. The proposed goal fails to take advantage of existing provisions in state law and the

statewide planning program that, if supported by adequate resources, would provide local governments and state agencies with the tools to develop and implement meaningful adaptation plans to address the impacts of sea level rise and other effects of climate change along with other coastal hazards.

The Department believes that the objectives of the proposed goal are better met by examining how existing state and local authorities, including other statewide planning goals and their implementing rules, could be used to guide local governments and state land and resource management agencies to plan for sea level rise, continuing increases in storm intensities, and other coastal hazards (including upland hazards). In the meantime, the Department believes that most immediate attention should be focused on major public investment decisions that have the potential to set development patterns over the long-term on the coast. A tiered approach that begins with the largest public decisions would be a more realistic means of beginning to prepare the coast for the adaptation that will be necessary as a result of climate change.

VII. RECOMMENDATION

The Department recommends the Commission deny the petition to initiate rulemaking to adopt Goal 20 Climate Change – Sea Level Rise, and that the Commission instead consider whether to develop new or amended administrative rules related to climate change adaptation as part of its policy agenda for 2009-2010.

VIII. RECOMMENDED MOTION

I move that the Commission deny the petition to begin rule making to adopt Statewide Planning Goal 20 Climate Change – Sea Level Rise and that the Commission direct staff to prepare an assessment of the need and opportunities for new administrative rules under existing statewide planning goals to improve the ability of the state and local governments to plan for adaptation to the effects of climate change.

IX. ATTACHMENTS

Oregon Shores Conservation Coalition Petition for a Rule to the Land Conservation and Development Commission to adopt a New Goal to Address Sea Level Rise.



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July 31, 2008

Land Conservation and Development Commission
C/o Richard Whitman, Director
Department of Land Conservation and Development
635 Capitol St. NE, Suite 150
Salem 97301-2540

Re: Petition for Adoption of New Goal Addressing Sea Level Rise

Dear Chair VanLandingham and members of the Commission:

Enclosed is a petition by the Oregon Shores Conservation Coalition ("Oregon Shores") for the adoption of a new Goal to address sea level rise. Oregon Shores is a state-wide group focused on protecting the public interest in Oregon's coastal region. Oregon shores has followed the development of the science regarding climate change and attendant sea level rise closely and believe that the knowledge we now have requires the state to take steps to address the concerns presented by sea level rise. Accordingly, Oregon Shores is filing the enclosed petition and requesting LCDC to adopt a new planning Goal addressing sea level rise.

We look forward to working with the Commission and agency in this matter; if you have any questions or wish to discuss this petition further, please do not hesitate to contact me.

Sincerely,

GARVEY SCHUBERT BARER

By

William K. Kabeiseman

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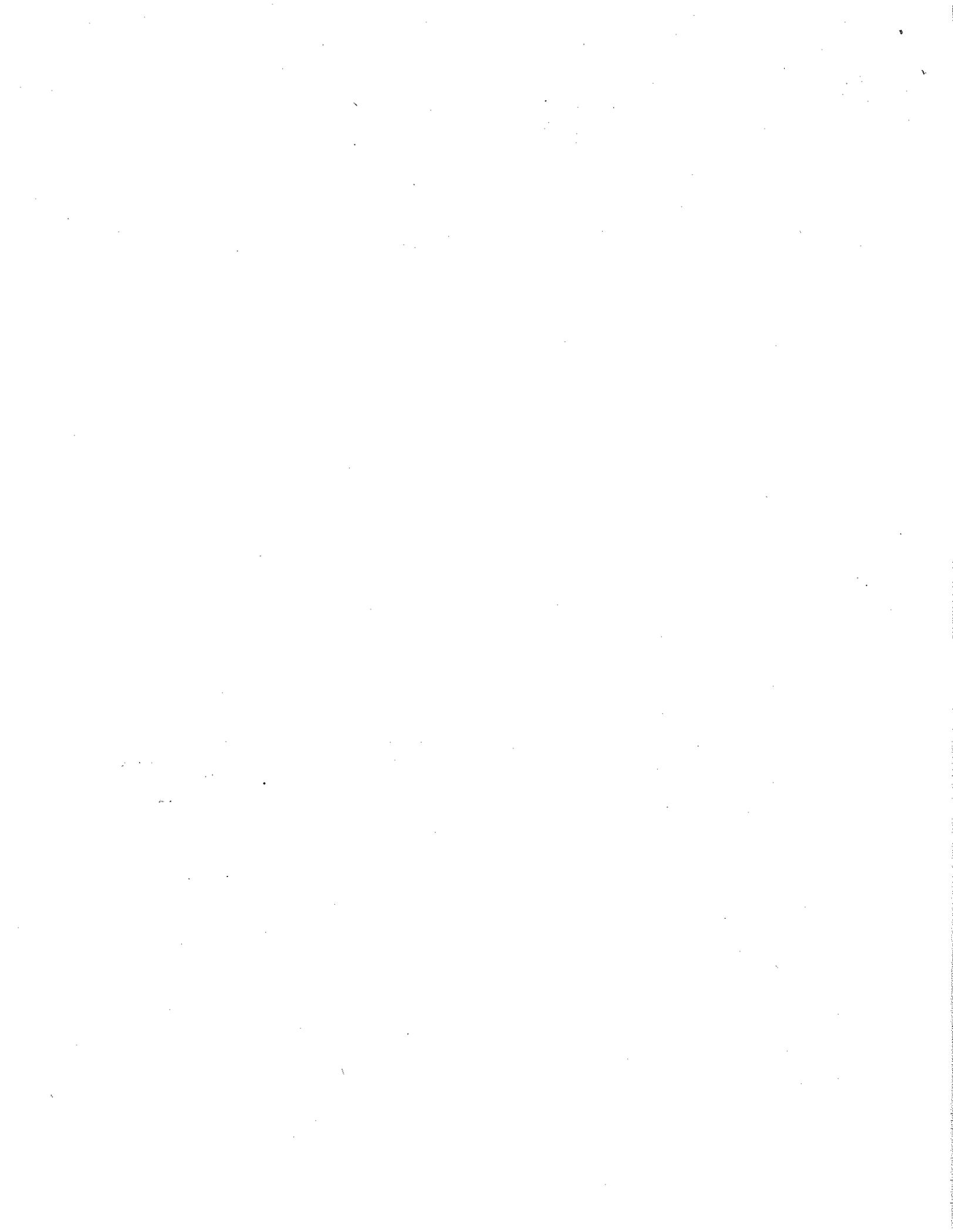
AUG 01 2008

LAND CONSERVATION
AND DEVELOPMENT

Enclosures

cc: Allison Asbjornsen
Steve Schell

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07/31/08 10:53 AM



6. This Goal, as a form of administrative rule, (that is, an amendment to OAR 660-015-0010) is necessary to meet the requirements of 2007 Or Laws Ch. 907 §2(2) which requires “State and local governments, businesses, nonprofit organizations and individual residents . . . [to] prepare for the effects of global warming and by doing so, prevent and reduce the social, economic and environmental effects of climate change, including sea level rise, increased storm surge as well as increased intensity of storms and the waves generated by those storms.

7. In addition to the requirements of 2007 Or Laws ch. 907, §2(2), the reasons for adoption of this new Goal include the following:

a. Extent of Sea Level Rise. In its 2007 Fourth Assessment Report, the Intergovernmental Panel on Climate Change stated that “warming of the climate system is unequivocal” and indicates that a sea level rise of .59 meters is likely this century. This prediction does not take into account the impact of changes in ice sheet flow, including the melting of the polar or Greenland ice sheets. Less reticent scientists suggest that, with rapid ice sheet loss, sea levels could rise by several meters in the next century.¹ Rune Graverson of Stockholm University indicates an energy transfer may be melting northern ice faster than anticipated.² In a winter storm, with the right wind and a high tide, the rise is multiplied several times.³ In Oregon, the Oregon Department of Energy has concluded that “a rise in sea level could threaten beaches, sandy bluffs and coastal wetlands. Coastal towns could experience more flooding, causing increased damage to roads, buildings, bridges and water and sewer systems.”⁴

Dr. Jonathan Allan of the Oregon Department of Geology and Mineral Industries (DOGAMI) has undertaken significant work in reviewing the effects of high water levels on stability of beaches and coastal bluffs. Dr. Allan’s research indicates that, in the absence of changes in sediment supply, the public beach will erode landward between 33 and 66 feet due to sea level rise and higher sea level rise could cause erosion of up to 100 feet or more of the beach.⁵ Such a significant landward erosion of the public beach will have dramatic impacts on public and private property throughout Oregon’s coast.

Increased tidal elevations from sea level rise will affect the extent and nature of Oregon’s estuaries and associated wetlands with a landward transgression of the upper extent of tidal influence. An increasing mean tidal elevation concurrent with rising sea level will have significant implications for dikes, levees, and associated drainage infrastructure that have

¹ Galpern, Daniel, *Climate Change 101: Urgency and Response*, 23 J. Envtl. Law and Litigation 206, 2008.

² See Oregonian, January 3, 2008, p. A4 – news story on a recent report by Rune Graverson, et al, in the Magazine *Nature*.

³ <http://www.newportnewstimes.com/articles/2007/03/14/news/news05.txt>; see also work by Jonathan Allan of DOGAMI’s Newport, Oregon office.

⁴ <http://egov.oregon.gov/ENERGY/GBLWRM/climhme.shtml>

⁵ http://www.oregon.gov/LCD/OCMP/docs/General/Allan_Workshop_101707.ppt#256,1 (or http://www.oregongeology.com/sub/projects/ccig/OR_ccig_mtg_072706.pdf), Extreme Storms, El Niños, and Sea Level Rise Due to Earth’s Changing Climate: The Changing Face of the Oregon Coast

enabled agriculture, housing, and commercial uses of former estuarine wetlands. Oregon has no policy framework for addressing the impacts of a rise in mean tidal elevation in coastal estuaries and rivers subject to tidal influence.

b. Existing State Policy on Global Warming. The Legislature has stated as State policy that: "State and local governments, businesses, nonprofit organizations and individual residents . . . prepare for the effects of global warming and by doing so, prevent and reduce the social, economic and environmental effects of global warming."⁶ The Oregon strategy for dealing with these issues is two-fold: (1) do Oregon's part in reducing greenhouse gases, and 2) adapt to predicted impacts. However, the adaptation to climate change, particularly important for the Oregon coast, is not being addressed in any meaningful way at this time.

c. Temperature Rise and Acidification. Sea level rise is not the only consequence of climate change on Oregon's ocean ecosystems. Sea water is warming and is expected to continue to do so, enhancing thermal stress for many marine organisms. Increases in the amount of carbon dioxide in the atmosphere are also causing sea water to become more acidic, making it more difficult for marine plants or animals to make their calcareous shells or skeletons. Molluscs (oysters, clams, snails), echinoderms (sea urchins, sea stars), arthropods (crabs), and phytoplankton (microscopic plants) are among those at risk from more corrosive waters. The decline or absence of these creatures is expected to cause disruption to the food web in Oregon's estuaries and coastal waters and will have significant effects on property owners and businesses that rely on Oregon's estuaries.

d. Current Assessments and Protections. The U.S. has begun to assess the implications of continued rise in Greenhouse Gases.⁷ As long ago as 1989, the Oregon Department of Energy examined the consequences of sea level rise.⁸ Oregon's Parks and Recreation Department has also started to consider these implications.⁹ Oregon generally provides public access and prevents building below a vegetation line that is 16 feet above current sea level along the coast.¹⁰ Oregon through the Land Conservation and Development Commission (LCDC) has adopted a coastal shorelands goal,¹¹ a beaches and dunes goal,¹² and an estuaries goal.¹³ While these goals provide a framework for dealing with these areas, they are based on Federal Emergency Management Agency (FEMA) type analyses (e.g., 100 year floods) and not on global warming events. In addition, Oregon, with certain exceptions, specifies that "New essential facilities . . .

⁶ 2007 Or Laws Ch 907 §§2(2) (HB 3543).

⁷ E.g., 42 USC §13381.

⁸ E.g., Report of the Oregon Department of Energy on Global Climate Change Effects on Tillamook Bay (1989).

⁹ See the presentation of Laurel Hillman of the Oregon parks and Recreation Department to the commission.

¹⁰ ORS 390.770 et seq.

¹¹ <http://www.oregon.gov/LCD/docs/goals/goal17.pdf>

¹² <http://www.oregon.gov/LCD/docs/goals/goal18.pdf>

¹³ <http://www.oregon.gov/LCD/docs/goals/goal16.pdf>

and new special occupancy structures . . . may not be constructed in the tsunami inundation zone . . . (this restriction will also) apply to buildings with a capacity greater than 50 individuals for every public, private or parochial school through secondary level and child care centers.”¹⁴ Again this legislation addresses the consequences of a subduction earthquake and the resulting Tsunami, but it does not address the consequences of global warming and sea level rise.

e. Future Trends. Studies over the past decade have shown that there is a difference in subsidence and uplift rates on different parts of the Oregon Coast. For example, the north central coast may experience greater than average projected net change in sea level.¹⁵

8. This Goal does not overlap, duplicate or conflict with any state, federal or local regulation that petitioner has identified.

Wherefore, petitioner requests the Land Conservation and Development Commission to adopt the proposed Goal.

Dated as of July 15, 2008.

OREGON SHORES CONSERVATION COALITION

By Alison Bjornson
President

¹⁴ ORS 455.446(1)(a). Essential facilities include hospitals, fire and police stations, fire suppressant facilities, emergency vehicle garages, certain standby power and communications facilities. ORS 455.447(1).

¹⁵ *Lawler J. J., M. Mathias, A. E. Yahnke and E. H. Girvetz. 2008. Oregon's Biodiversity in a Changing Climate. Report prepared for the Climate Leadership Initiative, University of Oregon.*

Attachment A
Proposed Goal

Goal 20
Climate Change – Sea Level Rise

Amendment to OAR 660-015-0010

To create and implement mechanisms to anticipate and adapt to the effects of sea level rise.

Sea level rise includes the following kinds of consequences: inundation of land and structures, storm surge beach and cliff erosion, salt water intrusion into estuaries and impacts on species.

The objectives of this Goal include reducing the hazard to human life and property; minimizing the adverse effects upon water quality, species, and fish and wildlife habitat; and protecting and restoring the resources and benefits of Oregon's beaches, dunes, estuaries, shorelands and coastal lowlands, all of which will be impacted by sea level rise.

Programs to achieve these objectives shall be developed by local, state, and federal agencies having jurisdiction over coastal beaches, dunes, estuaries, shorelands and coastal lowland areas that will or may be affected by anticipated sea level rise.

Inventory and Plan Requirements

1. Not later than 18 months after adoption of this Goal, DLCD, DOGMI and other agencies shall provide local governments with maps, detailed topographic maps, inundation models, aerial photos, and other information upon which to assess vulnerability and risk; during this period LCDC shall adopt rules to set standards for vulnerability and risk assessments, requirements for an adaptation plan, and policies to accommodate increasing tidal elevations in coastal shorelands.

2. Not later than 36 months after the adoption of this Goal, local governments and state agencies, in accordance with rules issued by LCDC, shall complete an assessment of vulnerability to atmospheric greenhouse gas concentration increases and associated global and regional warming, sea level rise, and storm surge increase.

3. Not later than 48 months after adoption of this Goal, each local government and affected state agency shall adopt an adaptation plan as an amendment to the comprehensive plan that will adopt strategies for adaptation and mitigation that will minimize risk to human life, coastal property and natural resources and provide how the adaptation and mitigation strategies will be put into effect.

Until an affected state agency adopts rules implementing this Goal or until a coastal city or county implementation plan is acknowledged, the applicable minimum planning standards for these governmental units shall be:

1. A minimum of a 1.94 foot rise in sea level by 2100 as predicted by the International Panel on Climate Change.
2. A 100 year storm surge of 53 horizontal feet.

These standards shall also be a part of Oregon's Coastal Zone Management Plan and all federal actions within the coastal zone shall be consistent with the standards.

Within 30 days after each fifth year after the date of adoption of this goal, the Oregon Global Warming Commission shall examine the latest scientific information available and restate these planning standards, as well as adopt any additional necessary standards, to match what it deems to be reliable scientific forecasts and predictions at the time of restatement. All affected local governments and agencies shall revise their plans and standards within eighteen months after the date of the restatement. Failure to revise such plans and standards by the time specified shall be deemed a moratorium on issuance of further permits or approvals in the coastal zone by such local government or affected state agency until the revised plans and standards are revised and acknowledged by LCDC.

Based on predictions contained herein, within six months of the date of adoption of this goal the Oregon Department of Geology and Mineral Industries (DOGAMI) in coordination with the Oregon Office of Emergency Management shall identify and publish maps with two lines representing the highest predicted storm surge for a twenty five year period (25 year Surge Line) and for a 100 year period (100 year Surge Line) along the entire Oregon Coast. DOGAMI shall review and revise the Surge Lines not later than once every five years and, after each revision, DOGAMI shall publish new Surge Lines.

State regulations that serve as the basis for permit issuance, land use plans, implementing actions and permit reviews shall include consideration of the impacts of then- anticipated sea level rise on all human structures and land form changes, including but not limited to, jetties, rip rap, dikes, groins and other structures designed to regulate waters. They shall also include consideration of such structures on coastal hazards, including without limitation, erosion, beach sand replenishment and movement, and induced geological changes. Plans shall identify anticipated impacts on private property from sea level rise, including without limitation, riparian ownership impacts, reliction, accretion, and avulsion. Because of the consequences to beach and bluff areas, the Oregon Department of Transportation shall avoid shoreline protective structures, such as riprapping, and other devices to stabilize roadways seaward of the 100 year Surge Line and shall develop and implement a multi-year plan to move state highways (including Highway 101) and state funded local roadways landward of the 100 year Surge Line.

LCDC shall establish a program of transferable development rights (TDRs) for areas affected by this Goal. The program shall ensure a fair and equitable system of compensation for property owners affected by sea level rise and shall ensure adequate locations to use the TDRs. The program shall provide TDRs to property owners as described below, and those TDRs shall be assigned a unit value. LCDC shall require that areas within urban growth boundaries throughout the state be available for use of these rights and local governments shall designate areas allowing increased density based on development rights. The units may be used by any person who

acquires them to increase such density. The TDRs created by this program shall be freely transferable.

Where plans and standards dictate that private property cannot be developed because of anticipated sea level rise or wave surge, and the property has not been significantly damaged by sea level rise, the owners of such property are eligible for TDRs. The amount of TDRs shall be based on an assessment of the development rights and value over the next 25 years adjusted for the likelihood of damage from natural disasters or processes, and will take into consideration any appraisal or other credible evidence of value offered by the private property owner.

Notwithstanding the TDR program and ORS 215.130, once private property seaward of the 25 year Surge Line has been significantly damaged (as defined in the TDR program) by a wave surge or other natural event related to sea level rise, the property shall be deemed relicted under Oregon law and shall not be redeveloped.

Outside urban growth boundaries, owners of land that is seaward of the 25 year Surge Line, within a diking district and actively farmed are eligible for TDRs. The amount of TDRs shall be roughly proportional to the value of the land after inundation, less any compensation received as a result of wetland mitigation banking. The development rights shall be usable within urban growth boundaries that have been designated for receipt of such development rights.

For purposes of defining the ocean shore in ORS 390.065, if the 25 year Surge Line falls inland from the Ocean Shore as defined in ORS 390.065, then the 25 year Surge Line shall be deemed the landward line of established upland vegetation.

No state agency shall insure, guarantee or expend monies, directly or indirectly, to develop, construct or re-construct structures, infrastructure or public facilities that are seaward of the 100 year Surge Line.

