State of Oregon Coastal Management Program

Final Environmental Impact Statement

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of Coastal Zone Management

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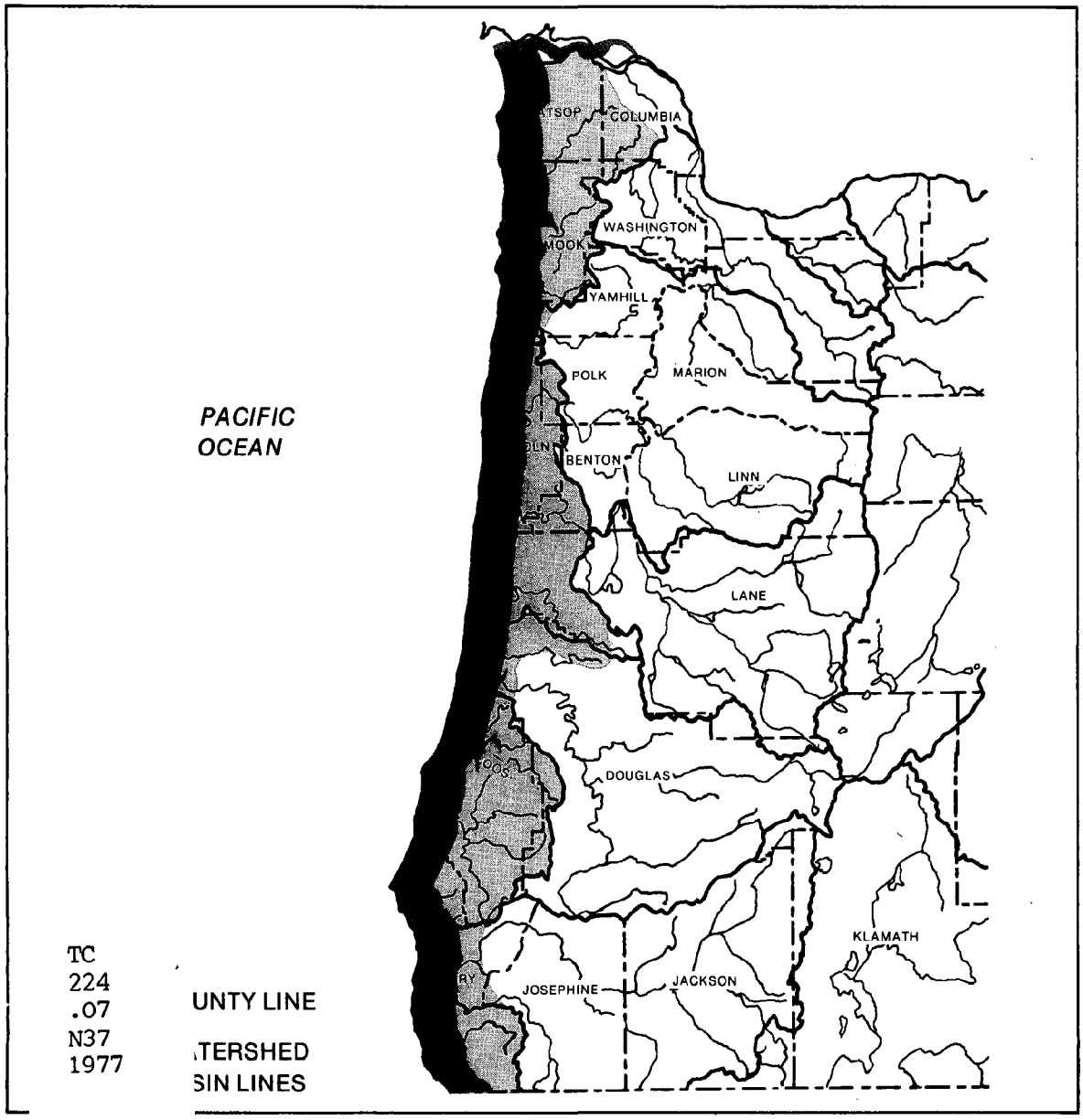

Oregon Coastal Zone

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UNITED STATES
DEPARTMENT OF COMMERCE

FINAL ENVIRONMENTAL IMPACT STATEMENT

STATE OF OREGON COASTAL MANAGEMENT PROGRAM

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Prepared by:

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ATTACHMENT 1 (not included in document)

1. Written Statements from Parties Who Commented on the Oregon Coastal Management Program and the Draft Environmental Impact Statement

FIGURES

1. Oregon's Coastal Zone Including Geographic Areas of Particular Concern (not included in document)
2. Federal Land Holdings (not included in document)
3. Coastal Province/Klamath Province
4. Components of Estuarine System
5. General Profile of an Oregon Estuary
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3. Adopted Statewide Goals and Guidelines including Newly Adopted Goals and Guidelines for Coastal Resources (part of Appendix 3 included in document)
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NOTICE TO REVIEWER

Attachment 1 has been printed as a separate volume and distributed with the final EIS to all the parties who submitted written statements and to Federal agencies. This separate volume is available upon request from the Office of Coastal Zone Management, 3300 Whitehaven Street, N.W., Washington, D.C. 20235, 202/634-4241.

Referred to in this document are Figures 1 and 2, part of the Oregon Coastal Management Program. Due to a limited supply of these maps, and the great overlap in circulation of the Program and this final environmental impact statement (EIS), these maps have not been included in the final EIS. Please refer to the Program for these maps. Likewise, the appendices, except part of Appendix 3, have been deleted because all recipients of the final EIS should have received or have access to the Program or draft EIS which contains the referenced appendices. If you no longer have a copy nor access to the Program or the draft EIS and need a copy of these figures or appendices, copies are available upon request from the Oregon Department of Land Conservation and Development, 1175 Court Street, N.E., Salem, Oregon, 97310, phone 503/378-4926.

Summary

( ) Draft Environmental Impact Statement (X) Final Environmental Impact Statement

Department of Commerce, National Oceanic and Atmospheric Administration, Office of Coastal Zone Management. For additional information about this proposed action or this statement please contact:

Grant Dehart
Office of Coastal Zone Management
National Oceanic and Atmospheric Administration
Washington, D. C. 20235
Phone: 202/634-4235

1. Proposed Federal approval of the Oregon Coastal Management Program

   (X) Administrative Action ( ) Legislative Action

2. It is proposed that the Secretary of Commerce approve the coastal management program application of the State of Oregon pursuant to the Coastal Zone Management Act of 1972, as amended. Approval would permit implementation of the proposed program, allowing program administrative grants to be awarded to the State, and require that Federal actions be consistent with the Program.

3. Approval and implementation of the Program will restrict or prohibit land and water uses in certain parts of the Oregon coast, while promoting and encouraging development and use activities in other parts. This may affect property values, property tax revenues, and resource extraction or exploration. The Program will provide an improved decision-making process for determining coastal land and water uses and siting of facilities of national interest, and will lead to increased long-term protection of and benefit from the State's coastal resources.

4. Alternatives considered:

   A. Federal Alternatives to Approval of Oregon Coastal Management Program

      1) Delay or deny approval until all city and county comprehensive plans are completed.
      2) Grant approval for "initial implementation" under Section 305(a)(2).

   B. Alternatives for the Oregon Coastal Management Program

      1) Authorities or agencies to fund, implement, and administer the Program.
      2) Alternative boundaries.
      3) Alternative definition of excluded Federal lands.
      4 Alternative coastal Goals.
      5) Alternatives to geographic areas of particular concern.
      6) Alternative Federal consistency procedures.

5. List of all Federal, State, and local agencies and other parties from which comments have been requested. (An asterisk (*) indicates a party from which a written comment on the draft environmental impact statement was received.)

Federal Agencies

Department of Agriculture
- Agricultural Stabilization and Conservation Service
- Forest Service
- *Soil Conservation Service
- Rural Electrification Service
- Agriculture Research Service

Department of Commerce
- *Economic Development Administration
- *Maritime Administration
- National Oceanic and Atmospheric Administration
  - *National Oceanographic Services Office
  - *National Ocean Survey
  - ***National Marine Fisheries Service**
  - *Associate Administrator for Marine Resources

Department of Defense
- Deputy Assistant Secretary
  - *Environment and Safety
  - *Installations and Housing
- Army Corps of Engineers
- Navy
- Air Force

Department of the Interior
- Bureau of Land Management (public lands)
- Office of Oil and Gas
- Bureau of Outdoor Recreation
- Fish and Wildlife Service
- Geological Survey
- National Park Service
- Bureau of Reclamation
- Bureau of Mines
- Bonneville Power Administration

Department of Transportation
*Regional Representative of the Secretary
*Coast Guard
Transport and Pipeline Safety
*Federal Aviation Administration
Federal Railroad Administration
*Federal Highway Administration, Region X
*Department of the Treasury
Environmental Protection Agency
*Regional Adminstrator, Region X
U.S. Water Resources Council
Department of Health, Education and Welfare
Public Health Service
*Department of Housing and Urban Development
*Nuclear Regulatory Commission
*Department of Justice
*Energy Research and Development Administration
*Federal Energy Administration
Federal Power Commission
General Services Administration
*National Aeronautics and Space Administration
Advisory Council on Historic Preservation

Federal/State
Pacific Northwest River Basins Commission
Pacific Northwest Regional Council, Region X

State
Oregon
Governor
*Intergovernmental Relations Division
Department of Agriculture
Department of Commerce
Department of Economic Development
Department of Education
Department of Energy
Department of Environmental Quality
*Department of Fish and Wildlife
Department of Forestry
*Department of Geology and Mineral Industries
Department of Human Resources
Health Division
Department of Transportation
Parks and Recreation
Department of Water Resources
Division of State Lands
Land Conservation and Development Commission
Oregon Joint Legislative Committee on Land Use
Oregon State University
Public Utilities Commission
Soil and Water Conservation Commission
State Marine Board
University of Oregon

Local Governments
Clatsop-Tillamook Intergovernmental Council
Cloos-Curry Council of Government
Lane Council of Government
Oregon District 4 Council of Governments
Umpqua Regional Council of Governments

Board of County Commissioners for:
*Clatsop
*Coos
Curry
Douglas
Lane
*Lincoln
*Tillamook

County Planning Departments in:
Clatsop
Coos
Curry
Douglas
Lane
Lincoln
Tillamook

City Planning Departments for:
Astoria
Cannon Beach
Coos Bay
Coquille
Lincoln City
Manzanita
Port Orford
Seaside
Siletz
Warrenton

Mayors of:
Astoria
Bandon
Bay City
Brookings
Cannon Beach
Coos Bay
Coquille
Depoe Bay
Eastside
*Florence
Garibaldi
Gearhart
Gold Beach
Hammond
Lakeside
*Lincoln City
Manzanita
Myrtle Point
Nehalem
Newport
North Bend
Port Orford
Powers
*Reedsport
Rockaway
Seaside
Siletz
Tillamook
Toledo
Walport
Warrenton
Wheeler
Yachats

Other Governmental

Ports of

Alsea
Astoria
Bandon
Bay City
Brookings
*Coos Bay
Coquille River
Gold Beach
Nehalem
*Newport
Portland
Port Orford
Siletz
Siuslaw
Tillamook
Toledo
*Umpqua

Other Parties

Honorable Les AuCoin
Honrable Mark Hatfield
Honorable Bob Packwood
Honorable James Weaver
Senator Jason Boe
Senator Charles J. Hanlon
Senator Paul A. Hanneman
*Senator W. "Stan" Ouderkirk
Senator Jack D. Ripper
Representative William N. Grannel
Representative Max Rijken
Representative Ed Stevenson
Representative William Wyatt
Algonquin Gas Transmission Company
American Institute of Planners
Association of Oregon Counties
Association of Oregon Industries
Atlantic Richfield Company
Bartley, Long, Mirenda and Reynolds
Black and Veatch
California - State Lands Commission
Columbia River Estuary Study Task Force
Conservation Foundation, The
Delaware State Planning Office
E. D. Appolonia Consulting Engineers, Inc.
Thomas W. Ellis
Environmental Defense Fund
Florida Audubon Society
William Gallagher
Liz Greenhagen
Gulf Power Company
Izaak Walton League
Jack McCormick and Associates
Jennings, LA - Park and Recreation Department
Peter V. Lacourture
*League of Oregon Cities
League of Women Voters
*Fremont McComb
Michigan State University
Tom McCall
NALCO Environmental Sciences
National Audubon Society
National Wildlife Federation
*Natural Resources Defense Council
Natural Resources Law Institute
Northern Natural Gas Company
Northwestern University
*1000 Friends of Oregon
Oregon Association of Soil and Water Conservation Districts
*Oregon Coastal Conservation and Development Assn. (changed to Oregon Coastal Zone Management Assn.)
Oregon Environmental Council
Oregon Home Builders
Oregon Institute of Marine Biology
*Oregon Shores Conservation Coalition
*Oregon Student Public Interest Research Group (OSPIRG)
Parsons, Brickerhoff, Quade & Douglas, Inc.
Shell Oil Company
Sierra Club
Southwest Research Institute
Standard Oil Company of California
Stanford Research Institute
Harold Stanley
Virginia Beach, Va. - Dept. of Planning
*Western Environmental Trade Association
Weyerhaeuser Company
William Q. Wick
Woods Hole Oceanographic Institution
*Western Oil and Gas Association
*Wallace S. Baldinger
*Davidson Industries Inc.
*Maradale K. Gale

6. The final EIS was prepared based on written comments received and oral/written statements made at the public hearings held on 15 and 16 September 1976. A total of 47 interested parties submitted written comments by the end of the 45-day comment period on the draft EIS, or shortly thereafter, as follows:

Federal Agencies...	21
Federal/State.....	0
State.....	3
Local Governments..	7
Other Governmental.	3
Other Parties.....	13

Summarized below is a discussion of written comments received on the Oregon Coastal Management Program and the draft EIS and the Office of Coastal Zone Management's (OCZM) responses. All oral comments made at the public hearings for which written statements were not submitted, OCZM believes are discussed within the context of the written comments received by OCZM, and, therefore, oral statements have not been specifically addressed. The written comments received are included in Attachment 1 in order in which they are summarized. Additional comments for which no response was deemed necessary are at the end of Attachment 1. (Note: Attachment 1 has been printed as a separate volume and was distributed to all parties who submitted written statements and to Federal agencies. This separate volume is available upon request from the Office of Coastal Zone Management.)

Comment	Response
1. U. S. Department of Agriculture, Soil Conservation Service (5-17-76, Davis)	
- Cannot accept excluded lands policy.	- Federally owned lands have been excluded.
- Forest Practices Act regulations are not included in the Program.	- Regulations have been added to the Program document.
- Program is not sufficiently specific to control land use inland of beaches and dunes.	- Goals have been made more specific, and statewide Goals and Guidelines also apply.
- Federal agency should not have to appeal staff decisions to LCDC.	- The Federal consistency process has been revised. The process will be further developed during the Program implementation in consultation with Federal agencies.
- Cannot accept the unreasonably large area included in the coastal zone.	- The State's approach to defining "shorelands the use of which have a direct and significant impact on coastal waters," is consistent with the CZMA and regulations. The Program and final EIS describe this process sufficiently.
- Appeals to the Secretary of Commerce is the State's responsibility not the Federal agencies.	- Under revised draft regulations of OCZM, mediation will be available and optional to both the State and the Federal agency.
2. Department of Commerce, Economic Development Administration (EDA) (4-15-76, Hamrick)	
- Economic development organizations should be notified and kept informed on comprehensive plans.	- They are and will continue to be involved during development of comprehensive plans.
- EDA sponsored organizations should be coordinated within development of the Program.	- EDA representative in Coos Bay has participated on OCCDC Board, in OCZMA, and on advisory board of economic impact study. Others have been participating.
3. Department of Commerce, Maritime Administration (6-15-76, Armstrong)	
- Columbia River Estuary should be designated as an area of particular concern (APC).	- Mapping error in draft Program has been corrected. Columbia River Estuary is designated as APC, as are all estuaries on Oregon's coast.

Comment	Response
(3. continued)	
- Recommended extension of boundary to include Port of Portland.	- Draft EIS discussion of boundary alternatives to include Portland will be expanded, but under the State's tests for direct and significant impact, it does not appear necessary to include Portland at this time. Because of population and development activity, inclusion of Portland causes an imbalance in the Program toward Portland needs.
- Portland was not included in the "Oregon Coastal Port Development Plan."	- Portland is not considered a coastal port by the State of Oregon.
- The Columbia River Estuary uses should be subject to comprehensive planning and regulation within the framework of the Oregon Coastal Management Program.	- The Columbia River Estuary is subject to the same comprehensive management system that applies to Oregon's coast, i.e., the Goals and Guidelines of LCDC and Coordinated Comprehensive Plan Requirements.
- Federal consistency could create additional delay in permit procedures. The impact of consistency on permit delay should be assessed.	- Oregon's approach to consistency determinations is based on existing State and local permit activities. No new permits are contemplated, and delays should be no more than existing delays. Once plans are adopted, permit delays should be reduced.
- Shorelands of the Columbia River Estuary should be included in shorelands Goal.	- They are included in revised shorelands Goal.
- Program should discuss its policies regarding vessel navigation, port, and terminal operations.	- The State's policies for port planning (ORS 777.810, 777.990) and oil spillage regulation (ORS 468.780 to 468.995) have been included in the Program, and their relationships to permissible uses are discussed in estuarine and ocean resource Goals.
- Inventory of Oregon coast should be documented in the Program.	- Summary of inventories are provided in Appendix 5. Description in the Program would be unworkable.
4. Department of Commerce, National Oceanic and Atmospheric Administration Oceanographic Services Office (4-3-76, Pugh)	
- Provisions should be included for monitoring marine environmental quality.	- Such provisions have been provided in revised Goals on ocean resources.
5. Department of Commerce, National Oceanic and Atmospheric Administration National Marine Fisheries Service (9-16-76, Walters)	
- The mechanism for determining the consistency of Federal projects, permits, and programs within the Oregon Coastal Management Program is unclear. Slight modification of existing programs would be easier than additional programs.	- The revised Program clarifies these procedures, and the final EIS discusses alternative procedures proposed by two State agencies. The Program will seek to avoid establishing new permits or procedures.
- Support the Oregon Coastal Management Program boundary.	- Boundary has been retained.
- Concerned with Goals that have not been adopted and lack of compliance standards.	- Goals have been adopted and include compliance standards.

Comment	Response
(5, continued)	
- Concerned with lack of priorities for use.	- Revised Goals establish use priorities.
- Questions the adequacy of the shorelands Goal with respect to farm use zones and forest areas.	- Shorelands Goal has been revised to include such areas.
- Supports proposed action. Alternatives would not ensure the intent of the Oregon Coastal Managment Program or CZMA.	- Oregon continues to support proposed action.
- Goals should be finalized and evaluated prior to approval of the Oregon Coastal Management Program.	- Goals have been finalized. Final EIS and final Program review provide period for evaluation prior to approval.
- Compliance standards would allow more adequate prediction of future impacts.	- Compliance standards of revised Goals have been discussed in revised impacts section.
6. Department of Commerce, National Oceanic and Atmospheric Administration Associate Adminstrator for Marine Resources (10-4-76, Wallace) (MR)	
- Oregon draft EIS was developed and distributed for review prematurely, because goals had not been finalized.	- The draft EIS was prepared in anticipation that final Goals would be similar in substance to draft Goals. Impacts were to be assessed as if draft Goals were effective. Inclusion of draft Goals in the draft EIS (as proposed action) provided opportunity for substantive input to final form of coastal Goals, consistent with National Environmental Policy Act. Comment on final Goals could have no effect. OCZM recognized that approval could not be granted on basis of draft Goals.
- Goal #3 excludes shorelands managed under forest and farm use regulations.	- Revised Goals do not exclude those lands; shoreland Goal recognizes existing State agency programs and directs State agencies to review and revise their regulations to achieve objectives of the Program.
- Adequacy of coastal zone management and provision for fisheries and habitat protection, recreation, æsthetics is unknown under (new) provisions.	- Revised Goals are more explicit regarding these provisions. Final EIS review provides opportunity to review prior to the Program approval.
- Compliance standards should be adopted for State review of local government plans; it should reflect intent of CZMA and Oregon Goals to manage resources.	- More specific standards for compliance of local plans are provided in revised Goals. In addition, standards for review of compliance are provided in the Program gram; and a summary of standards in statewide planning Goals and State statutes are identified in Appendix 3.
- Excessive length of compliance schedule for local plans.	- Inventory requirements alone (which MR has expressed need for) will take 1-3 years.
7. Department of Defense (DOD) (6-16-76, Marienthal)	
- Objects to excluded lands position.	- Federal owned lands have been excluded.
- Final determination of consistency of Federal projects with spillover impacts rests with Federal government.	- Program has been corrected to reflect this interpretation.

Comment (7. continued)	Response
- Clarify permit certification procedures to reflect certification by applicant not the State.	- Program has been corrected accordingly.
- Draft EIS should not include alternative that Secretary could grant conditional approval.	- Alternative of "conditional approval" has been omitted from final EIS. Section 305(a)(2) "initial implementation" approval is discussed in its place.
- Basic to DOD approval of the Program, including the draft EIS, is a direct clarification that all DOD lands regardless of ownership or jurisdictional status are excluded from the coastal zone.	- Section 307(b) requires the Secretary to adequately consider the views of Federal agencies principally affected. "Approval" is not required. The State has excluded lands owned by the U.S. in accordance with Attorney General's opinion.

7a. Department of Defense
(8-10-76, Fliakas)

- Final Program approval should be withheld until all local government plans are completed.	- The Oregon Coastal Management Program has sufficient interim authority and specific policy to implement the Program prior to completion of local plans.
- National interest: the Program should be changed to include declaration of priority of national defense to accommodate future DOD installations.	- The Oregon Coastal Management Program provides for Federal, State, and local consideration in the development of local plans, and a declaration of national interest for defense facilities, consistent with the planning process.

7. Department of Transportation
(6-23-76, Samuelson)

"Serious disagreement"

- Lands used exclusively by U.S. irrespective of ownership or jurisdiction to be excluded.	- Program excludes lands owned by U.S. from boundary, in accord with Attorney General opinion.
- Federal agency should be making determinations of consistency...not the State of Oregon (also letter of 9-14-76).	- Amended Program allows for determination by Federal agency and concurrence by State.
- Why should State evaluate performance of Federal agencies in implementing comprehensive plans?	- State has obligation to review performance of the Program and all participants in its implementation process, in response to OCZM performance evaluation under Sec. 312 of CZMA.
- Object to Federal use of Goals and Guidelines in preparing plans.	- Program was changed to say, "Goals are to be used by Federal agencies to the 'maximum extent practicable'."
- Method to be used to determine Federal consistency is the prerogative of the Federal agency...DOT will rely entirely on A-95 process.	- Specific process for determination of consistency will be worked out by State in cooperation with Federal agencies during the Program implementation. The State feels that the A-95 process is too late to determine consistency early in planning stage. Furthermore, A-95 is a process for gathering comments only; it is not a determinant.

Comment	Response
(8. continued)	
- Conflict resolution process described constitutes State veto over Federal projects.	- It was not the State's intent to develop such a system; Program has been revised to clarify this.
- State land use planning Goal should state that Federal agencies should be consistent to the "maximum extent practicable."	- This is explicit in the CZMA and understood in the approval of the Program.
- FAA operating certificates are not permits to be certified. Coast Guard limits certification to cited permits.	- FAA certificates omitted. Coast Guard list accepted.
- Navigation aids should be included in permissible use tables.	- Permissible use tables omitted from the Program.
- Federal lands list is incomplete.	- FAA and Coast Guard lands added to list.

8a. Department of Transportation (9-14-76, Samuelson)

- Airports and seaplane bases should be allowable in estuarine permissible use table.	- Permissible use table has been omitted from the Program. Estuarine Goals allow certain uses which do not require fill, i.e., sea planes.
- State does not have authority to designate permits subject to certification by State.	- CZMA (307(3)(A) says that "any applicant for a required Federal license or permit to conduct an activity affecting land and water uses in the coastal zone ... shall provide in the application...a certification that the proposed activity complies..." This implies that all Federal licenses and permits are subject to such certification. OCZM and the State of Oregon agree that the State has this authority as reflected in draft regulations on Section 307. The State has selected major permits and licenses published by the Office of Management and Budget.
- The A-95 process is unnecessary for certification of the Coast Guard permits because the Federal Water Pollution Control Act permits are obtained.	- OCZM and the State concur that A-95 is not the only mechanism available for certification. This comment appears inconsistent with earlier comment (6/23/76) that DOT will rely "entirely" on A-95. The Coast Guard is referring to a Federal consistency procedure proposed by a State agency other than the lead agency.
- Proposals for direct Federal development should be treated in a separate process.	- Federal development projects are treated the same as "activities" in the revised Program, consistent with OCZM draft regulations.

8b. Department of Transportation (10-28-76, Samuelson to Brauner)

- Impractical for DOT to deal directly with local units of government in review of local comprehensive plans.	- On 12/16/76, LCDC indicated that county coordinators would perform role of working with DOT; LCDC staff will also assist. Site specific concerns should be conveyed directly to local government.
- DOT obligation to "follow" comprehensive plans for all actions "negates" National Environmental Policy Act threshold determination "on major actions."	- It is the intent of Congress that all Federal actions directly affecting the coastal zone be consistent with State coastal zone management programs "to the maximum extent practicable," not only major actions subject to the National Environmental Policy Act EIS requirements.

Comment (8b. continued)	Response
- Local comprehensive plans will be used by DOT only as an advisory document in consistency review.	- Sec. 307(c)(1) and (2) of CZMA provides that "Federal agencies conducting or supporting activities directly affecting the coastal zone," and "undertaking any development projects in the coastal zone" shall conduct or support those activities, and undertake such projects consistent with approved programs, to the maximum extent practicable. Consideration of such programs as "advisory" is not sufficient. Approved local comprehensive plans are to be considered as a part of the State's management program when brought into compliance with State programs.
9. Environmental Protection Agency (9-21-76, Dubois on DEIS)	
- Difficult to predict impacts in specific terms; suggests complete description of mechanisms to insure consistency of State program with Sec. 307(f) environmental programs.	- A management program does not allow the same degree of specific description of impacts as would a development project. The revised coastal Goals and the summary of other State standards should provide the requisite degree of specificity to assess impacts. A description of the impacts has been revised. State has provided letter from Oregon Department of Environmental Quality indicating relationship between these programs.
9a. Environmental Protection Agency (9-21-76, Dubois on the Program)	
- Guidance to Federal agencies needed on how to make trade-offs between conflicting Goals.	- Conflicts will be resolved on a case-by-case basis, based on the data and circumstances ...the process must be clear in the Program review of each case.
- Conflicts among water dependent uses should be recognized.	- The revised estuarine Goal recognizes such conflicts and provides a standard for resolution.
- Question whether any use at all should be allowed in particular sensitive environments.	- Certain natural and restoration uses are recognized as valid uses of sensitive environmental areas.
- No apparent LCDC review of State counterpart permits for consistency of Federal permits.	- State agency actions are subject to Goals and Guidelines and State permits are to be reviewed in revised Program by DLCD. County coordinators will play a major role in local and State agency consistency review.
10. Department of Justice (9-13-76, Rashkow)	
- Extent of Oregon's seaward jurisdiction inadequately defined; conflicts with U.S.	- Description revised to state: "as recognized in Federal law."
11. Energy Research and Development Administration (ERDA) (6-21-76, Swinebroad)	
- ERDA should be added to the national interest table.	- ERDA has been added to Table IV.
- The Land Use Handbook could be improved.	- Revised guidelines are being considered.

Comment	Response
12. Federal Energy Administration (4-23-76, Feldman)	
- Request further evidence of coordination with the Oregon Department of Energy.	- The Oregon Department of Energy was a member of the State agency task force throughout the development of the Program. Implementation of the Program will provide funds for hiring a full-time staff member of this agency to develop a detailed study of coastal energy plans and needs. The Governor has also designated an OCS task force co-chaired by LCDC and the Department of Energy.
- Relationship between coastal Goals and State energy Goals should be analysed and coordinated.	- The revised Program does describe the relationship between the Goals and Guidelines and other State programs and the method for resolving conflicts among State programs.
- Need clear guidelines in the Program for local governments to consider matters of more than local significance and oversight by State.	- Program has been revised to describe priorities of use, national interest concerns, and uses of regional benefit in more detail.
- "Areas of Particular Concern" and "Areas of Statewide Significance" sections should include clear definitions of classes, provision for Federal input and review, and clarification of how areas designated as suitable sites for energy facilities are considered.	- These sections of the final Program clarify the classes of areas considered, which include those sites designated as suitable or unsuitable by the Energy Facility Siting Council. Opportunity for Federal input and review is provided for the Program as a whole, as described in the Program.
13. Oregon Intergovernmental Relations Division (9-24-76, Young)	
- Concerned with establishing separate review procedures for Federal consistency other than A-95. The mechanics of consistency determination are not well described.	- LCDC plans to utilize existing procedures wherever possible for review and determination of consistency. The details of this review process will be worked out with the Intergovernmental Relations Division and LCDC during the Program implementation.
- Roles of LCDC and other participants in consistency determinations are not identified.	- Final Program defines the process in more detail, but the final guidelines for consistency will be developed during the Program implementation.
- The suggested review process for permits (under Sec. 307) duplicates A-95 and is inadequate.	- The process will be developed during the Program implementation.
- The list of "significant" permits should be negotiated between the State and individual Federal agencies.	- The final list was a product of review and comment by Federal agencies. The list can be revised from time to time as the State wants to add permits for review.
14. Oregon Department of Fish and Wildlife (9-16-76, Anonymous)	
- Approval should be based on adoption of adequate Goals and Guidelines with compliance standards.	- Goals and Guidelines have been adopted with compliance standards.
- Federal land management responsibilities should be clearly spelled out due to the excluded lands opinion.	- The Program discusses Federal consistency and the excluded lands position in more detail. Federal consistency guidelines will be developed during the Program Implementation.

Comment	Response
15. Oregon Intergovernmental Relations Division (9-16-76, Anonymous)	
- Approval should be based on adoption of adequate Goals and Guidelines with compliance standards.	- Goal and Guidelines have been adopted with compliance standards.
- Federal land management responsibilities should be clearly spelled out due to the excluded lands opinion.	- The Program discusses Federal consistency and the excluded lands position in more detail. Federal consistency guidelines will be developed during the Program implementation.
16. State Senator W. Stan Ouderkirk (9-16-76)	
- It is inconsistent for Federal lands to be excluded if Federal agencies issuing licenses and permits must be consistent with the State.	- These differences result from different sections of the CZMA, but because of Federal consistency provisions, OCZM has determined the excluded lands opinion will not have a major negative impact on the management of Oregon's coast.
- More effective planning could be provided by a coastal agency with statutory authority which would represent local communities.	- The Program is based on SB 100 in which the Legislature gave this authority to LCDC. OCZM considers this organization consistent with the CZMA requirements. SB 100 also provides authority for local governments to organize regional agencies for planning purposes.
- The Program poses a problem of compensation for those planned out of the value of their lands.	- The Oregon Constitution requires compensation for those deprived of the use of their property.
17. League of Oregon Cities (10-1-76, Executive Director)	
- Questions LCDC authority to adopt regional Goals.	- LCDC does not consider these as regional Goals; they apply to all estuaries, beaches and dunes, coastal shorelands, and ocean resources of the State.
- Draft EIS does not adequately address future program; its coastal Goals are not adopted.	- Coastal Goals have been adopted. If approved Goals and uses substantively differed from or had not been approved, OCZM would have published a supplemental draft EIS.
- No process for evaluation of Federal agency plans by LCDC.	- Program expands the discussion of Federal consistency procedures. Federal lands have been excluded from Oregon's coastal zone for purposes of Federal approval.
- Draft EIS conflicts with Attorney General's opinion on excluded lands; impacts of opinion should be discussed.	- Final EIS has been revised to discuss this opinion and its impacts.
- No specific consistency certification procedures are adopted by LCDC.	- The general approach to certification is discussed in revised Program; the specific procedures will be developed during the Program implementation.
- Potential adverse impacts of consistency provisions are not addressed, especially delay of certification.	- Utilizing existing permit procedures, delay should be minimized.
- Draft EIS should discuss the parameters of Secretary of Commerce authority over State and local decisions on matters of national security or national interest.	- Program has been revised to discuss these parameters. If State relies exclusively on Federal consistency, in lieu of State control, to carry out policies of the Program, Secretary of Commerce override could enable Federal agency to issue a contested permit.

Comment	Response
(17. continued)	
- Draft EIS does not address whether LCDC has the authority to override local decisions.	- Program revisions discuss State authority over local government plans and decisions.
- LCDC does not have authority to overrule local decisions that are in compliance with the local comprehensive plan that has been adopted; is this adequate authority to meet the purpose of the CZMA?	- Program revision discusses this limit of authority and cites the remedies available to carry out the Program. The CZMA does not require State overrule of local land and water use decisions.
- Draft EIS should be updated to discuss existence of other State laws in existence prior to SB 100 Goals and Guidelines.	- Final EIS recognizes existence of these laws which are discussed in greater detail in the Program.
- Continental shelf Goal discussion should recognize limit of effect of Goal on fisheries due to 3 mile limit.	- Final EIS recognizes this limitation. The Federal consistency provisions could affect fishery management outside of 3 mile limit.
- Comments on long-term impacts gloss over effects of policies on cities, especially financial impacts.	- Final EIS discusses these impacts. Basic purpose of Federal program is to provide financial assistance to State and local governments.
18. Fremont McComb (9-15-76)	
- Requests that the boundaries of the coastal zone be revised.	- The Program and final EIS adequately support the proposed coastal zone boundaries.
- Hundreds of landowners in the coastal zone want local controls, not State or Federal.	- The Program allows for this local control and implementation in conformance with statewide Goals for resources and activities of State concern.
- Shorelands Goal could cover loss of land value.	- Shorelands Goal has been revised to provide more specific standards. The economic impacts are discussed further in the final EIS.
- Foresters and those who grow timber want no part of shorelands boundaries.	- Forest lands were included within the coverage of the shorelands Goal in response to several comments on the draft Goal which excluded them.
- Suggest removal of all lands above the head of tide.	- This would not meet the intent and purpose of the Program or CZMA.
- How can OCZM consider financing LCDC with the threat of repeal of SB 100 and LCDC?	- The ballot measure to repeal SB 100 was defeated by the voters in the November, 1976, election.
19. Natural Resources Defense Council (9-27-76, Beers)	
- The primary vehicle for implementing the Oregon Coastal Management Program (local comprehensive plans) has yet to be developed.	- Goals and Guidelines and the Program can be implemented by LCDC prior to completion of local comprehensive plans through State agency actions and the petition process. Local plans do not require completion for the Program approval.
- There are insufficient standards for making decisions in the interim.	- The Goals have been revised to provide more specific standards. Appendix 6 in the Program provides a summary of standards in statewide planning Goals and State statutes.
- Program does not demonstrate that authorities of existing agencies are adequate to deal with defined problems.	- The revised coastal Goals provide guidance to other agencies administering these statutes to assure they will be directed toward carrying out the Program goals. Appendix 6 in the Program demonstrates how the standards in these statutes relate to coastal concerns.

Comment	Response
(19. continued)	
- Program lacks sufficient immediate authority over coastal development.	- Statewide Goals and Goals for coastal resources are in force immediately. State agencies must comply with Goals and Guidelines from time of adoption. The petition process ensures that LCDC has authority to implement Goals prior to completion of local comprehensive plans.
- Before completion of the local comprehensive plans and their approval by LCDC coastal Goals will be advisory only.	- This is not correct. Goals are in force at time of approval.
- The Program fails to set standards for priority of uses.	- Revised Goals establish priorities of use as described in Appendix 3.
- The Program fails to provide a definition of "Permissible Uses."	- The Program defines "permissible uses" as "Uses to be managed" by the Program. These uses are defined in the Program and Table 1 shows how such uses are controlled
- The Program fails to establish areas of particular concern.	- The Oregon approach to identifying geographic areas of concern as either national resource areas or specific facility sites meets the intent of the CZMA and NOAA regulations.
20. 1000 Friends of Oregon (10-8-76, Benner)	
- Coastal Goals are too vague and general and do not provide enforceable standards.	- Coastal Goals have been revised to provide standards and priorities. The Program and appendices cite standards in statewide Goals and other State laws.
- Program fails to define permissible uses separately from boundaries.	- Revised Goals and the Program establish "uses to be managed" separately from boundary discussions.
- The Program must inventory coastal resources and analyze suitability for uses.	- The inventory and analyses were addressed during the development of coastal resource Goals and the Program. With the new Goal, inventory requirements should establish suitability prior to specific use designation at local level during implementation.
- The Program fails to set guidelines on priority of uses.	- Revised Goals and the Program establish priority of uses.
- ORS 197.300 limits LCDC review of actions upon appeal to "goals" not "guidelines." Priorities and permissible uses are established only in guidelines.	- Goals have been revised to include priorities and permissible uses in the Goal.
- Program fails to designate areas of particular concern (APC).	- The Oregon approach to APC's through resource categories and Goals is acceptable.
- Program fails to designate areas for preservation and restoration.	- The CZMA only requires the State to have a "process" for such designation, which the Program has.
- Program does not provide an organizational structure to implement the Program. LCDC has taken the position that State agencies need not apply Goals to their activities.	- SB 100 and the revised Program provide the organizational structure; LCDC has not taken this position. 1000 Friends was using an unofficial document. The Attorney General of Oregon and SB 100 have required State agency consistency with Goals.

Comment	Response
21. Oregon Coastal Zone Management Association (OCZMA) (10-6-76, Zedwick)	
- Draft EIS fails to discuss laws of the Program in terms of utilization, coordination, uses, and conflict resolution.	- Revised Program discusses these elements of SB 100 and how other laws assist in implementing these standards. Appendices include laws for greater detail.
- Memoranda of Understanding (MOU) with other State agencies should be required to avoid jurisdictional conflicts.	- With ORS 197.180 and 197.250 the State does not think MOU's will be necessary. LCDC has the authority to resolve conflicts upon petition.
- Inventories are inadequate for coastal Goals.	- Inventories are judged adequate for establishing general Goals and Guidelines and for development of the Oregon Coastal Management Program. As discussed in the Program, the specific inventory requirements are included in the Goals for development of local plans.
- LCDC failed to focus on permissible uses, areas of particular concern (APC's), and priority of uses.	- Final Goals address these concerns and are acceptable in terms of CZMA and regulations.
- Economic concerns should be considered as part of APC's.	- APC in revised Program are important for development as well as preservation. Economic needs as well as preservation needs are considered.
- APC's should have legislative review and concurrence.	- "Critical area" process of SB 100 has not been used for APC's. Coastal Goal approach does not require legislative concurrence.
- Alternatives discussion did not include coastal Goals submitted by OCZMA, 3/2/76 at public hearing.	- OCZMA alternative was submitted after draft EIS publication and was considered in development of final coastal Goals.
- Goals do not address special coastal concerns of Oregon, i.e., tourism, fisheries, ports.	- These concerns were fundamental to the development of the resource Goals and the Oregon Coastal Management Program. They are specifically addressed in the Goals through navigation (Ocean Resources), habitat, fishery resources (Ocean Resources), social, recreational needs, transportation.
- Draft EIS failed to address compensation, loss of tax base, trespass.	- Final EIS discusses these issues as suggested.
- Draft EIS failed to address powers of LCDC to acquire land when necessary to carry out the Program and the impact of condemnation.	- CZMA does not require these powers to reside in lead coastal zone management agency. Final EIS and revised Program address this requirement and its impacts.
21a. OCZMA (1-10-77, Zedwick)	
- LCDC adopted revised version of coastal Goals without paying heed to local officials.	- Coastal Goals were revised in direct response to local officials and other comments. LCDC can document specific changes resulting from concerns of local officials.
- No public hearings were conducted on the finalized Goals.	- Final Goals were developed during public workshops after 34 public hearings, based on the comments received. LCDC exceeded hearing requirements in law.

Comment (21a. continued)	Response
- LCDC must work with local officials in development and implementation; little accountability between elected officials or coastal residents exists.	- LCDC public participation and involvement process fully meets legal requirements. Appendices 8,9, & 10 of the Oregon Coastal Management Program document this process.
- LCDC must adequately assess the potential economic impacts of the proposed coastal Goals.	- The final EIS discusses the economic impacts of each Goal, and a special study of economic impacts has been conducted.
- SB 100 is due to be amended. Legislative scrutiny of the coastal Goals is necessary.	- There are several proposals for review and amendments to SB 100 and the Goals. In the event of major changes, OCZM and the State will review and revise the Program as needed.
- LCDC has ignored and circumvented the efforts of OCZMA. LCDC must cooperate with local government officials and their organizations.	- LCDC members and staff have met with OCZMA on several occasions. LCDC contracted with OCZMA for part of OCZMA staff salary which OCZMA cancelled. LCDC feels it is up to local governments to define OCZMA role in the coastal zone, not LCDC.
- Although LCDC received $72,000 to conduct an educational program, only a fraction has been expended.	- LCDC has funded a slide program, 134 coastal meetings with more than 3000 coastal residents, and is publishing tabloid reports on Goals and responses to public comments.
- How can LCDC use Sec. 305 funds for implementation of statewide planning goals?	- LCDC has expended and will expend coastal zone management funds "only" within the coastal jurisdictions and in developing the Program. Coastal Goals, although statewide are focussed on resources that exist mainly in the coast. Sec. 305 funds have been provided in response to local needs.
- Sec. 305 funds have been needed to conduct inventories but have been spent on implementing statewide goals.	- Inventory requirements have been recently established in final Goals. Planning assistance will be provided for inventories during the Program implementation. LCDC has responded to every local need identified during last Sec. 305 grant. All needs were funded as requested by local government.
- 30 days notice was not given for hearings conducted on Oregon's Coastal Management Program, Nov. 22, 23, 29, 30, and Dec. 1 and 2, 1976.	- At least 30 days notice was given for these hearings in The Oregonian, the newspaper with largest circulation on the coast. Other newspapers on the coast might have received less than 30 days notice. Legal notice was provided for all informational hearings. SB 100 requirements for 30 days notice have been met.
- LCDC did not give adequate notice of the December 18,1976, hearing on the Program.	- Public hearing was advertised in The Oregonian on Nov. 18, 1976. In addition, press releases were distributed to 230 news media on December 13, 1976.
22. Oregon Shores Conservation Coalition (9-15-76, Diel)	
- Shorelands Goal is inadequate to provide level of protection, especially in forest areas.	- Shorelands Goal has been revised to provide greater standards for forest management.
- Lack of consistency between beach permits (Parks Department) and coastal Goals.	- Greater direction to Parks Department is provided in beaches and dunes Goal.

Comment (22. continued)	Response
- Needs greater consistency between established wetlands studies and U. S. Corps of Engineers.	- Revised Program addresses the roles of Federal studies in greater detail. This is an implementation requirement.
- Economic impacts section of draft EIS should expand discussion of benefits of environmental areas, especially estuaries.	- Final EIS expands discussion of economic benefits of the Program.
- Propose an "estuary bank" to monitor incremental changes	- Mitigation requirements and preservation requirements in certain estuarine areas address these concerns. The idea will be further explored during the Program implementation.
- Other alternatives should be considered including use of existing State statutes, approval not being granted, and amendments to the coastal Goals so they have no effect.	- These alternatives are not realistic alternatives due to the adoption of final coastal Goals. OCZM would have issued a revised draft EIS if any major changes had been made to the coastal Goals.
23. Oregon Student Public Interest Research Group (11-24-76, Giese)	
- Exclusion of timber and exclusive farm use from shorelands Goal will not allow adequate protection of estuary resource.	- Estuarine resources and shorelands Goals have been revised to include these areas.
- Existing State laws fail to address coastal concerns--cumulative effects from use of lands.	- Revised Goals are directing agencies to review existing laws and revise in accordance with performance standards of Goal.
- Forest Practices Act has inadequate standards.	- Direction in revised Goals to Department of Forestry provides clear standards for revision of Forest Practice Regulations and authority to require changes.
- Shoreland Goal fails to define permissible uses and priorities.	- Revised shorelands Goal defines uses and priorities.
24. Western Environmental Trade Association (9-15-76, Tegart/Engdahl)	
- Public hearings are premature. Goals and Guidelines are not complete.	- Draft Goals allowed for public comment on proposed action.
- There is an overlap and duplication between statewide and coastal Goals.	- Revised Goals eliminated duplication where possible. Several Goals may cover the same geographic area but address different concerns. Relationship between potentially conflicting Goals will be identified during the planning process.
- No substantial economic analysis done in process of developing Goals and Guidelines.	- Final EIS discusses economic concerns in more detail. OCCDC had an economist on staff; LCDC has staff economist; WETA participated in OCCDC policy development process. Technical Advisory Committee representing industry and economists were involved in Goals. Special economic impact studies have been conducted on the coastal Goals.
- Questions whether Federal agencies will adhere to State decisions to the extent EIS predicts.	- Federal consistency provisions are untried and untested, but OCZM and the State expect that Federal agencies will comply with the Program to the maximum extent practicable.

Comment (24. continued)	Response
- EIS is poorly prepared in terms of short-long-term impacts, economic and environmental impacts.	- These sections are expanded in the final EIS.
25. Western Oil and Gas (9-16-76, Wright)	
- Program does not provide adequate consideration of national interest in siting of facilities.	- National interest statement has been revised to show how such facilities are considered in the Oregon Coastal Zone Management Program.
- Does not provide a method of assuring that local land and water use decisions will not unreasonably restrict or exclude uses of regional benefit.	- Uses of regional benefit discussion has been added to the Program.
- No economic use is permitted in "preservation" or "natural areas," but no compensation is provided.	- Certain uses can reasonably be excluded from sensitive resource areas. The Program cannot deny all reasonably uses of these areas without just compensation in accordance with the State and U.S. Constitution.
- Incorrect conclusion in the Program that renewable resources provide greater long-term benefits than non-renewable resources.	- The State disagrees. OCZM has no authority over this level of State policy.
- Continental shelf Goal could be interpreted to require State to embark on exploratory drilling program.	- Revised ocean resources Goals clarify this issue.
- Assignment of authority to cities and counties for navigation issues is improper.	- Goals have been revised to clarify this. Local governments do have some authority over ports and maintenance of navigation channels, dredge, and disposal.
- Guidelines should be revised to specify performance rather than methods and equipment to be used.	- The State disagrees. Same guidelines will establish minimum standards for use.
- Guidelines improperly result in charge to developer for cost of monitoring and inspection of operations.	- State disagrees that this is improper. State policy will be to internalize these costs to development.
- Developers should not be responsible for "Acts of God."	- This standard provision will not be affected by State guidelines.
- Vested rights should be recognized in revoking a permit.	- Guideline has been changed to add this.
- Operators should be required to establish contingency plans and emergency procedures, not State or Federal agency.	- State hopes that operators will have contingency plans, but State and Federal agencies required to react to spills should also have contingency plans.
26. Wallace S. Baldinger (9-15-76)	
- Supports reversing the opinion of the Assistant Attorney General to exclude Federally owned lands.	- The effect and impact of the excluded lands opinion is discussed in the alternatives section of the final EIS. Exclusion of Federal lands pursuant to the CZMA does not diminish State and local authority over lands in which the State shares jurisdiction.
- Draft Goals fail to take forests into consideration.	- Final Goals incorporated these concerns and provide standards for forest areas.

Comment (26. continued)	Response
- State and Federal agencies should be compelled to act consistently in accordance with measures planned for public welfare on the coast.	- SB 100 provisions require consistency of State actions with Goals and Guidelines. Federal consistency provisions require consistency of Federal actions to the maximum extent practicable.
27. Davidson Industries Inc. (9-10-76, Davidson)	
- A State planning agency (cannot) manage public and private forest lands.	- LCDC will not directly manage forest lands -- only set standards for managing resources affected by forest management. Guidance is provided to the Department of Forestry and local government.
- Objects to creation of another set of planning principles that duplicate efforts of Forest Service and Bureau of Land Management.	- Goals and Guidelines should supplement other standards rather than duplicate them. Goals provide for consistency of State standards and recognize Forest Practices Act.
- Boundaries must be changed to eliminate public and private commercial forest lands.	- Uses on these lands have some of the most significant impacts on coastal waters. LCDC has adequately described the reasons for the coastal zone boundary.
28. Maradale Gale (9-16-76)	
- Program lacks a comprehensive plan for Oregon's coast.	- CZMA allows for a variety of techniques for controls including State establishment of criteria and standards for local implementation. Special studies to be conducted during the Program implementation will address certain coast-wide issues.
- The Program does not have authority to preserve special areas except through action of the Legislature.	- LCDC has the authority to adopt Goals and Guidelines for special resources. The CZMA and NOAA regulations allow States to designate resource categories as AP's. Section 306(c)(9) requires "the management program makes provision for procedures whereby specific areas may be designated for the purpose of preserving or restoring them for their conservation, recreational, ecological, or esthetic values" (emphasis added). SB 100 and the Program make such provisions.

7. The draft environmental impact statement was transmitted to the Council on Environmental Quality on February 27, 1976, and the notice of availability to the public was published in the Federal Register on March 5, 1976. A public hearing was held on September 15, 1976, at 7:30 p.m. in the Marine Science Center Auditorium, Newport, Oregon, and September 16, 1976, at 7:30 p.m. at the Multnomah County Courthouse, Portland, Oregon.

This final environmental impact statement was filed with the Council on Environmental Quality on _____.

I. INTRODUCTION

In response to the intense pressures upon, conflicts within, and the importance of the coastal zone of the United States, the Congress in 1972 passed the Coastal Zone Management Act (P. L. 92-583). Signed into law on October 27, 1972, the Act authorized a new Federal program to be administered by the Secretary of Commerce, who in turn delegated this responsibility to the National Oceanic and Atmospheric Administration (NOAA). The Act was substantially amended by the 94th Congress, and the amendments were signed into law on July 26, 1976 (P. L. 94-370). The composite of the two Acts will be referred to herein as the CZMA.

The CZMA affirms a national interest in the effective management, beneficial use, protection, and development of the coastal zone, and provides assistance and encouragement to the coastal States to develop and implement rational programs for managing their coastal zones. Several financial assistance grant and loan programs are authorized by the CZMA. Section 305 authorizes annual grants to assist any United States coastal State or territory in the development of a management program for the land and water resources of its coastal zone (program development grants). Under Section 306, after developing a management program, the State may submit it to the Secretary of Commerce for approval; if approved, the State is then eligible for annual grants to administer its management program (program administration grants). A third section (Section 315) provides grants for an estuarine sanctuary program, to preserve a representative series of undisturbed estuarine areas for long-term scientific and educational purposes.

Amendments to the CZMA in 1976 added a Coastal Energy Impact Fund and formula grants (Section 308) for public facilities and services, repayment assistance, environmental/recreational amelioration and planning; related to impacts from OCS development and energy facilities. Other amendments include grants for new requirements under Section 305, interstate coordination, research and training, and shoreline access.

As an additional incentive for State participation, CZMA requires that Federal activities including development projects directly affecting the coastal zone shall be, to the maximum extent practicable, consistent with approved State management programs (the "Federal consistency" requirement, Section 307(c) (1) and (2)). Also, all applications for Federal licenses or permits affecting land or water uses within the coast must be certified to be consistent with the approved management program, and the State must concur with this certification before permits can be issued. In addition, all applications for State and local government Federal assistance affecting the coastal zone must be found by the State to be consistent with the management program before the Federal government can grant such assistance.

Guidelines defining the procedures by which States can qualify to receive development grants under Section 305 of the CZMA, and the policies for development of a State management program, were published on November 29, 1973 (15 CFR Part 920, Federal Register 38 (229) :33044-33051). By the end of fiscal year 1976, 33 out of 34 coastal States and territories had received program development grants.

On January 9, 1975, the National Oceanic and Atmospheric Administration's Office of Caostal Zone Management (OCZM) published criteria to be used for approving State coastal zone management programs and guidelines for program administrative grants (15 CFR Part 923, Federal Register 40(6) : 1683-1695; see Appendix 1). These proposed criteria and guidelines set forth (a) the standards to be utilized by the Secretary of Commerce in reviewing and approving coastal zone management programs developed and submitted by coastal States for approval, (b) procedures by which coastal States may qualify to receive program administrative grants, and (c) policies for the administration by coastal States of approved coastal zone management programs.

Pursuant to the Section 306 guidelines, OCZM has now received for review and Secretarial approval, a proposed coastal zone management program from the State of Oregon. Oregon's Coastal Management Program is one of the earliest programs to be received by OCZM; the State submitted a preliminary draft program for review in January 1975, and has spent the intervening year in further developing and revising that draft. After several hearings and public awareness meetings and subsequent revision to the draft program, the final Oregon Coastal Management Program was adopted by the Land Conservation and Development Commission in January, 1977. The OCZM has determined that approval of a State's coastal management program, with resultant impacts on potential funding, consistency of Federal actions and permits, and ultimately land use in toto, has the potential for causing a significant impact on the environment, and, therefore, an environmental impact statement (EIS) should be prepared pursuant to the National Environmental Policy Act. This EIS is intended to present for review by interested parties the State of Oregon's Coastal Management Program and its application for approval under Section 306 of the CZMA. Because of the nature of the Oregon program submission, which consists largely of guidelines, regulations, and coordinative mechanisms for implementation, as well as the nature of the Federal program approval itself, which focuses more upon the procedure which the State has used to develop its program (ensuring for example that a variety of factors have been adequately considered and that the decisions are based on sound information) rather than its substance, this EIS is necessarily different from and more general than the more usual project-oriented EIS. This

EIS is based upon an Environmental Impact Assessment prepared by the State of Oregon which accompanied the submission of its draft and comments received from public hearings.

II. DESCRIPTION OF THE PROPOSED ACTION

A. The Federal Costal Zone Management Program

The enactment of the Coastal Zone Management Act of 1972, as amended (CZMA) culminated a lengthy history of Federal interest in and concern for the coastal zone and its resources. Significant national, interest can be traced from the Committee on Oceanography of the National Academy of Sciences' (NASCO) 12-volume report "Oceanography 1960-1970," (1959) to the Report of Commission on Marine Sceince, Engineering, and Resources (1969), which proposed that a Coastal Management Act be enacted that would "provide policy objectives for the coastal zone and authorize Federal grants-in-aid to facilitate the establishment of State Coastal Zone Authorities empowered to manage the coastal waters and adjacent land." The National Estuarine Pollution Study (1970), authorized by the Clean Water Restoration Act of 1966, and the National Estuary Study (1970), authorized by the Estuarine Areas Study Act of 1968, further documented the importance of and the conflicting demands upon our Nation's coasts. Together these reports stressed the need to protect and wisely use these important national resources, and concurred that a specific program designed to promote the thoughtful protection and management of our coastal zone was necessary.

This concern culminated in the passage of the Federal Coastal Zone Management Act in 1972, and later its amendments. The CZMA opens by stating "there is a national interest in the effective management, beneficial use, protection, and development of the coastal zone" (Section 301(a)). The statement of Congressional findings describes how competition for the utilization of coastal resources, brought on by the increased demands of population growth and economic expansion, has led to the degradation of the coastal environment, citing the "loss of living marine resources, wildlife, nutrient-rich areas, permanent and adverse changes to ecological systems, decreasing open space for public use, and shoreline erosion." The CZMA states the "key to more effective protection and use of the land and water resources of the coastal zone is to encourage the states to exercise their full authority over the lands and waters in the coastal zone by assisting the states...in developing land and water use programs...for dealing with [coastal land and] water use decisions of more than local significance" (Section 302(h)).

While local governments and Federal agencies are required to cooperate, coordinate, and participate in the development of the management programs, the State level of government is clearly given the central role and responsibility for this process. The CZMA provides a number of incentives and means of achieving these objectives and policies. Under Section 305 it enables the 30 coastal States (Great Lakes States are included) and four coastal territories to receive grants from the National Oceanic and Atmospheric Administration to cover up to 80 percent of the cost of developing coastal management programs. Broad guidelines and minimum requirements in the CZMA provide the necessary direction for developing these programs. For example, during the program development, each State must address specific issues such as the boundaries of its coastal zone; geographic areas of particular concern; permissible and priority land and water uses, including specifically those uses that are undesirable or of lowest priority; and areas for preservation or restoration. During the planning process, the State is directed to consult with local, regional, and relevant Federal agencies and governments, and general public interests. These annual grants can be renewed, so Federal support can be provided to States for up to four years for this program development phase.

Upon completion and adoption of the management program by the State, and after approval by the Secretary of Commerce, States and territories are eligible under Section 306 to receive administrative grants (presumably in greater amounts than for program development) to cover up to 80 percent of the costs of implementing these programs. The criteria for approval of State coastal management programs and guidelines for applying will be reviewed annually by the Office of Coastal Zone Management (OCZM) and, as long as they are administered consistent with the approved management program, the States will remain eligible for annual administrative grants.

The Department of Commerce involves several separate components in its review of proposed State programs for 306 approval. This includes a "threshold" determination of acceptability by OCZM indicating the program appears to include the required elements. Following the Department review, OCZM prepares an environmental impact statement (EIS), based in part on information provided by the State. Concomitantly with the circulation of the EIS, the Department circulates the State program to affected Federal agencies for their review and comment. During these reviews, OCZM begins its detailed review of the program.

Based on these reviews and the comments received, Oregon has revised the Program. The Oregon Land Conservation and Development Commission (LCDC) has adopted the program after notice and a public hearing, and the Governor has submitted the Program for final review by OCZM. These revisions to the program did not significantly alter the substance or intent of LCDC for carrying out the policies of the Legislature enacted in Senate Bill 100.

The final management program, involving the final Goals and Guidelines for coastal resources, specifies in greater detail the standards for implementing the program. These revisions are responsive to the comments received during the many hearings on drafts of Goals and Guidelines and on the draft EIS. If the revisions were to have resulted in major substantive changes, OCZM would have issued an amended draft EIS and provided additional review to Federal, State, and local agencies and the public.

Upon receipt of the final Oregon Coastal Management Program OCZM reviewed the document based on the changes and the comments received. This involved a second "threshold" determination of approvability, subject to final review and comment. The final Program and final EIS has been circulated as a result of this positive "threshold" determination, prior to final Federal approval.

Evaluation of the statutory requirements established in the CZMA and guidelines will concentrate primarily upon the adequacy of State processes in dealing with key coastal problems and issues. It will not, in general, deal with the wisdom of specific land and water use decisions, but rather with a determination that in addressing those problems and issues the State is aware of the full range, of present and potential needs and uses of the coastal zone, and has developed procedures, based upon scientific knowledge, public participation and unified governmental policies, for making reasoned choices and decisions.

Management programs will be evaluated in light of the Congressional findings and policies as contained in Section 302 and 303 of the CZMA. These sections make it clear that Congress in enacting the legislation was concerned about the environmental degradation, damage to natural and scenic areas, loss of living marine resources and wildlife, decreasing open space for public use and shoreline erosion being brought about by population growth and economic development. The CZMA thus has a strong environmental thrust, stressing the "urgent need to protect and to give high priority to natural systems in the coastal zone." A close working relationship between the agency responsible for environmental protection is vital in carrying out this legislative intent. States are encouraged by the CZMA to take into account ecological, cultural, historic, and esthetic values as well as the need for economic development in preparing and implementing management programs through which the States, with the participation of all affected interests and levels of government, exercise their full authority over coastal lands and waters.

B. The Oregon Coastal Management Program

Oregon's Coastal Management Program is part of a broader land and water use management effort in Oregon. It is based on the 1973 Oregon Land Use Act (ORS 197), commonly referred to as SB 100 (Appendix 2). The Program also relies on the authorities of other special State statutes and on the achievements of the former Oregon Coastal Conservation and Development Commission (OCCDC) to supplement the authorities and responsibilities established in SB 100. Senate Bill 100 created the Land Conservation and Development Commission (LCDC) and its administrative arm, the Department of Land Conservation and Development (DLCD), which implements the Commission's policies. The Act authorized LCDC to develop and adopt Goals and Guidelines which set forth State policy for land and water resource management, local comprehensive plans, and related actions of all levels of government. The DLCD is the designated State agency for administration of the Oregon Coastal Management Program.

Oregon has traditionally shown a high degree of concern for protecting the quality of life in the State and for insuring the wise management of the State's extensive natural resources and beauty. A variety of different legislative acts during recent years have demonstrated the State's concern over proper management of the land and the resources within its boundaries. These include the:

Oregon "Beach Bill" (ORS 390.600),
Dredge and Fill Law (ORS 541.600),
Mandatory Zoning Requirements (ORS 215),
Scenic Waterways (ORS 390.800),
Natural Area Preserves (ORS 273.562), and
Forest Practices Act (ORS 527.600).

In 1971, the Oregon Legislature created the Oregon Coastal Conservation and Development Commission (OCCDC) (ORS 191) which was charged with preparing a management program for coastal resource conservation and development. From 1971 to 1975, when it ceased to exist, OCCDC worked to: 1) develop coastal land and water resource policies; 2) inventory and evaluate coastal resoruces, hazards, and needs; and 3) develop methods of implementing a comprehensive coastal management program. In April, 1975, OCCDC had completed its charge, and the responsibility for developing and implementing the coastal management program was assumed by LCDC as part of its statewide land use planning efforts.

(1) Elements of the Program

Senate Bill 100 requires LCDC to develop statewide land and water planning Goals and Guidelines; these establish State policy for resource management and form the basis for Oregon's Coastal Management Program. The Act requires each city and county develop a coordinated comprehensive plan, zoning, and subdivision ordinances which are in conformance with the adopted Goals and Guidelines.

State agency and special district plans and actions must also conform with the Goals and local comprehensive plans.

Other functions of LCDC as set forth under SB 100 are to:

- review plans for conformance with statewide Goals;
- hear and resolve appeals regarding possible conflicts of plans or actions with statewide Goals;
- issue permits for activities of statewide signigicance;
- recommend to the legislature areas to be designated as areas of critical concern and plans for the management of these areas;
- coordinate planning efforts of State agencies to assure conformance with statewide Goals and local comprehensive plans; and,
- insure citizen involvement in all phases of the process.

The Oregon Coastal Management Program is not a "plan" which designates geographically specific land use patterns. Rather, it is a program which requires certain elements and establishes specific policies and processes for land and water use decisions in the coastal zone. These policies are expressed in the Goals and Guidelines, which require that plans and programs of local government and State agencies address specific land and water resources; they further designate State standards for adequate resource management. Finally, the Goals also designate information and data requirements and procedures necessary.

As indicated above, the Goals and Guidelines set the basis for Oregon's Coastal Management Program. The 1973 Act directed LCDC to adopt planning Goals and Guidelines. These planning Goals are regulations, intended to carry the full force of authority of the State to achieve the purposes of the Act. Guidelines are suggested directions that would aid in achieving the mandated Goals. They are intended to be instructive, directional, and positive; but they do not limit governments to a single course of action when some other course would achieve the same result. The Goals and Guidelines are to be used by State and Federal agencies, cities, counties, and special districts in preparing, adopting, revising, and implementing comprehensive plans.

In December 1974, LCDC adopted 14 planning Goals and supporting Guidelines which apply to the entire State. The first two Goals speak to citizen involvement and the process of developing coordinated comprehensive land use plans. The remaining Goals address specific resource elements or uses: agricultural lands; forest lands; open spaces, scenic and historic areas, and natural resources; air, water, and land resources quality; areas subject to natural disasters and hazards; recreational needs; economy of the State; housing; public facilities and services; transportation; energy conservation; and urbanization (Appendix 3). These Goals apply to all areas of the State, including the coast.

In addition to these Goals, the Commission, recently developed specific Goals for coastal resources. These Goals supplement the initial Goals by addressing, with greater specificity, the particular needs and problems of Oregon's coast. The coastal Goals and Guidelines, which are based on the previous work of the Oregon Coastal Conservation and Development Commission (OCCDC), address estuarine resources; beaches and dunes; coastal shorelands; and ocean resources (Appendix 3). These new Goals were adopted on December 18, 1976, after almost 2 years of public review and revision.

In addition to the policies established in the Goals, LCDC will utilize its authority to coordinate local government and State agency plans and activities to achieve coordinated, comprehensive management of coastal resources. Several State agencies have resource management authorities which will be central to the administration of the coastal management program. Some of the most important among these include:

Division of State Lands: Has ownership and management responsibilities for submerged and submersible lands. Reviews permit applications and issues permits for fill and removal of 50 cubic yards or more of material in waterways up to the line of non-aquatic vegetation. The Division administers the South Slough National Estuarine Sanctuary.

Department of Transportation, Highway Division: Manages the ocean shores and beaches for public use and recreational access. Issues permits for improvement on the ocean shore and/or for the removal of driftwood material. Additionally, manages the vast network of state parks, waysides, access points, botanical gardens, that provide areas for recreation, research, preservation of historic sites, and unique natural areas. The Scenic Waterways Act also is generally administered by the State Highway Division, although other agencies have complementary roles. In the coastal zone, this Act protects scenic and environmental aspects of portions of the Rogue River and a small portion of the Illinois River.

Water Resources Department: Promulgates policies and programs for the use

and conservation of surface and ground water resources. Issues permits for appropriation of water and for dams.

Department of Forestry: Administers the Forest Practices Act, which establishes policies and standards for forest management and harvest practices on forest lands in the State. Manages State owned forest lands.

Department of Environmental Quality: Administers air, water, land and noise pollution control programs, regulates sewage treatment and disposal systems and solid waste disposal sites, and manages solid waste control programs, including control of environmentally hazardous wastes. Administers non-point pollution control programs under Section 208 of Federal Water Pollution Control Act of 1972.

Department of Energy, Energy Facility Siting Council: Provides general guidance on suitability and unsuitability of locations for thermal and nuclear power plants in Oregon, establishes general areas of exclusion, and issues site certificates.

Department of Human Resources, Health Division: Regulates domestic water supply sources and systems.

Department of Geology and Mineral Industries: Regulates oil, gas, and geothermal activities, including issuing drilling permits. Also regulates surface mining activities.

Department of Fish and Wildlife, Fish and Wildlife Commission: Regulates harvest of fish, shellfish, wildlife, and marine invertebrates in coastal zone. The agency conducts research, manages refuges, propagates fish and reviews land and water use activities to assure protection of fish and wildlife habitat.

Public Utility Commission: Reviews plans for transportation of hazardous wastes. Issues certificates for all overhead transmission lines.

A more complete description of the complementary State programs and acts, as well as the pertinent parts of the actual State statutes, are provided in the Oregon Coastal Management Program and are listed as a part of the Program in Table I.

(2) Objectives of the Program

The objectives of the Program, which were first defined by OCCDC, can be summarized as to:

1. Create and maintain a balance between conservation and development, and between conflicting public and private interests, that will assure the greatest benefits to this and succeeding generations of Oregonians;
2. Guide public and private uses of natural resources of the coastal zone to avoid irreversible damage;
3. Protect the unique character of life on the coast; and
4. Manage the natural resources and uses of the coast on an evolving and flexible basis so that as experience with and knowledge of the coastal zone increases, the program can be revised accordingly.

Several actions involving State and local governments and policies were identified as prerequisites to achieving the Program objective. These requirements include:

1. Establish a working partnership between local, state and federal governments which ensures coordination of coastal management planning and administration through clearly established authorities and responsibilities.
2. Encourage research on coastal resources to provide a sound data and information base for planning and management decisions.
3. Strengthen the planning and decision making responsibilities and capabilities of cities and counties by providing financial and technical assistance.
4. Ensure through substantive citizen participation

TABLE I
CONTROLLING AUTHORITIES

Uses to be Managed	Applicable Controlling Authorities	
	LCDC Goal	Other State Statutes
1. Navigation and Transportation	Transportation Estuaries Shorelands Ocean Resources	Ports Division, Department of Economic Development (ORS 777.835) Significant Activity Permits, LCDC (ORS 197.400) Division of State Lands (ORS 541.605 541.630)
2. Urban/Industrial Including Energy Production	Land Use Planning Energy Conservation Estuaries Shorelands	City and County Planning and Zoning (ORS 215 and ORS 227) Department of Energy (ORS 469.300 - 469.570) Division of State Lands (ORS 541.605 - 541.665) Department of Environmental Quality (ORS 454.605 - 454.755) (ORS 459.410 - 459.510) (ORS 468.006 - 468.345, 468.700 - 468.995)
3. Agriculture and Forestry	Agricultural Lands Forest Lands Shorelands Estuaries	Exclusive Farm Use Zoning (ORS 215) Department of Forestry (ORS 527.610 - 527.730 and 527.990)
4. Recreation	Recreational Needs, Open Space Scenic & Historic Areas & Natural Resources, Estuaries, Shorelands, Beaches & Dunes, Ocean Resources	Division of State Lands (ORS 273.551 and 273.775 - 273.780) Department of Transportation (ORS 377.505, 377.510, 377.530, 390.010, 390.110, 390.605 - 390.760, 390.805 - 390.865)
5. Fish and Wildlife Production and Utilization	Open Spaces Scenic & Historic Areas & Natural Resources, Fish and Wildlife Resources, Estuaries, Shorelands, Ocean Resources	LCDC, Siginificant Activities (ORS 197.400) Department of Fish and Wildlife (ORS 496.012 - 496.162 (policy and powers) 501.005 -501.045 (Refuges & Closures) 506 (Food Fish Management) 509.505 - 509.510 (Shellfish) 509.600 - 509.640 (Fishways) 506.750 - 506.755 (Fisheries) (Conservation Zone)
6. Public Facilities	Air, Water and Land Resources Quality	Department of Environmental Quality (ORS 454.605 - 454.755, 459.410 - 459.510, 468.005 - 468.345, 468.700 - 468.995)
7. Mineral Extraction	Open Spaces Scenic & Historic Areas & Natural Resources	Department of Geology and Mineral Industries (ORS 516.030, 517.750 - 517.790, 520.005 - 520.095) Division of State Lands (ORS 273.551 - 273.592, 273.702 - 273.711, 273.775 - 273.780, 274.005 - 274.940) Department of Environmental Quality (ORS 468.780 - 468.815)

incorporation of the public interest during the development of comprehensive plans.

5. Evaluate the performance and progress of local, State and Federal governments in developing and implementing coordinated comprehensive plans.

After identifying the needs and objectives for its coastal management program, OCCDC conducted a series of inventories to provide a data base for decision making. These inventories covered a variety of resources, hazards, and socio/economic factors in the coastal zone, including: beaches and dunes, coastal wetlands, estuarine resources, freshwater resources, fish and wildlife resources, historical and archaelogical resources, geologic hazards, visual resources, and development pressures. Each inventory identified the location and extent of the resource; its natural functions and values; the main uses and activities associated with the resource; and, the impacts of these uses and activities on the resource. Also, an economic survey and analysis of the coastal zone was developed to provide additional data for evaluation of the economic impact of the policies. After extensive review and revision, the OCCDC policies and recommendations were given to LCDC when OCCD's appointment ended.

In March of 1975, LCDC reviewed the OCCDC adopted policies in light of the existing Goals and Guidelines for the State, and developed from them the draft coastal Goals. In addition, major private organizations such as environmental groups; public interest groups; industry representatives; forest and fishing, tourism, and real estate representatives have been active throughout the process. Also, there have been public hearings, input from Technical Advisory Committees (TAC's), a Citizen Involvement Advisory Committee (CIAC), Local Officials Advisory Committee (LOAC), and both State and Federal agency advisory committees. A summary of public, State, and Federal input is provided in the Program application.

(3) Boundaries

Oregon's coastal zone extends from the Washington border in the north to California in the south, seaward to the extent of State jurisdiction as recognized in Federal law, and inland to the crest of the coastal mountain range. Three exceptions exist to the eastern boundary. They are:

1. The Umpqua River Basin, where the coastal zone extends to Scottsburg;
2. The Rogue River Basin, where the coastal zone extends to Agness; and
3. The Columbia River, where the coastal zone extends to the downstream end of Puget Island.

The State's coastal zone ranges in width, excluding the territorial sea, from 8 to 45 miles and includes about 7,811 square miles of land area (Figure 1). The boundary approximates a natural biophysical unit, the coastal watershed. The three exceptions to the coastal boundary are all major river systems which penetrate the coastal mountains and originate in the Cascades or interior lands.

In accordance with an opinion from the U. S. Attorney General interpreting the CZMA, Oregon has provisionally agreed to exclude all Federally owned lands for the purpose of meeting the requirements of Section 304(a).

(4) Permissible Uses

The extensive inventories undertaken as part of the OCCDC policy formation process identified the uses and activities in the coastal zone which affect coastal waters. To determine if these uses were subject to the Program, the State determined whether the uses resulted in a direct and significant impact on an element of the coastal waters, such as the quality, quantity, living resources, and aesthetics, or human or natural uses thereof.

As a result of the inventories and input from resource specialists, a list of uses having a direct and significant impact on the coastal waters was developed. These uses consittute the permissible uses for Oregon's Coastal Management Program, and represent the uses that will be controlled, guided, restricted, encouraged, or otherwise managed as appropriate. Table I, as described earlier, identifies the authorities the State will use to manage permissable uses, and Table II identifies these permissable uses.

(5) Geographic Areas Of Particular Concern

Geographic areas of particular State concern are addressed through a combination of existing and newly adopted State Goals, and existing special purpose State statutes. During the initial stages of the OCCDC planning effort, the public, government officials, and resource specialists identified several geographic areas of special concern.

The threats to and need for special State management regulations for these areas were discussed extensively by concerned public, planners, representatives of local, State, and Federal agencies and governments, and natural resource specialists at a variety of OCCDC and LCDC meetings and workshops. These meetings refined the problems pertaining to the coastal zone.

TABLE II

IDENTIFICATION OF USES TO BE MANAGED*

Use	Impacts on Water Characteristics					
	Water Quality	Water Quantity	Water Circulation	Living Resources of Water	Water Aesthetics	Water Surface Area
1. Navigation and Transportation	X		X	X	X	X
2. Residential/Urban/ Industrial, Including Energy Production	X	X	X	X	X	X
3. Agriculture and Forestry	X	X		X	X	
4. Recreation	X			X	X	X
5. Fish and Wildlife Production and Utilization	X			X		X
6. Public Facilities	X	X		X	X	
7. Mining and Mineral	X			X	X	X
8. Restoration	X	X	X	X	X	X

"X" Denotes a direct and significant impact on the water characteristics.

* For the purposes of Oregon's Coastal Management Program, uses to be managed are equivalent to "permissable uses" as noted in the CZMA, Section 305(b)(2).

The series of detailed resource and use inventories developed by OCCDC addressed these specific needs and problems. Policy statements, setting standards for use of these areas, were established.

As a result of this process, LCDC developed Goals addressing beaches and dunes, estuaries and associated wetlands, and agricultural lands, which are more specific and detailed than for the more general Goal subjects. It is primarily through these specialized Goals that Oregon has expressed the increased State management interests in these geographic areas of particular concern. These Goals provide for both the protection and the development of these resources. Thus, the estuarine resources Goal, for example, addresses the need to preserve certain estuarine areas, while utilizing other areas for development and industrial processes.

In addition to these special Goals, other areas of particular concern have been defined by the Legislature, and are covered by special-purpose State statutes, which will be coordinated and enforced as a part of the Oregon Coastal Management Program. These areas include:

- Ocean shores, as identified in the Oregon Ocean Shores Act (ORS 390.600), providing for public access to and recreational use of beaches;
- Kelp beds, as protected by the Oregon Kelp Fields (ORS 274.885 et seq.), regulating harvest of kelp beds; and
- Energy facility sites, as identified and governed by the Department of Energy and the Energy Facility Siting Council (ORS 469), which has examined and set suitability standards and classifications for power plant siting.

The locations of four types of geographic areas of particular concern (beaches and dunes, estuaries, coastal agricultural lands, and kelp beds) are shown in Figure 2.

The Oregon coastal headlands, a unique geologic and aesthetic resource, were identified as another area of potential particular concern. Nearly all headlands already are in State or Federal ownership. The coastal shorelands Goal requires that headlands, which were identified and mapped in the OCCDC Visual Resource Analysis in the Oregon Coastal Zone, be protected.

This general process for the identification, designation, and management of areas of particular concern is an ongoing one, responsive to the public and private resource needs of the State. A variety of tools is available: additional statewide Goals and Guidelines; special State statutes; critical area designation; and public acquisition.

Areas for Preservation or Restoration

Areas for preservation or restoration have been distinguished as one special category of areas of particular concern. Nominations for these areas will occur through the comprehensive plan development process. In addition, the inventories and data developed by OCCDC suggest certain areas which should be preserved or restored. An area would be considered for preservation if the benefits it offers are of exceptional environmental, aesthetic, economic, or cultural values, and if these benefits or values are actually or potentially threatened by other uses or activities. Under these criteria, areas might be preserved, for example, to provide or maintain recreation and aesthetic benefits; ecological values of fish and wildlife refuges; or educational or research natural areas.

Several of the Goals (especially No. 3, Agricultural Lands and No. 5, Open Spaces, Scenic and Historic Areas, and Natural Resources) require that certain kinds of areas be considered for preservation or protection. These areas will be identified in the inventories required during plan development. The Estuarine Resources, Coastal Shorelands, and Ocean Resources Goals also designate specific areas or resources that must be preserved. For example, within the general requirement of the Estuarine Resources Goal (to protect the estuarine ecosystem, including natural biological productivity, habitat, diversity, unique features, and water quality), specific requirements include the protection of major tracts of salt marsh, tideflats and seagrass and algae beds.

The actual means of preservation will depend on a site by site analysis of resources, potential uses, threats, ownership, and other factors. Several basic tools are available for the preservation of special areas. If the land is already in public ownership the land can be designated for preservation or natural area purposes. State-owned lands can be placed in the Oregon Natural Area Program. Federally owned lands can be placed in the Federal Ecological Reserves Program.

Other methods of preservation include acquisition or the development of special agreements. Acquisition is a tool that can be used by both State and Federal agencies and local governments. Several areas have been acquired for specific uses. These include coastal State parks for recreational uses and scenic values, and the recently designated South Slough National Estuarine Sanctuary for scientific and educational uses. A level of preservation also may be achieved by designation of an area of critical State concern or by the use of favorable property tax incentives or special assessment policies.

Frequently, preservation of a particular parcel can be assured without acquisition. Various tools are

available to State agencies, and especially to local governments, for this purpose. These include:

- dedication of easements or areas for preservation during development of subdivisions;
- transferable "development rights;"
- conservation easements;
- provision of area for mitigation for intertidal dredge and fill projects; and
- critical areas designation under ORS 197.405(2).

Identification of areas for restoration will depend heavily upon comment, advice, and analysis by the technical resource specialists associated with the coastal zone. Studies and evaluations by other State agencies will be a major source for indicating areas for restoration.

Some studies already have highlighted areas needing restoration. These include efforts by the Oregon Department of Environmental Quality to develop water quality management plans for the coastal basins of Oregon which identify areas where water quality needs to be restored to meet the conditions of the Federal Water Pollution Control Act. The Oregon Soil and Water Conservation Commission has evaluated streambank erosion in Oregon, and has recommended areas for soil stabilization. Other areas identified for possible restoration include the Tillamook Bay/Basin area and salmon spawning sites throughout the coast. These and other areas are identified and further elaborated in the Pacific Northwest River Basins Commission draft "Oregon Coast Level B Study of the Water and Related Land Resources" (1976).

Areas such as these will continue to be identified by agency studies and from the inventories developed by local governments as they adopt their coordinated comprehensive plans. In many cases, such as the Tillamook restoration plan, the authorities, responsibilities and funding of a variety of local, State, Federal, and private agencies may be required to achieve restoration. The Oregon Coastal Management Program, in addition to providing an impetus for identifying areas for restoration, can provide this coordination.

(6) Priorities of Use

While each of the Goals is considered of equal importance, the Goals establish priorities for use within particular resource categories. The contents of the Goals and Guidelines address both the permissible uses in the coastal zone and the major resources of regional, State, and national interest. Again, State special purpose legislation serves to complement the Goals in establishing priorities of use.

General priorities for the use of estuarine resources, coastal shorelands, and ocean resources are designated in each of the respective Goals. These general priorities identify protection of coastal resources and water-dependent uses as highest priority; water-related uses of lower priority; and non-related, non-dependent uses as lowest priority (Table III).

Within estuaries and coastal shorelands, the Goals require that certain areas be managed for preservation or protection purposes, others for conservation, and others for development consistent with the resource capabilities and overall Goal priorities. Specific uses are identified as high priority or low priority in certain areas. The Beaches and Dunes Goals also establishes priorities of use for certain kinds of sand formations. Similarly, the Ocean Resources Goal places a high priority on long-term values from renewable resources. These specific priorities are listed in the Goals on Estuarine Resources (Comprehensive Plan Requirements, Management Units); Coastal Shorelands (Comprehensive Plan Requirements, Coastal Shoreland Uses); Beaches and Dunes (Implementation Requirements);and Ocean Resources (Implementation Requirements) (Appendix 3).

State law and the Agricultural Lands Goal also establish clear priorities in agriculture lands. These laws and the Goal express concern about the continued loss of agricultural lands and move to protect them for agricultural purposes through tax credits and planning regulations. For this reason, agricultural lands are considered as geographic areas of particular concern.

A local government can only alter these priorities and plan for uses of lower priority in particular areas by application of the exception clause in the Land Use Planning Goal (Goal No. 2). The local government must document on an individual basis the social, environmental, and economic consequences of its proposed action when requesting an exception. Such decisions will be reviewed by the public, State and Federal agencies, and LCDC. In establishing these priorities, consideration of the national interest has been assured by open and repeated exchange with Federal agencies with an interest in the coastal zone. This exchange began in the early stages of program development by OCCDC, and continued through the time of program submission to OCZM. Further, continued participation by these Federal agencies will be necessary for the adequate development and administration of specific local coordinated comprehensive plans. Table IV indicates how Oregon's program addresses the national interest.

(7) Organizational Structure

As indicted earlier, LCDC has the ultimate responsibility for the administration and implementation of

TABLE III

PRIORITIES OF USES
(From highest to lowest)

Estuarine Areas (including tidal marshes)	Coastal Shorelands	Ocean Resources	Agricultural Lands
1. Uses that maintain the integrity of the Estuarine ecosystem.	1. Uses that maintain the integrity of estuaries and coastal waters.	1. Protection and use of renewable resources and activities.	1. Agricultural Uses.
2. Water- dependent uses.	2. Water-dependent uses.	2. Development and use of non-renewable resources.	2. Conditional non-farm uses identified in ORS 215.
3. Water-related uses that do not reduce or degrade the natural estuarine resources and values.	3. Water-related uses.		3. Urban uses within urban growth boundaries.
4. Non-dependent non-related uses that do not alter, reduce or degrade the estuarine resources and values.	4. Non-dependent, non-related uses that retain flexibility of future use and do not prematurely or inalterably commit shorelands to more intensive uses.		
Prohibited: Non water-dependent uses that require fill.	5. Development, including non-dependent, non-related uses, in urban areas compatible with existing or committed uses.		Prohibited: Conversion of agricultural lands beyond the urban growth boundary to uses not allowed in the EFU zone.
	6. Non-dependent, non-related uses that cause a permanent or long-term change in the features of coastal shorelands, only upon a demonstration of public need.		

TABLE IV

CONSIDERATION OF THE NATIONAL INTEREST IN OREGON'S COASTAL MANAGEMENT PROGRAM

National Interest in Siting Facilities for:	Associated Facilities	Cognizant Federal Agencies Modified From List Provided by OCZM (15 CFR 923.15)	National Interest Considered in these Goals for Comprehensive Planning
1. Energy production and transmission.	Oil and gas wells; storage and distribution facilities; refineries; nuclear, conventional, and hydroelectric power plants; deepwater ports.	Federal Energy Administration, Federal Power Commission, Department of Interior, Nuclear Regulatory Commission, Maritime Administration, Department of Transportation, Corps of Engineers, Coast Guard, Energy Research and Development Administration.	Transportation, Energy Conservation, and Ocean Resources.
2. Recreation (of an inter-state nature).	National seashores, parks, forests; large and outstanding beaches and recreational waterfronts; wildlife reserves; wilderness and recreation areas.	National Park Service, Forest Service, Bureau of Outdoor Recreation, Fish and Wildlife Service.	Recreational Needs; Open Spaces Scenic Historic and Natural Resources; Estuaries; Coastal Shorelands; Beaches and Dunes
3. Interstate Transportation.	Interstate highways, airports, aids to navigation; ports and harbors, railroads.	Department of Transportation, Corps of Engineers, Maritime Administration, Interstate Commerce Commission.	Transportation, Estuaries; Ocean Resources
4. Production of food and fiber.	Prime agricultural land and facilities; forests; mariculture facilities; fisheries.	Department of Agriculture, Fish and Wildlife Service, National Marine Fisheries Service.	Agricultural Lands; Forest Lands; Open Space Scenic and Natural Resources; Estuaries; Coastal Shorelands
5. Preservation of life and property.	Flood and storm protection facilities; disaster warning facilities.	Corps of Engineers, Federal Insurance Administration, NOAA, Soil Conservation Service, ASCS, HUD.	Natural Hazards; Coastal Shorelands; Beaches and Dunes
6. National defense and aerospace.	Military installations: defense manufacturing facilities; aerospace launching and tracking facilities.	Department of Defense, NASA.	Relies on input from Defense Agencies plan review and approval.
7. Historic, cultural aesthetic and conservation values.	Historic sites, natural areas; areas of unique cultural significance; wildlife refuges; areas of species and habitat preservation.	Register of Historic Places, National Park Service, Fish and Wildlife Service, National Marine Fisheries Service, HUD.	Open Space, Scenic, Historical and Natural Resources; Estuaries; Coastal Shorelands
8. Mineral resources.	Mineral extraction facilities needed to directly support activity.	Bureau of Mines, Geological Survey.	Open Space, Scenic, Historical and Natural Resources; Ocean Resources

the Oregon Coastal Management Program. This will be facilitated through the initial and newly adopted statewide Goals and Guidelines, the local comprehensive plans which incorporate the Goals in their substance and the responsibility for providing effective coordination with and participation of all affected and interested parties. The existing body of State statutes supplement and strengthen this organizational base and the administration of the program. Local, State, and Federal agencies and the general public will be asked to review and comment on the development, adoption, and administration of the local comprehensive plans.

The administration of the Oregon Coastal Management Program will depend upon the coordinated responsibilities of all interested parties. These include:

Responsibilities of the Oregon Land Conservation and Development Commission:

A) Develop Goals and Guidelines.
B) Provide financial and technical assistance to local governments for development and enforcement of local plans.
C) Review and approve local comprehensive plans.
D) Review permits, licenses, grants, and activities for consistency with the Goals and the Oregon Coastal Management Program.
E) Assist local, State, and Federal agencies in cooperation and coordination efforts.
F) Recommend policies for and manage activities of statewide significance and areas of critical concern.

Responsibilities of Local Government:

A) Develop coordinated, comprehensive plans,and implementing ordinances.
B) Provide opportunities for substantive input by the public and State and Federal agencies.
C) Enforce local ordinances to achieve compliance with approved plans and Goals.
D) Respond to unanticipated needs and requests for amendments to comprehensive plans.
E) Review State and Federal agency programs and activities for consistency with State Goals and local comprehensive plans.
F) County government bodies: coordinate and provide initial review of the plans and policies of all local governments and special districts in their county boundaries.
G) County governments: serve as focus for coordination and input from State and Federal agencies.

Responsibilities of State and Federal Agencies:

A) Coordinate plans and policies with local governments and LCDC.
B) Assist with appropriate technical information and expertise.
C) Review local plans and individual activities for compliance with Goals and the Oregon Coastal Management Program.
D) Implement permit, license, and development activities and projects and assistance in a fashion consistent with the Goals and Guidelines and the approved local comprehensive plans.

(8) Coordination and Public Participation

Oregon's Coastal Management Program has been founded on a solid base of public participation and coordination with other agencies. Major opportunities for public involvement in developing the initial Goals for the entire State included two series of 28 workshops; 17 public hearings; 17 Technical Advisory Committees (TACs); a Citizens Involvement Advisory Committee (CIAC); Local Officials Advisory Committee (LOAC); State Agency Advisory Committee; and Federal Agency Advisory Committee. Similar public review and participation was provided during the development and adoption of the Goals on coastal resources. These included 34 public hearings, 3 public work sessions, and a 2 day public mark-up session prior to adoption. In addition, over 80 small scale meetings were held to discuss with any interested parties the proposed Goals on coastal resources, and the Oregon Coastal Management Program. As with the initial Goals, five broadly based Technical Advisory Committees participated in the review and development of the Goals on coastal resources.

Opportunities for public involvement during the OCCDC policy development process included 21 public workshops; development and review of resource inventories; and extensive public and agency review of the draft and revised policies.

In addition to this participation in development of Goals, the public was also involved in development

of the Oregon Coastal Management PRogram through continuing review of successive drafts by the State and Federal Agency Task Force, OCCDA, CIAC, and LOAC; individual cities; counties and areawide agencies; private organizations; and the general public in the coastal zone; as well as through public hearings.

In SB 100, the Oregon Legislature set forth specific requirements for both LCDC and local governments to assure widespread citizen involvement in all phases of the planning process. It provided that LCDC establish a Citizen Involvement Advisory Committee (CIAC). Under direction of the Commission, CIAC developed a general Goal and Guideline on development and use of local citizen involvement programs, which provides that each city adopt a public involvement program which meets certain basic requirements.

Oregon's draft program included Goals and Guidelines for coastal resources, which were a major part of the Program but had not been adopted in final form. Broad public and agency review provided the opportunity for comment on the "proposed" Federal action, and materially affected the final form of the Oregon Coastal Management Program prior to approval and submission by LCDC. Although the final Goals and Guidelines are more specific, providing explicit standards for land and water use decisions, their substance and intent did not change significantly, except in direct response to comments received. For these reasons, OCZM has published a final EIS on the final Goals and revised Oregon's Coastal Management Program rather than issue a revised draft EIS.

(9) National Interest Considerations:

The Goals and Guidelines play a central role in Oregon's Coastal Management Program. These Goals provide the principal mechanism for recognizing the national interest (See Table IV). They exhibit a complementary concern for resources, areas, and functions expressed in the Constitution (such as navigation) or by Congress (such as water quality control, fish and wildlife protection, and forest manageent). The Goals and Guidelines reflect a synthesis of local, State, and national concern for these resources and activities. Federal agencies have been involved in the entire Goal development process

In addition to the Goals and Guidelines, special purpose legislation exists for considering the siting of energy facilities. Under this legislation (ORS 469.470) the Energy Facility Siting Council has designated appropriate areas within Oregon's coastal zone as potentially suitable, less suitable, and unsuitable for siting fossil, nuclear fueled power plants, and geothermal facilities.

Most of Oregon's coast has been classified as generally suitable for these facilities, with the exception of certain areas along the lower Columbia River, northern Clatsop County, and the dunes between Florence and Coos Bay, where environmental factors limit the suitability for such sites.

The Governor has recently formed a task force to address OCS oil and gas development concerns. Water dependent uses, including those needed for oil, gas, and other mineral resource development, are addressed by the estuaries and ocean resources goals. Local plans cannot preclude water dependent uses, including those related to energy development, by unreasonably pre-empting suitable uses with non-water-dependent uses.

The Program gives high priority to national recreational needs and historic resources, the preservation of agricultural and forest lands and fisheries resources, and the protection of life and property from flood and storm damage. Specific State Goals and Guidelines require these national interest concerns to be considered in the development of local comprehensive plans and in State agency implementing actions.

National defense facilities are given high priority in the Program. Existing facilities on Federal lands have been excluded from the coastal zone. The Department of Defense agencies regularly reviewed portions of the Program during its development, and will be involved in the review of local comprehensive plans.

National transportation interests have been considered and can be accomodated in the Program. There are no interstate highways or nationally significant airports in the Oregon coastal zone, but a process exists to assure that these concerns will be considered should such facilities be required in the future. Ports are considered extremely important to Oregon's coast. The estuarine classification and priority uses recognize the need for ports. The ocean resource Goal specifically requires that navigation needs for the coast be determined and navigation lanes and facilities be maintained from interference by other uses.

(10) Uses of Regional Benefit

The policies and standards the Goals Establish require that regional and statewide interests be addressed during the development and implementation of local coordinated comprehensive plans. The review of plans by all interests, and their approval by LCDC, as well as the opportunity for concerned agencies and government bodies to petition for the review of either plans or individual siting actions (both affirmative and negative), will ensure that regional interests will continue to be addressed as the Program is implemented. Finally, the requirement that plans be regularly reviewed and revised will provide opportunity to identify and accommodate regional needs unforeseen during initial plan development. In addition, the county coordination process (ORS 197,190) also will have a role in assuring that uses of regional benefit are considered.

SB 100 provides the method for assuring that both uses of regional benefit and national interest facilities will be adequately considered in local comprehensive plans. LCDC cannot approve these local plans until the needs of all levels of government, semi-public and private agencies, and the citizenry of Oregon have been considered and accommodated as much as possible (ORS 197,015). In the event of conflicts which communities cannot resolve, LCDC has the authority to resolve the conflicts prior to approving the plans.

III. DESCRIPTION OF THE ENVIRONMENT AFFECTED

An extensive amount of information about Oregon's coastal zone has been compiled in the eleven coastal inventories prepared by OCCDC. These are briefly described in Appendix 5. The following discussion is largely based on these inventory data.

A. Climatic and Geologic Characteristics

As defined in Oregon's Coastal Management Program, the boundary of the Oregon coastal zone closely approximates a natural physiographic unit. The boundary extends from the Columbia River to the California border and from the seaward limit of State jurisdiction inland to the crest of the coastal mountain range. All shorelands and drainage basins which have a significant and direct effect on coastal waters are included. With the exception of the Columbia, Umpqua, and Rogue River basins, where the boundary of the coastal zone marks the limit of significant tidal influence, all coastal river basins are contained within the coastal zone. In total, the Oregon coastal zone includes a coast line 352 miles in length and an area of approximately five million acres (7,800 square miles).

Throughout the area, a multitude of physical features exists, including dunes, estuarine areas, timber and agricultural lands, lakes, and spectacular coastal headlands and meadows. These features may be found the length of the coast to different degrees, but geologic, physiographic, and soil characteristics split the area into two recognizable regions: The Coast Range Province and the Klamath Mountain Province (1:318).*

The Coast Range Province lies north of the Coquille River, and encompasses approximately two-thirds of the coast's length. Rock formations are of the Tertiary age with scattered igneous intrusions and areas of volcanic rock. Past changes in sea level, plus rapid erosion of sedimentary formations, helped create the gentler slopes and lower elevations (ranging only to 2,500 feet) than those that exist in the south. The Coast Range Province has broad coastal terraces with timber and agricultural lands. Various types of dunes occupy most of the immediate shoreline, especially in the vicinity of Coos Bay (the Coos Bay Dune Sheet) and Astoria (the Clatsop Plains). Occasionally timbered and meadowed headlands are present, fading into more gently rolling uplands towards the east.

The Klamath Mountain Province south of the Coquille River is characterized more by pre-Tertiary formations, containing a narrower band of terrace, steeper slopes and higher elevations (2,400 feet peaks are common with some rising to 7,000 feet). Dunes are still present but are narrower and are replaced by timbered and meadowed headlands towards the California border. Timbered uplands are closer to the immediate coast with fewer meadowed areas. Figure 3 compares a typical profile from the two provinces.

The physical processes which have helped to shape the coastal zone in the past continue to do so today. Tides, currents, and climate constantly alter the face of the coast. Prevailing winds change 180 degrees during the year, coming from the south and southwest during the winter and gradually reversing to the north and northwest during the summer. This shift causes the offshore north flowing Davidson Current to be overcome by the summer upwelling action, which leaves only the more seaward south flowing California Current. More sand is deposited on the beaches and estuaries during the summer. In the winter, sand is carried away which allows wave erosion to continually modify the coastal scarpe. Littoral deposition and erosion are controlled by waves.

The coastal climate is set off from the more eastern valleys of the State by the Coast Mountain Range. The coastal climate is mild with mean temperatures for July ranging from 57° to 61° F., and for January ranging from 41° to 47° F. Extreme variations are rare; only occasionally do winter storms bring freezing temperatures and high winds, while fog up to about the 500 foot elevation mediates the summer temperatures. Of great significance is the annual rainfall, which ranges from 50 to 60 inches along the immediate coastline upwards to 200 inches along the eastern boundary of the zone as storm clouds back up along the mountains. This is compared to 35 to 43 inches in the Willamette Valley east of the Coast Range Mountains. The run-off from this precipitation swells the streams and rivers feeding into the wetlands, constantly altering the shape and extent of these bodies. Because of the high rainfall, the coastal profile is steeper and has a greater potential for erosion.

The ongoing climatic and geologic processes have yielded a highly complex series of aesthetic and natural resources which enhance the coast, including a wide variety of topographic and vegetative systems. Views from some headlands can extend over 30 miles seaward and along the length of the coast. Isolated offshore rocks and islands found scattered the length of the coastal zone highlight these views. Different dune formations -- active, controlled, deflation plain, etc. -- run 62 percent of the length of the coast (1:319), among the most spectacular being the Oregon Dunes National Recreation Area.

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*References refer to OCCDC specific inventories and pages. These are identified at the end of this Chapter.

(a)

(b)

Figure 3

(a) Typical view of the forested shorelands of the Coastal Province on the north coast as contrasted below (b) by the rugged and more open character of the Klamath Province in the south.

However, the various dune types, beaches, and meadowed and timbered headlands comprise only about 8 percent of the area of the coastal zone. Estuarine areas -- including the tideflats, marshes, and sloughs -- along with different coastal terraces comprise about 20 percent of the area. Pasture lands and tree covered dunes comprise 11 percent, while the timbered and meadowed uplands and related rolling hills equal approximately 61 percent (3:58-59).

B. Natural and Biological Systems

(1) Offshore

The offshore part of Oregon's defined coastal zone is mostly well within the 100-fathom line. The importance of the coastal zone emanates from the natural and biological systems which inhabit these waters and areas, but which may also be dependent on other habitats -- wetlands, estuaries, or the open sea -- for part of their life cycle.

The Pelagic or most seaward offshore habitat is home to seals, sea lions, numerous sea birds, and is a migratory channel for the Gray and Sei whales. It serves as a rich feeding ground for salmon and tuna and other commercially valuable fish. The 1974 harvest of these species equaled over 95 million pounds, worth over 34 million dollars. The pelagic section is the most valuable sub-area of the offshore region, commercially and recreationally, because of the salmon and also because of the presence of herring, anchovy, and shad. Many of the species found in these waters migrate along the coast, and are subject to impacts extending beyond the coastal zone. Thus, over-fishing by foreign commercial interests or neighboring States, as well as offshore pollutants such as oil and sewage from ship traffic, can have severe effects.

The Benthic area, or sea floor, ranges from rock to sand to mud. The rocky section produces varieties of rockfish and cod, while different types of sole, shrimp, and dungeness crab principally inhabit the mud and sand portions. The commercial value of all these was 7-10 million dollars annually from 1965 to 1972. There are 172 different coastal islands and reefs which provide habitat for scallops, perch, and similar species. The additional benefit of the reefs and islands lies in the breeding grounds they provide on those sections not submerged; for here, gulls, cormorants, puffins, and murres find nesting and roosting spots. Here too, seals and sea lions breed. Most of these areas have been declared national wildlife refuges and have escaped adverse human impact.

The Rocky Intertidal area encompases 36 percent of the coastline and is home to hundreds of species of animal life, including mussels, starfish, littleneck clams, and different shore birds. The commercial value of these animal forms is not large, but they add greatly to the recreational value of the coastal zone and represent a large variety of diverse life. The ecological balance of these areas is particularly susceptible to pollution from sewers and commercial activities.

Kelp Beds are one of the major resources found along the offshore islands and the rocky intertidal areas. Over one hundred varities of kelp exist along the coast, forming an incredibly rich and diverse habitat which is critical for the survival of some animal species such as abalone, which eats the algae found in the beds. Seals, sea lions, and otters commonly feed in these areas, smaller fish use them to hide from predators, and certain birds feed there and rest. In addition these beds are economically viable for man's use, 2,000 of the 3,700 acres are considered dense enough to harvest on a regular basis (6:36).

Beaches line about 64 percent of Oregon's open coast, and provide home for numerous smaller animals such as burrowing worms, sand crabs, and beach hoppers. Snowy plover, gulls, and other shore birds also feed here. Although some species such as razor clams are harvested, the main value of the beaches and related dunes is the recreational resource they provide to thousands of Oregon residents and out-of-state visitors each year.

(2) Estuaries and Wetlands

From the seaward edge of the coastal zone inland to the flooded upland valleys of the Coast Range, numerous different types of wetland areas exist. These include estuarine waters, tidelands, marshes, eelgrass beds, and coastal lakes. A variety of physical and environmental components affect all of these bodies, and each undergoes continual change due to sedimentation, tidal action, dune advancement, and fresh water inflow. Each type in turn, supports different plant and animal species (Figures 4 & 5).

Oregon has 17 separate estuarine areas, including the Columbia River, which total about 12 percent of the entire Oregon coastal zone (TableV and Figure 6). Of these, submerged lands account for about 94,000 acres. These waters are the spots to which aquatic animal life retreats during low tides. Tidelands themselves are exposed during ebb, and provide rich oyster and clam beds, and feeding grounds for various waterfowl. Eelgrass beds (Zostera maritima), which are especially prevalent in Coos and Tillamook counties, comprise only about 5,000 acres of the tidelands. Eelgrass is the dominant plant of the tideland areas, representing a transition zone between submerged lands and salt marshes. The eelgrass sections provide important fishing sources for the blue heron and other wading birds, are abundant in clams, and are spawning grounds for some smaller fish.

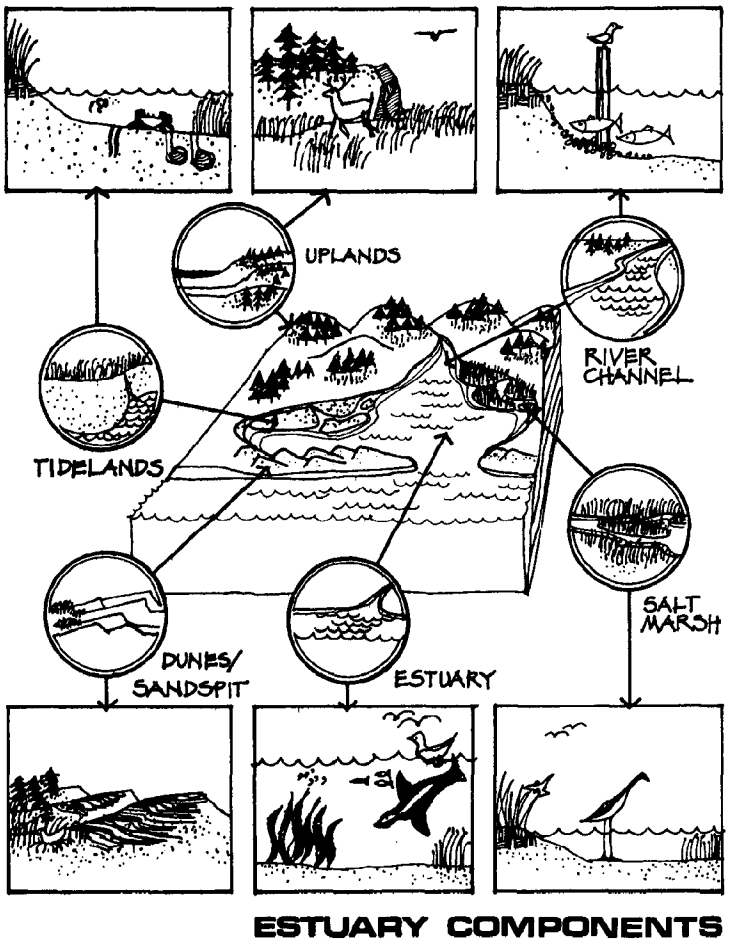

Figure 4. Components of Estuarine System

(Source: 5)

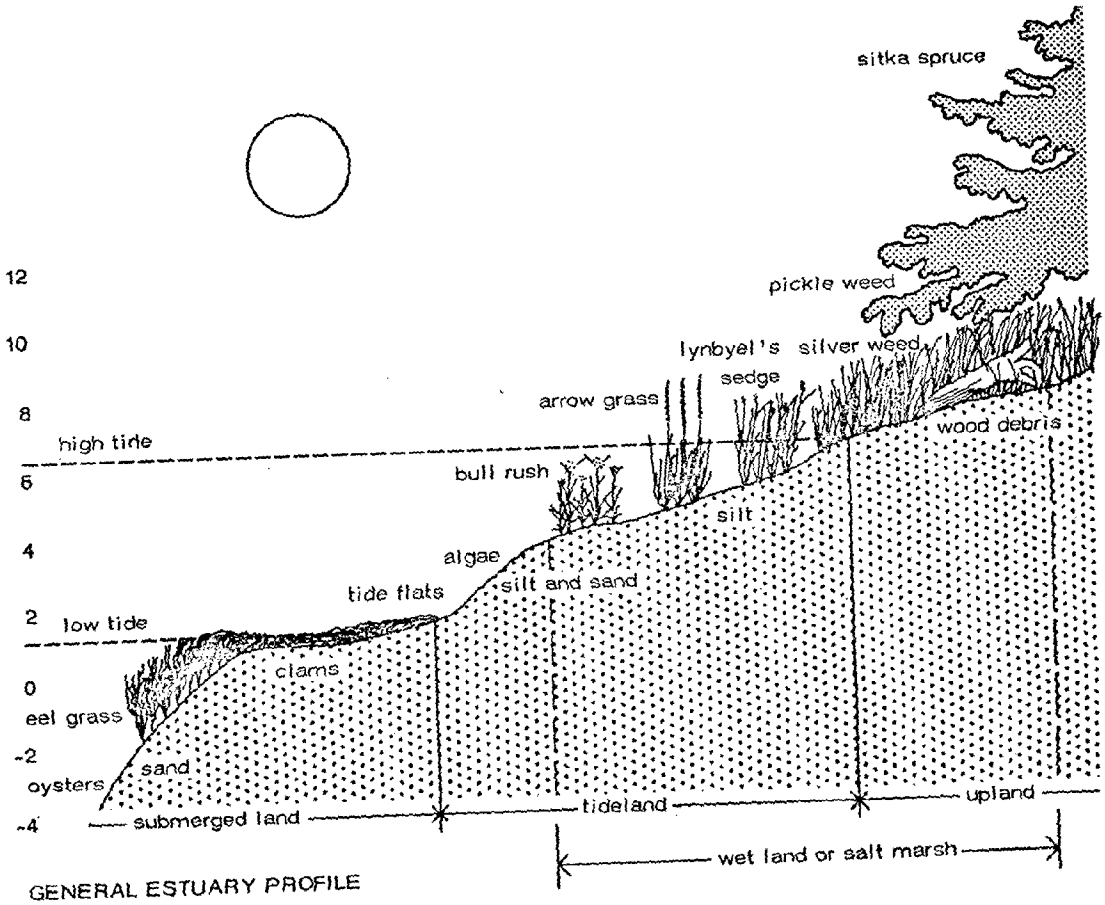

Figure 5. General Profile of an Oregon Estuary
(Source: 6)

TABLE V

COMPARISON OF ESTUARINE HABITAT TYPES AND ACREAGES BY BAY

Estuaries in Order of Size	Acres of Submerged Land	Acres of Tideland	Acres of Saltmarsh	Total Acres of Estuarine Habitat
Columbia R.	69,275	24,507	8,660	102,442
Coos Bay	6,180	6,200	2,738	15,118
Tillamook	4,126	4,163	1,070	9,359
Umpqua	5,298	1,531	344	7,173
Yaquina	2,557	1,353	819	4,729
Netarts	812	1,513	164	2,489
Nehalem	1,231	1,078	330	2,639
Siuslaw	1,489	756	1,458	3,703
Alsea	1,168	979	640	2,787
Siletz	412	775	322	1,509
Nestucca	422	578	222	1,222
Coquille	470	301	373	1,144
Rogue	478	149	0	627
Sand Lake	131	397	702	1,230
Necanicum	129	149	30	308
Salmon River	78	126	552	756
Chetco	90	12	0	102
TOTAL:	94,346	44,567	18,424 [1]	157,337

[1] Does not include estuaries such as Beaver Creek.

SOURCE: Oregon Estuaries, Division of State Lands.

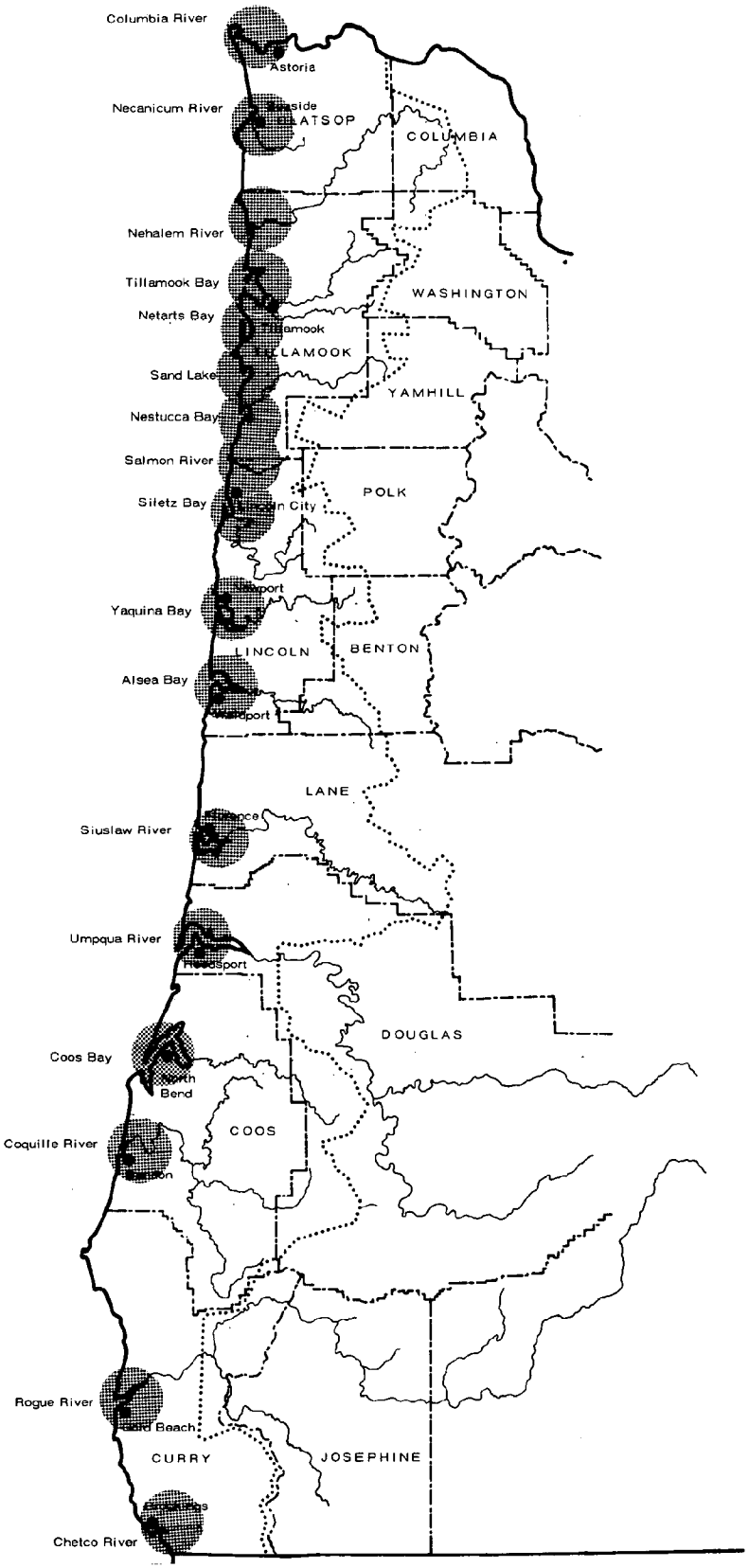

Figure 6. Major Oregon Estuaries

(Source: 6)

Tidal marshes (seaside arrow grass, Pacific silverweed, bullrush, salt grass, glasswort, sedge, tufted hair grass) are wintering areas for migratory birds, and, more importantly, yield the primary nutrients for the food cycle in the estuary. They total approximately 188,000 acres of Oregon's coastal zone.

Estuarine life is balanced on the fine line between a marine habitat and freshwater existence. The estuaries are an immensely important part of the coastal life food chain and are easily destroyed, which can impact on other coastal species. Herring, for example, are spawned in estuaries, and are a major part of the salmon's diet at certain times of the year. The relative abundance of the herring may have a significant effect on the movement of the salmon up and down the coast.

(3) Freshwater Resources

The freshwater resources which flow into the estuarine areas and otherwise find their way to the coast are no less important. There are 2200 streams emptying into the Oregon coast, 30 of which are considered major suppliers of freshwater. Beside bringing necessary nutrients to the estuaries, these coastal freshwater tributaries are also the spawning ground for salmon and home to steelhead and cutthroat trout and bass. Additionally, they are the source of water for urban areas along the coast for irrigation, municipal, recreational, domestic, and industrial uses. There exists what should be sufficient freshwater flow for current use along the entire coast. However, lack of storage capacity, sporadic heavy rains, and poor ground absorption of the run-off burdens the ability of some coastal urban areas to accommodate present uses.

(4) Uplands

The remainder of the Oregon coastal zone, other than offshore areas and estuarine wetlands, is considered uplands. It includes the headlands, terraces, meadows, and agricultural and timberlands and extends to the crest of the Coast Mountain Range.

Over 38 percent of the uplands area is timberland, the majority of which has been logged or burned during the last 150 years. Therefore, little old growth remains. Some of the timber is considered best left untouched because of unique recreational appeal or watershed requirements. Vegetation type varies according to the section of the coast and the effects of rainfall and temperatures. Sitka spruce runs the entire length of the immediate coast, and up into the river valleys, where Western red cedar, and Western hemlock also may be found. Moving south, the zone narrows, and coast redwood, myrtle, and Port Orford cedar become apparent. On dune ridges and similar lands, Western hemlock,Douglas fir, and the red alder prevail. The heavily forested areas of these trees give way in the extreme south to herb and shrub vegetation along the immediate coast. In the mountains, Douglas fir and tan oak dominate. Other conifers such as sugar pine, ponderosa pine, incense cedar, white pine, and evergreen hardwoods are also found in quantity.

Agricultural use of the uplands has been somewhat limited by soil composition and physical limitations of size and shape of the land parcels. Forage food production (hay and grass) and pasture land for livestock have been the principal uses. Economic trends also have affected the agricultural use. As in the rest of the State, coastal farms have been decreasing in number and increasing in size. Along the coast, they have been converting from dairy cattle to beef production or are being lost to industry or residential development.

Over 2.25 million acres of land in the uplands is publicly owned and available for recreational use; 53.5 percent of this is in the Siuslaw and Siskiyou National Forests. State forests comprise 25.5 percent and Bureau of Land Management lands 20.6 percent of this total (2:65).

Reflecting the nationwide surge in recreation in Oregon, overnight visits to State parks increased greater than 410 percent between 1958 and 1973 (4:F-18 and Table F-16). These opportunities for public enjoyment of the uplands, coupled with the Oregon Beach Law -- ensuring public access to all beaches -- facilities like the Oregon Dunes National Recreational Area, and a wide variety of commercial recreational facilities on the coast, make recreation one of the true natural resources of Oregon's coastal zone.

(5) Stressed Resources

The Oregon coastal zone provides a complex wealth of resources and experiences, but it also tends to be very vulnerable to outside forces. Impacts upon one habitat have the potential for upsetting the symbiotic relationship with others dependent upon it. Table VI indicates those habitats within each coastal section that are identified as important or critical. Table VII relates wildlife species to habitat type. Kelp beds are included, for example, because they provide the brown algae abalone eat and provide shelter for numerous sea life forms. Coincidently, they are susceptible to overharvesting for human purposes and to the effects of industrial and sewage pollution.

The estuarine systems, specifically the salt marshes, are irreplaceable as a nutrient source for estuary life. Over 12 percent of Oregon's coastal zone is estuary, but in comparison to other States, this total is small. All of Oregon's estuaries for example, would fit into the Willapa Bay estuary of the State of Washington. Much of Oregon's marine fisheries and recreational fisheries are dependent on the

TABLE VI SUMMARY OF HABITAT CHARACTERISTICS

(SOURCE: 6)

★ CRITICAL FACTOR
● HIGHLY SIGNIFICANT FACTOR

SRG Partnership PC — Planning, Urban Design, Architecture, Systems Building, 1133 S.W. Park Avenue, Portland, Oregon 97205, (503) 222-1017

HABITAT TYPES		HABITAT RELATED						ANIMAL RELATED							SPECIAL CONCERNS
		RELATIVE AREA	AREA RANK-LEAST TO MOST	GEOGRAPHIC DISTRIBUTION	RENEWABLE OR NON-RENEWABLE	VULNER-ABILITY	RESIL-IENCY	DIVERSITY	SOCIAL IMPORTANCE COMM.	SOCIAL IMPORTANCE RECREAT.	VULNER-ABILITY	RESIL-IENCY	ADAPTABILITY TO OTHER HABITAT TYPES	DENSITY OF SPECIES	
OFFSHORE	PELAGIC	VAST	9	EXTENSIVE	R	LOW	GOOD	HIGH ●	EXT. HIGH ★	EXT. HIGH ★	MOD.	GOOD		MODERATE	POLLUTANTS, OVER FISHING, POSSIBLE MINERAL EXPLORATION
	BENTHIC ROCK	SMALL ●	5 ●	SCATTERED ● W/ONE LARGE AREA	NR ★	LOW	POOR ●	HIGH ●	EXT. HIGH ★	EXT. HIGH ★	HIGH ●	GOOD	POOR ●	HIGH ●	POLLUTANTS, OVER FISHING, HIGH VALUE HABITAT UNEVENLY DISTRIBUTED, LING COD SPAWNING
	BENTHIC MUD	MODERATE	7	EVEN	R	LOW	VARIABLE	LOW	HIGH ●	LOW	HIGH ●	GOOD	POOR (SHRIMP) ●	HIGH ●	POLLUTANTS, OVER FISHING
	BENTHIC MUDDY SAND	MODERATE	8	EVEN	R	LOW	VARIABLE	LOW	MOD.	LOW	HIGH ●	GOOD	FAIR	MODERATE	POLLUTANTS, OVER FISHING
	BENTHIC SAND	MODERATE	6	EVEN	R	MOD.	GOOD	MOD.	HIGH ●	MOD.	HIGH ●	GOOD	FAIR TO POOR VARIABLE	MODERATE	POLLUTANTS, OVER FISHING, PLUS DREDGE SPOILS, SEWAGE DISCHARGE, AND LOCALIZED DESTRUCTION
	COASTAL ISLANDS AND REEFS	VERY SMALL ●	1 ★	SCATTERED ●	NR ★	LOW	POOR ●	HIGH ●	LOW	HIGH ●	HIGH ●	VARIABLE	POOR ●	HIGH ●	HARASSMENT, LING COD SPAWN, ESTHETIC AND REFUGE VALVES.
	ROCKY INTERTIDAL	SMALL ●	2 ★	SCATTERED ● EVENLY LATERALLY	NR ★	EXT. HIGH ★	POOR	EXT.HIGH ★	LOW	EXT. HIGH ★	EXT.HIGH ★	GOOD	VERY POOR ★	EXT. HIGH ★	ECOLOGICAL BALANCE, DENUDING, EASY ACCESS, SEWAGE & INDUSTRIAL DISCHARGE AREAS, LING COD SPAWNING ★
	KELP BEDS	EXTREMELY SMALL ★	3 ★	CONCENTRAT. ● SPARSE	R	HIGH ●	GOOD	HIGH ●	LOW	HIGH	HIGH ●	POOR ●	POOR ●	HIGH ●	SUBSTRATA, OVER HARVEST, CRITICAL SEA OTTER AND ABALONE HABITAT, SCARCE HIGH VALUE HABITAT, POTENTIAL ECONOMIC PRESSURE
	SANDY BEACH	LARGE	4 ●	EVENLY LATERALLY	R	EXT. HIGH ★	GOOD	LOW	LOW	HIGH ●	EXT.HIGH ★	GOOD	POOR (HABITAT SPECIFIC) ★	VARIES HIGH TO NONE	OIL SPILLS, MINERAL EXTRACTION, NAVIGATION AND CURRENT CONTROL STRUCTURES.
ESTUARIES	SUBMERGED LAND	VERY SMALL ●	7 ●	SCATTERED	NR ★	EXT. HIGH ★	FAIR	EXT.HIGH ★	MOD. ●	EXT. HIGH ★	VARIES HIGH ●	FAIR	VARIES	EXT. HIGH ★	DREDGING, POLLUTANTS, OUT FALLS, STRUCTURES, IMPACT VARIES WITH BAY AND SEASON.
	COASTAL TIDE LAND	VERY SMALL ●	6 ●	SCATTERED ● SEVERAL LARGE AREAS	NR ★	EXT. HIGH ★	POOR ●	HIGH ●	MOD. ●	EXT. HIGH ★	EXT.HIGH ★	POOR ●	POOR ●	EXT. HIGH TO MODERATE ★	LOG STORAGE, FILLING, MOST ABUSED HIGH DEVELOPMENT PRESSURE.
	EEL GRASS	EXTREMELY SMALL ★	1 ★	SCATTERED ●	R	EXT. HIGH ★	GOOD	HIGH ●	LOW	HIGH ●	HIGH ●	GOOD	VARIES	EXT. HIGH ★	SUBSTRATA, ECO-LINK, HERRING SPAWN, PRIMARY FOOD FOR BLACK BRANT ★
	COASTAL SALT MARSH	VERY SMALL ●	5 ●	SCATTERED ● CONCENT.	NR ★	EXT. HIGH ★	POOR ●	MOD.	LOW	LOW	EXT.HIGH ★	HIGH	POOR ●	HIGH ●	PLANT LIFE, ECO-LINK, DIKES/DRAIN, CRITICAL TO FOOD CHAIN, HIGH ABUSE POTENTIAL. ★
FRESH-WATER	RIVER AND STREAM	MODERATE	11	EXTENSIVE	NR ★	MOD.	FAIR	HIGH ●	LOW	EXT. HIGH ★	HIGH ●	GOOD		HIGH ●	FISH PASSAGE, SILTATION, ECO-LINK, FLOW DEPLETIONS, DESTRUCTION OF SPAWN AREA, CHANNEL ALTERATIONS ★
	LAKES AND RESERVOIRS	VERY SMALL ●	4	SCATTERED CENTRAL COAST	NR ★	HIGH ●	POOR ●	HIGH ●	LOW	EXT. HIGH ★	HIGH ●	POOR ●		HIGH, VARIES ●	WATER QUALITY, FILLING, SHORELINE AND AQUATIC VEGETATION, LAKES WITH MIGRATORY AND WARM WATER SAME FISH
UPLANDS	INLAND MARSH	EXTREMELY SMALL ★	2 ★	EXTREMELY SCARCE ★	NR ★	VERY HIGH ★	POOR ●	EXT.HIGH ★		HIGH ●	EXT.HIGH ★	HIGH	POOR ●	EXT. HIGH ★	ECO-LINK, SPECIES DIVERSE, WATER FOWL, MOST DIVERSE IN UPLAND COASTAL REGION, PRODUCTIVITY. ★
	WET MEADOWS	EXTREMELY SMALL ★	3 ★	EXTREMELY SCARCE ★	NR ★	VERY HIGH ★	POOR ●	HIGH ●		MOD.	HIGH ●	MOD.	FAIR	MODERATE	ECO-LINK WATER TABLE, COVER, IMPORTANT BIG GAME WATERING AREA, ROAD CONSTRUCTION. ★
	RIPARIAN VEGETATION	VERY SMALL ●	6 ●		R	HIGH ●	GOOD	EXT.HIGH ★		HIGH ●	HIGH ●	GOOD	POOR	VERY HIGH ★	ECO-LINK, BUFFER, EROSION CONTROL, TRANSITIONAL AREA, IMPORTANT COVER TO ADJACENT OPEN LANDS. ★
	ANNUAL & PERENNIAL GRASSLAND	SMALL	13	SCATTERED CONCENT. IN SOUTH COAST	R	HIGH ●	GOOD	MOD.		MOD.	HIGH ●	GOOD	GOOD	MODERATE	WINTER FORAGE, LIVESTOCK OVERGRAZING, ROAD CONSTRUCTION.
	COASTAL SHORE PINE-SPRUCE	SMALL	14	CONTINUOUS LINEAR	R	VERY HIGH ★	GOOD	MOD.		MOD.	MOD.	GOOD	GOOD	HIGH ●	NON-GAME BIRDS, DEVELOPMENT PRESSURE, IN PATH OF URBAN DEVELOPMENT.
	DOUGLAS FIR-TRAILING BLACKBERRY	VAST	16	EXTENSIVE	R	MOD.	GOOD	HIGH ●		HIGH ●	MOD.	GOOD	GOOD	HIGH ●	CLEAR CUTS (EXT.), ROADS, 80% OF COASTAL ZONE HABITAT, OLD GROWTH CRITICAL SPOTTED OWL HABITAT.
	TRUE FIR	SMALL	10	NORTH COAST	R	LOW	FAIR	MOD.		LOW	LOW	GOOD	FAIR ●	LOW	CLEAR CUTS (EXT.), ROADS, ELEVATION, CLIMAX FORESTS
	MIXED CONIFERS	SMALL	9	SCARCE ● CONCENT SOUTH COAST	R	MOD.	GOOD	HIGH ●		MOD.	MOD.	GOOD	GOOD	HIGH ●	CLEAR CUTS (EXT.), ROADS WINTER RANGE
	DOUGLAS FIR-PINE-OAK	SMALL	8	SCARCE ● CONCENTRAT.	R	MOD.	GOOD	HIGH ●		MOD.	MOD.	GOOD	GOOD	HIGH ●	CLEAR CUTS (EXT.), ROADS WINTER RANGE, LIVESTOCK OVERGRAZING.
	DECIDUOUS HARD WOOD	SMALL	7	EXTREMELY ★ SCARCE CONCENTRAT.	R	MOD.	GOOD	HIGH ●		MOD.	MOD.	GOOD	GOOD	HIGH ●	CLEAR CUTS (EXT.), ROADS WINTER RANGE, LIVESTOCK OVERGRAZING.
	EVERGREEN HARD WOOD	SMALL	12	EXTREMELY ★ SCARCE CONCENTRAT.	R	LOW	GOOD	MOD.		MOD.	MOD.	GOOD	GOOD	HIGH ●	CLEAR CUTS (EXT.), ROADS WINTER RANGE, MYRTLE WOOD.
	IRRIGATED AGRICULTURAL	SMALL	7	SCATTERED SEVERAL LARGE AREAS	R	HIGH ●		MOD. ★		MOD.	HIGH ●	GOOD	FAIR	HIGH ●	ECO-LINK, FOOD PRODUCTION, WINTERING, COVER, GRAZING, FENCING, HERBICIDES. ★
	NON-IRRIGATED AGRICULTURAL	MODERATE	15	SCATTERED SEVERAL LARGE AREAS	R	HIGH ●		MOD.		MOD.	HIGH ●	GOOD	FAIR	HIGH ●	FOOD PRODUCTION, WINTERING, COVER, GRAZING, FENCING, HERBICIDES.
	URBAN INDUSTRIAL	SMALL	7	SCATTERED LATERALLY SHORE-DENSE		EXT. HIGH ★		LOW		LOW	EXT.HIGH	GOOD	EXCELLENT	LOW	OPEN SPACE, COVER, CREATION OF NEW HABITAT.

TABLE VII

WILDLIFE SPECIES AND THEIR ABUNDANCE VS. HABITAT TYPES IN THE COASTAL ZONE[1]

F Few
C Common
A Abundant

	Submerged Land	Coastal Salt Marsh	Coastal Tideland	Eelgrass	River & Stream	Lakes & Reservoirs	Inland Marsh	Wet Meadows	Riparian Vegetation	Grasslands	Coastal Shore Pine-Spruce	Douglas Fir-Blackberry	True Fir	Mixed Conifers	Douglas Fir-Pine-Oak	Deciduous Hardwood	Evergreen Hardwood	Irrigated Agricultural Lands	Non-Irrigated Ag. Lands	Urban Industrial
Game Animals																				
Roosevelt Elk		F					C	A	C	C	F	A	F	C	F	C	F	A	A	
Black-Tailed Deer		F					F	C	C	C	F	A	C	C	A	A	C	A	A	
White-Tailed Deer							C	C	C	C						C		A	A	
Black Bear		C					F	C	C	C	C	A	C	C	A	C	A		F	
Mountain Lion								F	F		F	C	C	C	C	F	F		F	
Western Grey Squirrel									C			F		F	A	A	C			
Game Birds																				
California Quail															F	F		F	F	
Mountain Quail								C	F	F	F	C	F	C	C	F	F	F	F	
Ring-Necked Pheasant									F	F								F	F	
Blue Grouse								F	F	C	F	C	C	C	F	C	F	F	F	
Ruffed Grouse								C	C	F	F	C		C	F	C	F	F	F	
Mourning Dove		F	F					F	F	C		F	F	F	C	C	F	C	C	F
Band-Tailed Pigeon		C	C				F	F	F		C	C	F	C	C	C	F	F	F	

[1] The limited geographical ranges of several species are not reflected in this table.

TABLE VII (Continued)
Wildlife Species and Their Abundance vs.
Habitat Types in the Coastal Zone

F Few
C Common
A Abundant

Waterfowl	Submerged Land	Coastal Salt Marsh	Coastal Tideland	Eelgrass	River & Stream	Lakes & Reservoirs	Inland Marsh	Wet Meadows	Riparian Vegetation	Grasslands	Coastal Shore Pine-Spruce	Douglas Fir-Blackberry	True Fir	Mixed Conifers	Douglas Fir-Pine-Oak	Deciduous Hardwood	Evergreen Hardwood	Irrigated Agricultural Lands	Non-Irrigated Ag. Lands	Urban Industrial
Whistling Swan	F	F				F	F											F	F	
Canada Goose	F	F	F	F	F	F	F	F										F		
Whitefront	F	F	F			F	F													
Snow Goose	F	F	F																	
Black Brant	A		A	A																
Mallard	C	C	C	F	C	C	A	F	C									C	C	
Pintail	A	C	C	C	F	C	C	F	F									C	C	
Green-Winged Teal	F	F	F	F	F	F	C	F	F									C	C	
Cinnamon Teal							F											F		
American Widgeon	A	A	A	C	C	C	C	F										C	C	
Shoveler	C	C	C	F	C	C	C											F		
Wood Duck					F	C	F		C		F							F		
Redhead	F	F	F	F	F	F	C		C											
Canvasback	C	C	C	F	F	F	C													
Ruddy Duck			C		F	C														
Common Merganser	C	C	C		C	F	F		F											
Hooded Merganser		F	F		C	F	F		F											
Coot	A	A	C	A	F	C	A													
Common Snipe		C	C		F	F	C	F										C	F	

TABLE VII (Continued)
Wildlife Species and Their Abundance vs.
Habitat Types in the Coastal Zone

F Few
C Common
A Abundant

	Submerged Land	Coastal Salt Marsh	Coastal Tideland	Eelgrass	River & Stream	Lakes & Reservoirs	Inland Marsh	Wet Meadows	Riparian Vegetation	Grasslands	Coastal Shore Pine-Spruce	Douglas Fir-Blackberry	True Fir	Mixed Conifers	Douglas Fir-Pine-Oak	Deciduous Hardwood	Evergreen Hardwood	Irrigated Agricultural Lands	Non-Irrigated Ag. Lands	Urban Industrial
Waterfowl, cont'd.																				
Great Blue Heron	C	C	C	C	C	F	C	F	C	F	C	F						C	F	
Night Heron	F	F				F	F	F	F											
Common Egret	F	F	F	F		F	F	F	F									F	F	
Brown Pelican	C		F																	
Furbearers																				
Beaver	F	F	F		C	C	F	C	A		F	C	F			F		F	F	
Muskrat	F	F	F		C	C	C		C									F		
River Otter	F	C	C		C	C	C		F											
Sea Otter	F																			
Mink		F	F		C	C	C	C	C		F	F	F					F		
Martin												F	F	F						
Ringtail Cat												F		F	F		F			
Other Mammals	F				C	C	A	A	A	A	C	A	C	A	A	A	A	A	A	F
Hawks		C			C	C	C	C	C	C	F	C	F	C	C	C	C	C	C	F

TABLE VII (Continued)

Wildlife Species and Their Abundance vs. Habitat Types in the Coastal Zone

F Few
C Common
A Abundant

	Submerged Land	Coastal Salt Marsh	Coastal Tideland	Eelgrass	River & Stream	Lakes & Reservoirs	Inland Marsh	Wet Meadows	Riparian Vegetation	Grasslands	Coastal Shore Pine-Spruce	Douglas Fir-Blackberry	True Fir	Mixed Conifers	Douglas Fir-Pine-Oak	Deciduous Hardwood	Evergreen Hardwood	Irrigated Agricultural Lands	Non-Irrigated Ag. Lands	Urban Industrial
Owls		C			C	F	C	C	C	C	F	C	F	C	C	C	C	C	C	F
Other Birds	A	A	A	C	C	C	A	C	A	C	A	A	C	A	A	A	A	C	C	C
Reptiles		F			F	F	C	C	A	C	F	C	F	C	C	C	C	A	C	F
Amphibians		F			A	A	A	A	A		C	C	F	C	F	F	F	A	F	F
Fish																				
Chinook Salmon	A			A	A															
Coho Salmon	A			A	A	F														
Steelhead	A			C	A															
Rainbow Trout					F	C														
Cutthroat Trout	A			A	A	A	F											F		
Warmwater Game Fish					F	A	F											F		
Non-Game Fish	A	F		A	A	A	C											C		

production of the salt marshes. Chinook and Coho salmon, steelhead and cutthroat trout, flounder, green sturgeon, herring, shrimp, and crabs are dependent on the estuaries for food, nursery grounds, or passage to freshwater spawning grounds. Other species, such as oysters, thrive in the dilute salinity of the area. However, estuaries are also the catch basin of human activity. By 1969, over 3.5 percent of Oregon's estuaries had been lost to diking, filling, or dredging (5:15). Other areas are lost from production, by industrial discharge from pulp mills, siltation from logging activities, or use as timber and log storage.

Other resources are being stressed and are in jeopardy. Increased logging and construction along river banks has increased the siltation flowing into streams, lakes, and estuaries. Road construction and coastal land reclamation have also altered them. These upstream activities have reduced the effectiveness of the watershed area, causing higher run-off, and decreased water quality in some areas. There is little retention of ground water, so some coastal communities are having their freshwater supply affected. The topography provides little opportunity for building storage dams along any of the major rivers and streams in the coastal zone. Thus hydroelectric power and year round freshwater sources, already stressed in some communities, will become more so with added urban development. In those areas where activities (sewer effluent, gravel extraction, and industrial waste) have been allowed tangential to the rivers, there are indications that the salmon population has been greatly affected. Today, a majority of the yearly salmon take is hatchery originated, and both pollution in and dams along the waterways have reduced the survival rate. Similarly, effluent discharged by ships trafficking the Oregon coast affect numerous other species of sea life. Thus, even though significant human activity has occurred along the Oregon coast only during the last half century, the impacts threaten the survival of many of the features and resources which give the coast its unique quality.

C. Social and Economic Setting

(1) Historical

The earliest recorded settlements in coastal Oregon were Indian encampments dating from the 1500's. Contact with the outside was limited to Spanish fur traders until the late 1700's. The success of the Lewis and Clark expedition, however, brought increased immigration and the establishment of towns like Astoria in the early 1800's. The Oregon Trail and Oregon Donation Land Act brought more people with promises of free land and instant wealth in the 1850's in Coos Bay, and the fishing and cannery infrastructure began in the 1870's. With development pressures from the Willamette Valley, a railroad was put through to Yaquina City in 1870, but real expansion of the coastal communities did not occur until the input of Federal highway monies during the 1930's. Even with improved transportation, most employment along the coast remained tied to the natural resources, only partially offset by tourism.

(2) Population and Employment

Population in the Oregon coastal zone changed only marginally from 1958 to 1973, compared to both national and State increases, and now stands at just above 160,000. This represents less than 8 percent of the total State population. There was an actual dip in coastal population during the early and mid 1960's, reflecting in large part a decline in employment in the forest industry.

Employment in the coast is largely dependent upon the natural resource base. Traditionally the three largest employers (exclusive of local government) have been agriculture and food processing, fishing and fish processing, and forest products. Together these represent about 30 percent of the total coastal employment (about 40 percent excluding government). In addition, the tourism/travel/recreation industry, which is also heavily dependent on the coastal natural resources is the fastest growing segment of the employment market in the Oregon coastal zone. Tables VIII and IX summarize recent employment by economic sector and project future patterns. As these tables indicate, employment has tended to become more diversified with time. The major employment markets are discussed below.

A full three-fourths of the coastal agricultural production takes place in Coos and Tillamook counties, with anywhere from 64 percent to 98 percent of the investment being in livestock production depending upon the county. This compares with 43 percent in livestock statewide (4:C-15). Employment in agriculture, as well as the number of farms, has been declining for 15 years but is expected to stabilize at current levels. Even so, gross farm sales have been increasing at 1.3 percent annually, with the 1973 value of farm products for the coast estimated at better than 40 million dollars (4:B-9).

Analysis of the fishing industry is hampered by questionable estimates as to the number of commercial and/or sport fishermen. Too, the annual catch is volatile with wide variation in the relative values of the different types of catch. Commercial landings by weight in 1968 for example exceeded 89 million pounds. However, the 1973 landings of 83 million pounds had a higher value of over 27 million dollars (4:B-9). The relative proportion of species caught has also changed in recent years, with groundfish becoming a smaller percentage and shrimp increasing. Accurate estimates of the fisheries biomass are not yet available. It is generally felt that some species are not yet caught at a sustained

TABLE VIII

EMPLOYMENT BY MAJOR ECONOMIC SECTOR, COAST*, 1958-1973.

YEAR	AGR	FSP	FOR	TRL	WTR	GOV	LGV	TDS	ONB	TEM	RET	POP
1958	4,568	1,744	13,453	794	909	1,097	4,349	15,016	3,744	45,670	9,572	140,043
1959	4,384	1,613	14,087	846	923	978	4,433	15,400	3,985	46,647	10,331	140,335
1960	4,281	1,573	13,800	1,075	959	884	4,585	15,809	3,947	46,913	10,936	140,081
1961	3,921	1,566	12,597	1,116	926	857	4,567	15,523	3,728	44,797	11,817	136,940
1962	3,535	1,687	12,476	1,188	940	847	4,343	15,569	3,556	44,139	12,807	130,065
1963	3,324	1,886	12,057	1,230	1,132	979	4,059	15,658	3,913	44,235	13,478	128,244
1964	3,252	1,913	12,792	1,316	1,102	952	4,396	16,629	3,904	46,252	13,889	130,259
1965	3,150	1,933	12,792	1,552	963	1,522	4,577	16,943	4,925	48,552	14,226	132,438
1966	3,125	2,199	12,506	1,727	874	1,855	4,902	17,616	5,397	50,199	15,015	132,332
1967	3,104	2,761	12,488	1,865	803	1,795	5,396	17,578	4,885	50,676	15,871	134,689
1968	3,010	2,645	12,443	2,118	904	1,725	6,202	17,872	4,410	51,340	16,583	140,241
1969	2,984	2,700	12,169	2,037	874	1,780	6,282	18,109	4,238	51,268	17,294	141,981
1970	3,139	2,876	11,437	2,196	841	1,956	6,508	18,370	4,285	51,607	18,171	141,772
1971	3,074	2,430	11,373	2,330	676	2,080	6,898	19,134	4,560	52,521	19,240	142,643
1972	3,033	2,808	11,383	2,428	890	2,232	7,044	19,551	4,706	59,070	20,096	144,463
1973	2,990	2,932	11,769	2,675	972	2,387	7,298	20,370	4,897	56,290	21,390	145,400

* 5 Coastal Counties only; excludes Western portions of Lane and Douglas Counties

AGR = Agriculture and Food Processing
FSP = Fishing and Fish Processing[1]
FOR = Forest Products
TRL = Travel
WTR = Water Transportation

GOV = Federal and State Government
LGV = Local Government
TDS = Trade and Services
ONB = Other Non-Basic Sectors
TEM = Total Employment

RET = Number of Retired Persons

POP = Population

[1]Fishing was estimated relative to catch weight.

SOURCE: Economic Survey and Analysis of the Oregon Coastal Zone; Data from Oregon State Employment Division.

TABLE IX

MID-RANGE ESTIMATES FOR THE COAST* ECONOMY

YEAR	AGR	FSP	FOR	TRL	WTR	GOV	LGV	TDS	ONB	TEM	RET	POP
1975	3,050	2,280	10,824	2,836	900	2,586	7,816	20,961	4,784	57,036	22,120	145,800
1976	3,050	2,318	10,606	2,960	900	2,705	8,058	21,277	4,844	57,718	22,865	146,160
1977	3,050	2,358	10,388	3,084	900	2,824	8,323	21,598	4,940	58,465	23,610	146,675
1978	3,050	2,394	10,170	3,208	900	2,943	8,601	21,920	5,047	59,232	24,355	147,230
1979	3,050	2,432	9,952	3,332	900	3,062	3,889	22,245	5,157	60,019	25,100	147,830
1980	3,050	2.468	9,739	3,458	900	3,182	9,184	22,571	5,269	60,821	25,843	148,485
1981	3,050	2,506	9,540	3,582	900	3,300	9,484	22,902	5,383	61,647	26,588	149,120
1982	3,050	2,544	9,341	3,708	900	3,419	9,789	23,235	5,498	62,484	27,333	149,800
1983	3,050	2,582	9,142	3,830	900	3,538	10,096	23,570	5,613	63,321	28,078	150,480
1984	3,050	2,520	9,943	3,954	900	3,657	10,405	23,906	5,728	64,163	28,823	151,185
1985	3,050	2,655	8,746	4,079	900	3,778	10,715	24,244	5,843	65,010	29,567	151,930

*Five coastal counties only; excludes western portions of Lane and Douglas Counties.

AGR = Agriculture and Food Processing
FSP = Fishing and Fish Processing
FOR = Forest Products
TRL = Travel
WTR = Water Transportation
GOV = Federal and State Government
LGV = Local Government
TDS = Trade and Services
ONB = Other Non-Basic Sectors
RET = Number of Retired Persons
POP = Population

(Source: Economic Survey and Analysis of the Oregon Coastal Zone; computed by the Economic Study Team.)

yield level, while others such as the salmon, might soon reach a critical stage. Foreign offshore fishing has increased in recent years too, with an as yet unmeasurable total impact on the coastal economy. Certain changes have been noted, however, in abundance of some species since 1967 when foreign fishing first became large scale. Pacific ocean perch and rockfish landings are singificantly down while shrimp catch has more than doubled. This latter phenomenon may be due to the foreign catch of hake, a natural predator of shrimp.

Forest products are still the most important sector of economic activity, even though employment has been decreasing. The decrease has been in the lumber and wood products sector, while an over 300 percent increase in employment has occurred since 1958 in the paper and pulp products base. Annual payrolls in both sectors however, were well above their 1958 levels. Astoria and Coos Bay are the major exporting ports of the State for lumber and logs. Over 54 percent of the forest products employment is derived from Coos County.

The tourist and travel industry is one section that is broadening the economic base of the coast. Overnight visits have grown markedly in recent years. The State parks have been among the principal recipients of increased use, and most of that increase has come from out-of-state visitors, especially California. Motel and hotel facilities growth has been limited to the northern coast (4:F-6). Still, the length of the tourist season is expanding, bringing in more revenue for the communities and helping to lessen the congestion of peak periods of July and August. The industry is likely to succeed as the second largest of the basic industries in the near future (4:B-12).

Sixteen port districts stretch along the Oregon coast from Brookings to Astoria and on the Columbia deep-draft channel. Of the coastal harbors, Astoria, Newport, and Coos Bay have regular shipments of commodities to and from foreign countries. Coos Bay, because of the proximity of forest and timber processing plants, now ranks as the leading lumber export harbor of the United States. The other ports are largely concerned with commercial or sports fishing, or with the movement of lumber products on barges. St. Helens and Astoria, on the Columbia River below Portland, find their trade to be principally lumber or paper products from mills which lie nearby.

Coos Bay accommodates 64 percent of the Oregon coastal zone port shipping, while Astoria handles 14 percent (4:G-5). Astoria ships the majority of logs, while Coos Bay ships mostly wood chips, the largest coastal export commodity. Recreational boating as well as commercial fishing activity continue to increase in every coastal port, but the future commercial shipping demand is questionable given discussion of banning export of logs. This could have significant effects on employment in Coos Bay and Astoria.

Land use patterns and ownership have also shifted markedly in the last decade. In general, there has been a strong decline in agricultural and forest lands, and a lesser decline in lands used for public service activities. Patterns differ locally, but Table X summarizes the change in coastal land use patterns for two Oregon coastal counties.

Reflecting an increase in recreational (second-home) use in the coastal zone, there has been a significant decline over the last eight years in the number of parcels owned by residents in the coastal zone. An increasing number of parcels are owned by persons residing in the Willamette Valley and even outside of the State. The mean size of parcels in all land use categories is also decreasing. Finally, the assessed property values are increasing at a rate exceeded in Oregon only by the heavily urbanized Portland metropolitan area (7). These changing patterns reflect the problems which face Oregon's coast: maintaining the natural resource base necessary to support a diverse and healthy economy and environment. The proliferation of individual land parcels and owners, many of whom place a seasonal stress on local facilities while contributing only marginally to the economy, is one problem the Oregon Coastal Management Program is intended to address.

D. Problems and Issues

Identifiable problems of Oregon's coastal zone may be grouped under economic, public services, environmental, and institutional management. The economy is generally overspecialized with too heavy a reliance on the four basic industries identified earlier. As a result of employment patterns in these industries, both seasonal and chronically high unemployment exists, and the median family income is lower than both State and national averages. Additionally, the tax base is narrowly defined due to the large percentage of publically owned land. This places continued pressure on existing low intensity use private lands, such as farms, to develop.

Public services in the past have frequently been provided through uncoordinated efforts. Sewers, water, and waste facilities have been provided on an as needed basis. This has led to conflicts in planning, siting, housing, transportation, and environmental protection. With only one major transportation artery, the north-south U. S. Highway 101, development has generally occurred in a narrow elongated strip. Careful planning must occur to properly accommodate commercial and private development along the corridor in efficient growth patterns without damaging the aesthetic and environmental benefits of the coast.

TABLE X

CHANGE IN COASTAL LAND USE: ESTIMATED NUMBER OF PARCELS AND PERCENT OF PARCELS IN CLASS* 1967-1973

Land Use Class	Absolute Change (no. of parcels)			Percent Change		
	Lincoln Co. Subarea	Tillamook Co. Subarea	Study Area	Lincoln Co. Subarea	Tillamook Co. Subarea	Study Area
A. Single family residential	616	525	1146	27.34	39.41	31.90
B. Multifamily residential	25	42	67	100.00**	2100.00**	248.15**
C. Commercial	87	85	172	71.31	188.89	102.38
D. Industrial	19	0	19	27.14	0.00	26.39
E. Idle or vacant	65	-599	-534	1.54	-18.03	-7.05
F. Agriculture with residence	-50	-9	-62	-58.82	-11.25	-35.63
G. Agriculture without residence	-770	-24	-797	-91.56	-21.24	-82.59
H. Forest land	-17	1	-15	-29.82	1.01	-8.98
I. Recreational	23	2	25	85.19	9.01	50.00
J. Public service facilities	2	-23	-21	9.52	-48.94	-30.43

*Weighted data

**Exceptionally high value due to weighting of data.

Totals may not agree due to weighting and rounding. Separate runs were made of three sets of data and each produced values that were rounded and weighted leading to minor discrepancies.

Inappropriate use and development in sensitive beach and dunes and estuarine areas has led to conflicts in activities, public and private property damage, and adverse environmental impacts. Some man-made structures such as jetties and breakwaters have caused erosion, flooding, and degraded water quality. In estuaries and wetlands diking, dredging, filling, effluent discharge, log storage, and mineral extraction have adversely affected water quality, the plant and animal life, and ultimately the economy of the coastal zone. Competing priorities and increasing demand for the coastal zone's limited freshwater supply pose questions concerning the coast's ability to accommodate future growth. Competing and conflicting land uses can have vast repercussions on the coastal economy. Additionally, the repercussions on the economy from increased foreign commercial fishing may as yet not be felt.

REFERENCES

1. Oregon Coastal Conservation and Development Commission. 1975. Final Report. Florence, Oregon. 438 pp.

2. Moreland/Unruh/Smith. 1975. Resource Analysis of Oregon's Coastal Uplands. Oregon Coastal Conservation and Development Commission. Florence, Oregon. 204 pp.

3. Walker, Havens, and Erickson. 1974. Visual Resource Analysis of the Oregon Coastal Zone. Oregon Coastal Conservation and Development Commission. Florence, Oregon. 135 pp.

4. Kuhn, G. A., Lehr, R. D., Brickley, J. A., Zelenka, J. E., Sullivan, A. M., York, M. K., and D. R. Ogborn. 1974. Economic Analysis and Profile of the Oregon Coastal Zone. Oregon Coastal Conservation and Development Commission. Florence, Oregon. 433 pp.

5. Wilsey and Ham, Inc. 1974. Estuarine Resources of the Oregon Coast. Oregon Coastal Conservation and Development Commission. Florence, Oregon. 233 pp.

6. Thompson, Ken and Dale Snow. 1974. Fish and Wildlife Resources, Oregon Coastal Zone. Oregon Coastal Conservation and Development Commission. 114 pp+.

7. Northam, R. M., Maresh, T. J., and M. L. Nolan. 1975. Oregon Coastal Zone Land: use, ownership, and value change. Oregon State University, Sea Grant College Program, publication no. ORESU-T-75-006. 56 pp.

IV. RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLANS, POLICIES, AND CONTROLS FOR THE AREA

In the introduction to the CZMA, the Congress found "present state and local institutional arrangements for planning and regulating land and water uses...are inadequate," and "the key to more effective protection and use of the land and water resources of the coastal zone is for the states to...develop land and water use programs for the coastal zone, including unified policies, criteria, standards, methods and processes for dealing with land and water use decisions of more than local significance" (Section 302(g) and (h)). During the development of Oregon's Coastal Management Program, these same and similar problems were recognized. The State found, for example, that "inadequate or ineffective governmental and institutional arrangements" has hampered the solution of coastal economic and environmental problems. The "great number of [these coastal] governmental jurisdictions and agencies have variable interests and responsibilities for coastal resource management...," and they "lack unified or even common goals, criteria, standards, methods and processes..." To solve these problems, Oregon proposed a working partnership between local, State, and Federal governments which would insure coordination of coastal management planning and administration through clearly established authorities and responsibilities.

Oregon's Coastal Management Program is thus explicitly designed to provide a more unified approach toward managing coastal resources. Through the establishment of statewide Goals and policies and the development of coordination mechanisms, LCDC will directly affect land use plans and policies.

As has been indicated earlier, Oregon's Coastal Management Program is an integral part of a broader, statewide land use planning effort. It relies basically on the same authorities, although it is supplemented by special, additional information and requirements which relate to the unique problems and benefits associated with the coast. This Program, along with prominent recent court decisions which underscore the importance of local comprehensive plans and consideration of public (as compared to just private) benefits, establishes standards and policies for local government, State and Federal plans, activities, and projects. The Program requires the development of coordinated comprehensive plans by local government and State agencies. It will, in turn, depend on the coordinated development of those plans, especially local comprehensive plans, for implementation. The Program will provide the coordination and cooperation necessary to provide comprehensive management toward explicit common objectives.

The Oregon Coastal Management Program, which itself has included extensive local input from the public and local, State, and Federal governments, prescribes standards for public and governmental participation in the development of the local comprehensive plans. It also establishes requirements for data and inventories before planning decisions can be made and effectively broadens the basis for decision-making about coastal resources and activities.

During the development of the Program, Oregon requested from all Federal agencies with an identifiable interest in the coastal zone an identification of existing or proposed plans or policies that might be affected by or in conflict with the Program. While no agencies identified conflicts between the Program and actual or proposed plans, policies, projects, or controls, some general conflicts concerning substantive matters of the Program were identified by a few agencies. These included: the selection of boundaries; the question of excluded Federal lands; and the process for judging consistency of Federal activities and development projects.

Several Federal agencies commented on the choice of the boundaries for Oregon's coastal zone. Some expressed concern that the boundaries included an area that was too large, while another agency strongly supported the selection of boundaries on the basis they were necessary to adequately manage the uses having a direct and significant impact on coastal waters.

Several Federal agencies expressed concern about Oregon's policy on excluded Federal lands. In response to these concerns and the opinion of the U. S. Attorney General, Oregon has altered the Program to exclude all Federally owned lands for the purposes of meeting the requirements of Section 304(a) of the CZMA.

Finally, a few agencies expressed concern about the manner of judging consistency of Federal activities and development projects. This process has been substantially revised in accordance with the comments received, and these concerns will continue to be taken into account in the further development of Oregon's Federal consistency procedures.

The LCDC has also coordinated the Program with State agencies. The Program will be used to provide policy guidance to those State agencies and to coordinate their activities into a comprehensive management program. The Program is specifically coordinated with the implementation and requirements of the Federal Water Pollution Control Act and the Clean Air Act. By integrating air and water pollution control concerns with those of coastal zone management, the Program will provide a land use basis for controlling pollution.

V. PROBABLE IMPACT OF THE PROPOSED ACTION ON THE ENVIRONMENT

As indicated in the description of the Federal coastal zone management program (Chapter II), it is clearly the intention of the CZMA to produce a net environmental gain or benefit in the Nation's coasts. The CZMA encourages States to achieve this goal through better coordination, explicit recognition of long-term objectives, and the development of a more rational decision-making process in context with the overall policy guidance. It might be expected this process, which could affect much of the activity along the coasts, would have a substantial environmental impact.

However, as the Oregon Coastal Management Program is not a geographically specific plan or project, but a program which establishes processes and standards for coastal resource management, specific impacts are difficult to assess. The Program does provide a basis for assessing impacts on general resource categories and for generalized economic impacts. Both beneficial and adverse effects will derive from Federal approval and State implementation of the Oregon Coastal Management Program.

A. Impacts Directly Resulting from Federal Approval

Two major types of impacts resulting from Federal approval of Oregon's Coastal Management Program may be identified: those resulting from the transfer of funds to the State and local governments, and those resulting from the implementation of the Program.

Federal approval will permit the Office of Coastal Zone Management to award program administration grants to Oregon. The majority of the initial program implementation funds will be passed on to local governments to be used for the development and enforcement of the local comprehensive plans. This will augment the professional basis for development of the plans and for proper resource management by enabling local government to greater utilize specialists such as planners, scientists, and permit review officials. It will also provide funding for some of the inventory work which will form a basis for the comprehensive plans. Better base information will add to the quality of the decision-making. Finally, it will permit a more rapid completion of the local comprehensive plans.

Grant funds will also be used by State agencies to carry out responsibilities imposed by the Program. These will include enforcement and appeal activities by LCDC, inventory and coordination required by all State agencies, and the determination of consistency applications for Federal licenses and permits.

Federal approval and State implementation of the Program will also have implications for Federal agency actions and on the national interest in the siting of facilities of more than local concern. The Federal consistency requirements of the CZMA (Sections 307(c) and (d)) require direct Federal activities or development projects must be consistent to the maximum extent practicable with approved State programs. Also, Federal agencies issuing licenses or permits for any activity affecting the coastal zone are generally constrained from doing so until the applicant certifies and the State concurs, that the proposed activity is in fact consistent with the Program. In addition, Federal agencies are in most cases restricted from approving proposed projects affecting the coastal zone which require Federal assistance, unless they are consistent with the coastal management program

Although States have previously had the opportunity to comment upon Federal actions, licenses,or permits, in the past this comment has not generally been required or mandatory. This new responsibility will provide for more coordinated and comprehensive management of coastal resources and uses, and has the potential for reducing the fragmented, single-purpose,and frequently conflicting nature of activities affecting the coastal zone.

The Oregon Coastal Management Program has identified the following Federal permits and licenses as subject to review and certification for compliance if they are for projects in, or which might affect, the Oregon coastal zone.

"Environmental Protection Agency:

A) Permits and licenses required under Sections 402 and 405 of the Federal Water Pollution Control Act of 1972 and amendments.
B) Permits and applications for reclassification of land areas under regulations for the prevention of significant deterioration (PSD) of air quality.

" Department of Defense - U.S. Army Corps of Engineers:

A) Permits and licenses required under Sections 10 and 11 of the River and Harbor Act of 1899.
B) Permits and licenses required under Section 103 of the

Marine Protection, Research and Sanctuaries Act of 1972 (Ocean Dumping).

"Nuclear Regulatory Commission:

Permits and licenses required for siting and operation of nuclear power plants.

"Department of the Interior - Bureau of Land Management:

A) Permits and licenses required for off-shore drilling and mining on public lands.
B) Plans for the exploration, development, and production from areas leased under OCS Lands Act (43 USC 1331 et seq.).

"Department of Transportation - U.S. Coast Guard:

A) Permits for construction of bridges under 33 USC 401,4591-507, and 525-534.
B) Permits for deep-water ports (33 CFR 158 et seq.).

"Federal Power Commission:

A) Permits and licenses required for power plant siting and transmission lines.
B) Permits and licenses required for interstate pipelines.
C) Licenses for construction and operation of hydroelectric plants.
D) Permits for construction and operation of facilities needed to import or export natural gas."

This listing has been intentionally limited to those permits where the Federal license or permit may significantly affect coastal land and water uses. This is desirable to minimize the administrative burdens on the governmental entities as well as the applicant. If it is found that the issuance of other Federal permits and licenses causes significant effects on coastal land and water uses, the consistency requirements will be applied to those permits or licenses through administrative addition to the list above.

Although the specific procedure for certifying consistency has not been fully developed, the review will provide public notice, opportunity for public and local, State, and Federal agency comment, and, as appropriate, public hearings.

In cases where projects are judged inconsistent with the Program and the State has not concurred with certification, Federal agencies will have to deny permit applications unless the appeal procedures established by the CZMA are applied. In cases where the State has not concurred with a certification because the project has been judged to be inconsistent with the management program, Federal agencies must deny permit applications unless the Secretary determines on appeal that overriding considerations justify approval of the project.

It is important to note that the Secretarial override does not detract from the central authority of the State under the CZMA. It is intended to protect against abuse of this authority as it relates to national security and the objectives of the CZMA. In any event, the impact of a Secretarial override, if exercised, would only apply to the issue of the State's determination of consistency for the purposes of the Federal license or permit. It can not force the Federal agency to issue the permit. Nor does it influence the issuance or denial of any State agency license or permit. In other words, while the Secretary's override may affect a State's consistency response to a Federal license or permit, it does not force any course of action upon the State or the responsible Federal agency.

The overall thrust of Federal consistency will be to provide closer cooperation and coordination between Federal, State, and local government agencies involved in coastal zone related activities and management. This will be considered to be a desirable impact and, indeed, is one of the objectives of the CZMA as discussed earlier.

Federal approval of a State's program would also signify the State has an acceptable procedure and administrative mechanism to insure the adequate consideration of the national interest involved in the siting of facilities necessary to meet requirements which are other than local in nature. Such facilities might include: energy production and transmission; recreation; interstate transportation; production of food and fiber; preservation of life and property; national defense and aerospace; historic, cultural, aesthetic, and conservation values; and mineral resources, to the extent they are dependent on or relate to the coastal zone.

This policy requirement is intended to assure that national concerns over facility siting are expressed

and dealt with in the development and implementation of State coastal management programs. The requirement will not compel the States to propose a program which accommodates certain types of facilities but will assure that such national concerns are included at an early stage in the State's planning activities and that such facilities not be arbitrarily excluded or unreasonably restricted in the management program.

This provision will have two impacts. First, it will prohibit a State from arbitrarily or categorically prohibiting or excluding any use or activity dependent on the coastal zone. Whereas in the lack of a comprehensive planning program such consideration might simply be ignored by oversight or default, this requirement will insure they are specifically included. On the other hand, the existence and approval of an explicit procedure will protect the State from the capricious imposition of actions or projects by Federal agencies in the name of the national interest. In either event, the procedure should lead to the more deliberate and thoughtful and less fragmented and wasteful siting of such facilities in the Nation as a whole.

B. Impacts Resulting from State and Local Government Actions

Oregon's Coastal Management Program is an extension of its existing statewide land use program. The coastal management efforts began prior to the passage of the CZMA and will continue even if Federal approval is not received. Likewise, the Oregon land use program provided by Senate Bill 100 is also an existing program that will remain effective even if the Oregon Coastal Management Program is not approved. Thus, the effects of the Program do not result directly from the Federal coastal zone management program. However, Federal funding support and the Federal consistency provisions of the CZMA will materially aid the implementation and administration of the Program.

At several stages during the development of its coastal management program, Oregon examined the impacts of its proposed program. OCCDC provided lengthy assessments of both environmental and economic impacts in its Final Report (1975); these were also summarized in the Summary, Final Report. After LCDC assumed active responsibility for developing the Oregon Coastal Management Program from OCCDC, it created a series of Technical Advisory Committees (TAC) to review and develop the special coastal Goals. A special interdisciplinary TAC, representative of a variety of professions and interests, was established to examine the environmental and economic impacts and consequences of the proposed Goals. As the Goals were further revised, the LCDC staff economist and natural resource scientists again assessed these impacts. Finally, the LCDC provided funding for an evaluation of the planning Goals and Guidelines on the coastal economy.

In general, the effect of the Goals (see Appendix 3) combine to cause several environmental effects. Primary among these will be the increased protection of the coast's natural resources. This will result in part from the requirements establishing priorities of uses in different resource categories and also from the requirements to preserve, protect, or maintain certain resources. The Program clearly recognizes the importance of these natural resources and is designed to guide development toward tolerant land and water areas and away from areas which are intolerant of or unable to absorb development. While directing utilization of the natural resources, the Goals also require that priority be placed on management of renewable resources, providing for use of all coastal resources by future generations. Consumptive use of non-renewable resources will only be permitted so long as it does not detract from the long-term management of the renewable resources.

The coastal Goals also require that local government comprehensive plans make provision for appropriate water dependent uses, including navigation and transportation, recreation and aesthetic use, and siting for water dependent industrial and commerical facilities. The Program recognizes the necessary role that a coastal location plays in such activities and uses and requires that appropriate areas be designated for these activities consistent with natural resource constraints and protected from incompatible uses. Non-dependent or non-related water uses and activities will only be permitted after natural resource and water dependent activity needs are satisfied.

The Goals also expand the basis for decision-making by requiring that specific factors, resources, hazards, and uses be addressed in the planning process and in allocating land and water resources. The major impacts of the Goals are summarized in Table XI.

The Oregon Coastal Management Program should also reduce long-term public and private costs. The Goals emphasize land use management solutions rather than structural solutions to coastal problems and hazards. They also tend to internalize many of the costs usually treated as externalities and which are borne by the general public. The policies enunciated in the Goals may cause temporary dislocations and adjustments, which will create short-term public and private costs. However, by the utilization of management solutions coupled with the protection of the natural resource base, future and long-term costs will be reduced, while the economic base in the coastal zone will be more stable. Moreover, the very development of comprehensive plans and policies will result in reducing delays and costs associated with permit review and issuance and in stable conditions which will favor long-term capital investment.

The Program will also result in increased protection of historic and archaeological sites. A

TABLE XI

SUMMARY OF SIGNIFICANT IMPACTS FROM THE OREGON COASTAL MANAGEMENT PROGRAM

GOAL/REQUIREMENT	IMPACT
1. Citizen Involvement	
° Requires effective citizen involvement in all phases of planning process.	° Increase citizen participation in land planning. ° Provide broader basis for decision-making. ° Ensure effective consideration of concerns raised by public. ° Ensures citizens can have input without need to resort to costly legal processes.
2. Land Use Planning	
° Establishes land use planning and policy process as basis for all decisions and actions affecting land use.	° Provides basis for ensuring effective consideration of long-term environmental and economic impacts as result of a deliberate and explicit process. ° Reduce piece-meal consideration of projects based on short-term impacts only. ° Reduce costly delays in permit reviews and project development once plan and policies have been established. ° Add cost of planning process to decision-making (to be borne primarily by state).
° Requires plans be related to identification of issues, problems, and inventory information, and be based on consideration of social, economic, energy, and environmental needs.	° Provide sound basis for decision-making. ° Expand basis for decision-making. ° Increase costs of planning (borne primarily by State and Federal agencies).
° Establishes process and criteria for exceptions to Goals.	° Ensures all exceptions will be based on consideration of alternatives. ° Requires findings of long-term environmental, economic, social, and energy consequences of alternatives. ° Allows avoidance of significant negative impacts unforeseen in Goal development.
3. Agricultural Lands	
° Requires preservation of important agricultural lands.	° Halt or reduce continuing loss of important agricultural lands in State. ° Maintain healthy and viable agricultural industry. ° Reduce tax burden on agricultural lands. ° Reduce residential sprawl onto agricultural lands. ° Reduces fiscal impacts of extension of public facilities resulting from leapfrog development.

GOAL/REQUIREMENT	IMPACT
4. Forest Lands	
° Requires conservation of forest lands.	° Provide basis for sound long-term management of forest lands. ° Reduce conversion of forest lands to non-forest uses. ° Maintain healthy timber industry.
° Requires forest lands be retained for forest uses.	° Expand definition of forest uses to include timber production; open spaces; watershed; fish and wildlife habitat; soil stabilization; maintenance of clean air and water; recreation; and grazing. ° Provide increased environmental protection and benefits from forests. ° Increase internalized costs associated with timber harvest. ° Decrease externalized costs resulting from timber harvest. ° Long term capital investment in timber industry can be made with confidence.
5. Open Spaces, Scenic and Historic Areas, and Natural Resources	
° Requires inventory and identification of certain natural resources.	° Ensures development of sound information on important natural resources. ° Expand basis for decision-making to ensure consideration of natural resources.
° Requires protection of these resources, or if a potential use conflict, requires consideration of consequences and mitigating factors.	° Increase protection of certain natural resources. ° Reduce impacts of disturbing or altering natural resources. ° Maintains basis for tourism and recreational industries.
6. Air, Water, and Land Quality	
° Requires present and future waste discharges not exceed State or Federal standards.	° Ensures pollution and waste standards will be addressed during plan development. ° Reduce externalized costs resulting from waste discharge.
7. Areas Subject to Natural Hazards	
° Prohibits development in hazard or natural disaster areas unless safeguarded.	° Reduce loss of life and property resulting from inappropriate development in hazard areas. ° Reduce tax-borne externalized costs associated with disaster relief and prevention projects. ° Increase costs of development in hazard areas.
8. Recreational Needs	
° Requires planning for recreational needs.	° Broadens basis for decision-making. ° Increase opportunities for recreation.

GOAL/REQUIREMENT	IMPACT
° Limit recreation to quantity, quality, and location consistent with resources.	° Reduce adverse impact of recreation on resources. ° Reduce adverse economic impact of public facilities on private recreational facilities.
9. Economy of the State	
° Requires coordinated economic planning which addresses certain considerations.	° Ensures that factors required for economic activity will be considered in land use, public facility, transportation, and resource planning. ° Provides basis for stable and healthy economy. ° Promotes economic growth in accordance with local need, desire, and resource capability.
10. Housing	
° Requires buildable lands be inventoried.	° Maintains adequate supply of housing. ° Reduces sprawl into rural and undeveloped areas ("buildable lands" are those in urban or urbanizable areas).
° Encourages adequate housing commensurate with financial capability of Oregon household.	° Provides basis for directing future growth. ° Expands availability of housing of all prices and rents to all segments of society.
11. Public Facilities and Services	
° Requires that public facilities and services shall be appropriate for and limited to development needs.	° Ensure adequate provision of public facilities in planning. ° Reduce costs associated with developing facilities. ° Reduce sprawl and incentives for disorderly growth by limiting facilities. ° Reduce environmental and energy impacts of providing facilities.
12. Transportation	
° Requires a coordinated transportation plan addressing nine different needs.	° Reduces social, economic, environmental, and energy costs and impacts. ° Promotes mass transit and alternative forms of transportation. ° Relates transportation plans to need. ° Promotes more efficient mix of transportation modes.
13. Energy Conservation	
° Requires land and uses to be managed to maximize energy conservation.	° Reduce sprawl. ° Reduces long-term economic costs to society, both public and private. ° Reduces environmental impacts associated with production and use of energy.

GOAL/REQUIREMENT	IMPACT
14. Urbanization	
° Requires urban growth boundaries based on several criteria.	° Reduce economic cost associated with growth and development. ° Reduce fiscal impacts associated with providing facilities and services to urban areas. ° Reduce undirected urban sprawl. ° Reduce environmental and energy impacts associated with growth. ° Retain rural lands in rural nature.
15. Willamette Greenway	
(Not applied in coastal zone, though recreation, agricultural, and economic benefits would extend to coastal residents.)	
16. Estuarine Resources	
° Requires integrity of estuarine ecosystems be maintained.	° Protect fish and wildlife and necessary habitat. ° Maintain commercial and recreational fishing industries and benefits. ° Increase costs to developer of development affecting estuaries. ° Reduce externalized economic and environmental costs of development affecting estuaries.
° Limit dredge, fill, or other reduction or degradation of estuarine values.	° Reduce further loss of estuarine ecosystem. ° Protect habitat. ° Maintain benefits resulting from natural values of estuaries. ° Increase cost to developer by internalizing costs, especially of projects which are not water dependent.
° Require designation of management units.	° Ensure preservation of significant fish and wildlife habitat, of estuarine productivity and of scientific and educational needs. ° Ensure conservation and long-term use of renewable resources. ° Ensure identification and protection of areas for water-dependent uses and activities. ° Decrease loss of estuarine areas for non-dependent uses. ° Provide economic benefits to water-dependent uses. ° Increase economic costs for some non-dependent developments.
° Requires action to reduce man-induced sedimentation into estuaries.	° Protect fishery resources. ° Maintain healthy fishing industries. ° Reduce costs and need for dredging and channel maintenance activities. ° Provide effective coordination with Section 208 water quality planning. ° Increase costs associated with some upland, especially riparian activities. ° Internalizes economic and environmental costs of activities causing estuarine sedimentation.

GOAL/REQUIREMENT	IMPACT
° Requires mitigation for dredge or fill in intertidal or tidal marsh areas.	° Protect fish and wildlife resources. ° Maintain healthy fishing industry. ° Maintain recreational and commercial benefits resulting from or dependent upon estuarine location. ° Internalize costs, traditionally borne by society, to developer. ° Provide opportunity to restore lost environmental and economic benefits.
° Requires long-term plans for disposal of dredged materials.	° Reduce adverse impact of dredged material disposal in fishery resources and on fishing industries. ° Provide opportunity for increased productive or beneficial utilization of dredged material. ° Long-term investments dependent on maintenance of dredged channels can be made with increased certainty. ° Reduce delay and costs for permit review.
17. Coastal Shorelands	
° Requires maintenance of environmental, economic, and social values of coastal shorelands.	° Recognize special and unique values of shorelands. ° Broadens basis for decision-making. ° Ensures protection of major marshes, significant wildlife habitat, coastal headlands, exceptional aesthetic resources, and historic and archaeological sites. ° Provides priority in urban shorelands for water-dependent recreational, commercial , and industrial uses. ° Retains rural character, and economic and environmental benefits of rural shorelands.
° Requires development in shoreland; avoid hazard areas or address special hazard needs.	° Reduce loss of life and property. ° Reduce private and public costs associated with losses from natural hazards and disaster. ° Promote agricultural uses in productive floodplains. ° Protect significant fish and wildlife habitat. ° Reduce sedimentation into estuaries. ° Maintain water quality. ° Protect shoreline areas from erosion and retard flooding. ° Protect recreational and aesthetic benefits. ° Increase costs of some riparian activities.
° Promotes land use management practices and non-structural solutions to problems of erosion and flooding.	° Reduce public costs resulting from disaster relief and prevention projects. ° Reduce private costs associated with disaster losses and construction of control devices. ° Increase costs to developer associated with some shoreland development by limiting density or type of development. ° Reduce loss of fish, wildlife, and recreational values, benefits in shorelands. ° Reduce sedimentation into estuaries and costs of dredging and channel maintenance.

GOAL/REQUIREMENT	IMPACT
18. Beaches and Dunes	
° Requires diverse and appropriate use of beaches and dunes consistent with their values and limitations for development.	° Protect and maintain the variety of values and benefits provided by beach and dunes areas. ° Reduce environmental and economic loss associated with inappropriate use and development. ° Reduce erosion.
° Requires specific finding prior to land use actions in most beach or dune areas.	° Ensure uses consistent with limitation of area to sustain proposed development. ° Reduce public and private losses through erosion and storm flooding. ° Increase governmental cost of reviewing permits for development in beach and dune areas. ° Reduce governmental costs of disaster relief and prevention.
° Prohibits residential development and commercial and industrial buildings on active foredunes, conditionally stable foredunes subject to ocean undercutting or wave overtopping, and interdune areas subject to ocean flooding.	° Reduce loss of life and property. ° Reduce impacts resulting from erosion caused by these uses. ° Promote use of areas for recreation and protect interdune habitat. ° Increase costs to developers in some dune areas.
° Establishes additional conditions for construction of beach front protective structures.	° Minimize adverse impacts on recreational and aesthetic use of beaches. ° Reduce long-term costs to public caused by alteration of beach processes. ° Reduce potential for affecting erosion or accretion patterns on adjacent land or other properties.
° Restricts breaching of foredunes.	° Reduce opportunity for blowout and therefore potential loss of life and property. ° Reduce erosion. ° Internalizes costs of breaching, when necessary, by requiring that the breach be restored.
Ocean Resources	
° Requires ocean resources of territorial sea be managed to maintain the long-term benefits they provide and places priority on proper management and protection of renewable resources.	° Expands basis for decision-making. ° Ensures long-term benefits derived from fishing, navigation, and recreation. ° Expands basis for decision-making. ° Maintains healthy and viable fishing, tourism, and shipping industries. ° Protects certain resources, including important biological habitat and feeding areas. ° Increase cost for development of mineral resources from territorial sea. ° Increase costs resulting from waste disposal on territorial sea. ° Reduces public costs of maintaining water quality.

complete inventory of all historic and archaeological sites has been completed by OCCDC. To protect these areas, detail on specific sites has not been widely disseminated. However, all information is on file with the State historian. The inventories have also been provided to county planners who will have access to the information as needed. The statewide Goal 5, Open Spaces, Scenic and Historic Areas, and Natural Resources, establishes requirements for the consideration of historic areas. The impacts associated with the individual Goals on coastal resources are described in more detail as follows:

(1) Estuarine Areas

Consequences of Current Activity

Some of the most significant changes in estuarine areas have been the result of rapid man-caused sedimentation, diking of tidal marshes, degradation of water quality, and the alteration of the circulation pattern and surface area at particular locations. Both economic and environmental systems of estuaries are affected by such changes. The major economic and environmental consequence of sedimentation and degradation of water quality is the loss of biological productivity. Such activities as commercial and recreational fishing, fish processing, and aquaculture are dependent on the maintenance of estuarine biological productivity. Continued sedimentation also increases expenditure on estuarine dredging, particularly channel maintenance. In addition to decreasing this productivity, fill or diking of wetlands which normally moderate excessive water flow can cause flooding in the estuarine area.

Several existing State statutes, including the Fill and Removal Law, Water Quality Regulations, and the Forest Practices Act, have been enacted to address some of these concerns and problems. While partially effective, comprehensive management of the resources and problems has been hampered because the individual statutes largely rely on permit functions, lack a long-term or comprehensive planning perspective, and are not able to anticipate cumulative impacts or consequences. Many of these impacts can be lessened, or prevented, through comprehensive planning and management of the estuarine resources.

The consequesces of implementing the proposed estuary Goal in such a planning and management program are discussed below. While most consequences are dependent on how local jurisdictions interpret and implement the Goal according to their specific needs and desires, the following are possible types and directions of short-term and long-term Goal consequences.

Short-Term Consequences of Goal

Over the short run, designation of use classifications will cause changes (either increase or decrease, depending on specific circumstances) in property values and possibly income if the price an individual paid for a parcel reflects a higher or lower use than allowed under the assigned class.

Long-Term Consequences of Goal

Over the long run, there will be increased demand for estuaries as long-term values and diversity are protected, maintained, or restored. Most likely, increased demand for estuarine natural, aesthetic, recreational, and development resources will be reflected in increased prices (market and non-market) of each estuary resource.

Reducing the conflicts among present and future estuary uses by considering the long-term economic, natural, and recreational opportunities of the resource will reduce future costs associated with short run inefficient estuary use decisions. For example, allowing non-water related use of estuaries today at the expense of future beneficial water-dependent uses results in higher future costs.

One of the major economic and environmental benefits of a classification scheme is the decision to conserve or develop is made on a comprehensive basis considering explicitly the value of all estuarine resources. Since the economic and ecological values of estuarine resources partially depend on the remaining amount of each resource existing throughout the estuary system, resource use decisions are best made on a comprehensive basis. Each future amendment to the classification system should consider the consequent changes in the value of each resource use; e.g., an incremental decision to fill a wetland increases the value of remaining wetlands in future decisions.

The majority of economic and environmental consequences of the classification system depend on the local jurisdiction's identification of resources and the amount of area assigned to each classification. To the extent a classification restricts the spatial area for water-dependent uses, values of remaining available parcels for such use will increase, causing over time, increases in capital/land and labor/land ratios. The impact of such changes on local employment and income will vary with each affected economic sector depending on the response of goods and services demand to price changes.

Over the long run, protecting the estuarine system, including the natural biological productivity, diversity, and water quality, represents an internalization of costs associated with the loss of these resources, e.g., loss of commercial and recreational values associated with decreases in salmon, steelhead, oysters, crabs, clams, and shrimp caused by development in or affecting the estuary.

Classification of estuaries on a resource basis, however, will also assure appropriate areas will be maintained for water-dependent uses and will reduce the costs of providing public services to these areas. To the extent classification promotes the evolution of "development centers" on the coast, distribution over time of future and some existing economic activity from low to more intensive estuaries may result. While this may cause disparities among areas surrounding estuaries, activities in more intensively developed estuaries will realize scale and agglomeration economies.

The critical variables of the classification system creating distribution effects are: (1) maintenance dredging of existing navigation channels, basins, and log-handling areas; (2) actual siting of urban/industrial water dependent activity; and (3) expansion or improvement of existing breakwaters, groins, and jetties.

(2) Coastal Shorelands

Consequences of Current Activity

Some of the major consequences of existing uses on shorelands in the coastal zone center around the modification of shorelands' vegetative cover, neglect of special geologic hazards, development which modifies runoff patterns, increased pollution and sedimentation in coastal waters, and competing and conflicting uses. Both the economic and environmental systems of the coast are affected by these changes.

Clearing of vegetative cover decreases the ability of the shoreland to retain and decrease storm water as well as removing the cover for game and non-game species. Substantial loss of property and possibly life can result from the erosion of stream, estuary, and ocean shorelands.

The impacts of implementing the coastal shoreland Goal are discussed below. While most of the consequences are dependent on local jurisdictions' interpretations and implementation of the Goal, the following are possible types and directions of short-term and long-term goal consequences.

As with estuaries many existing statutes address some of the problems with shoreland development and use. The Forest Practices Act and the Flood Assurance Program address some concerns and hazards. However, the sedimentation from a variety of shoreland sources and the protection of ripairian vegetation are not yet effectively addressed. While zoning is capable of allocating competing uses in the limited shoreland, it has not been effective in preventing the leapfrog development along coastal shorelands.

Short-Term Consequences of Goal

Over the short run, the designation of uses in coastal shorelands will cause changes in the value of property to the extent permissible uses differ from the range of uses allowed by current zoning or other regulations. If the price paid for a parcel reflected a future use above (or below) a designated classification use, the property owner could experience a loss (or gain) in wealth and possible income. There may also be changes in wealth and income of parcels adjacent to shoreland classification areas, i.e., a residential parcel adjacent to a low intensity use area.

Long-Term Consequences of Goal

Over the long run positive or negative effects depend on policies for local and coastal uses in shorelands established by jurisdictions. These can stimulate economic activity in suitable areas and inhibit such activity in unsuitable areas.

If local jurisdictions do not adequately consider current and future economic factors of shoreland areas, negative impacts on employment, income, and tax base could result. Insufficient consideration of essential wildlife habitat, vegetative cover, aesthetic, and recreational resources of shoreland will result in increased costs associated with pollutants, erosion, sedimentation,ddecreased water quality, and loss of fish and wildlife. The success of the planning effort will depend partially on the stability which is achieved in balancing current and future demands for shoreland resources.

Since single family dwelling units, particularly recreational units, tend to consume large shoreland areas and are not water dependent housing could be the primary existing activity restricted by the Goal. The coastal shoreland Goal does not prohibit residential development in shoreland areas but does restrict subdivision development in rural shorelands. The net effect of this restriction is dependent on the local jurisdiction providing non shoreland area for such use. As the spatial area for recreational housing is limited, one can expect increased housing densities in response to increased values of available parcels.

Environmental damage costs (e.g., loss of property or salmon spawning areas) and abatement costs (e.g., channel maintenance) will be reduced by minimizing man-induced erosion and sedimentation. To the extent current local plan regulations are less than those specified in the Goal, one can also expect a decrease in the loss of life and property. Both of these considerations could involve additional application, site preparation, and construction costs associated with development.

Consideration of water currents, erosion, and accretion patterns associated with shorelands can lower future public costs of groins, seawalls, and bulkheads for the protection of ill-advised development or alterations.

Encouraging the siting of non-water-dependent facilities, uses, and activities on uplands other than shorelands encourages a more efficient allocation of the limited shoreland resource and will lead to long-term benefits.

Providing for appropriate public access to and recreational use of coastal waterways will increase the cost of the Highway Department's access program and other State and local efforts. However, these costs should be offset by the benefits derived from increased use and enjoyment of public land and water resources.

Protecting archaeological and historic sites, depending on local jurisdiction implementation, could increase regulatory, project, application, and compliance costs. The major benefit will be the retention of the cultural and aesthetic quality of historic resources.

(3) Beaches and Dunes

Consequences of Current Activity

The major consequences of past uses of beaches and dunes relate to development on active and conditionally stable foredunes, foredunes subject to ocean undercutting, excessive drawdown of groundwater, conflicting uses and the neglect of the recreational and open space values of beaches and dunes. Developments such as housing on active foredunes can result in wind erosion of the dune, damage to the development, and hazards to human life. Rapid movement of sand by the wind and water not only damages the development itself but causes damages and maintenance costs to adjacent property owners. On conditionally stable foredunes where wind erosion may not be a major problem there is still the threat of ocean undercutting and seismic sea waves (tsunamis). The undercutting of wind stable foredunes and active foredunes in Salishan Spit, Lincoln County from 1930 to 1952 are prime examples of ocean undercutting.

The consequences of implementing the proposed beaches and dunes Goal are discussed below. While most of the consequences are dependent on local jurisdiction's interpretation and implementation of the Goal, the following are possible types and directions of Goal consequences.

Short-Term Consequences of Goal

Over the short run, the identification of sand areas and the designation of uses consistent with these areas will create added fiscal expense to local jurisdictions. In the short run there will be changes in property values (negative and positive). If a property owner paid a price for his parcel which reflected an intended use below (or above) the designated use, that property owner will experience a gain (or loss) of wealth and possibly income. Owners of neighboring parcels will benefit both from the control of flowing sand and an increase in property values associated with adjacent vacant lots or open space.

The costs of preparing findings on proposed development in dune areas may be borne by the local government issuing building permits or by the developer. This will vary depending on the project and site. A site investigation for a 5 million dollar condominium project covering four to five acres has been estimated to cost from 2,000 dollars to 3,000 dollars or .0005 percent of the project cost.

Long-Term Consequences of Goal

Many of the economic and environmental consequences of the Goal depend on the uses designated as appropriate for each area by the local jurisdiction.

Over the long run, implementation of this Goal should reduce the public and private damage costs of wind erosion, oceanic undercutting, and sand migration associated with inappropriate use of beaches and dunes. There should also be less public and private expenditures on riprap, jetties, groins, etc., for the protection of property and structures résulting from unforeseen impacts of sand area alterations. The additional costs of modifying a project to alleviate excessive damage to vegetation, significant exposure of stable areas to erosion, or slope instability are project specific.

Since the most use restrictive sand classification, active foredune, comprises only approximately 10 percent of all beach and dune areas, one would not expect a large reduction of economic activity for the coast as a whole as a result of the reduced development activity on these areas. However, there will be differences in the degree of impact between the urban growth boundaries within the coastal area depending on each jurisdiction's supply of substitutable land for given restricted use. The most likely activity to be restricted by implementing this Goal is residential single family dwelling units or recreational secondary housing.

To the extent that limiting development on active foredunes and conditionally stable foredunes actually restricts the supply of view property for development, the demand will increase for the remaining available land suitable for development. One would expect the price of the remaining land view property to increase causing higher capital/land ratios or more capital intensive development, i.e., a change from single family dwelling units to condominiums and larger lodging facilities. Local jurisdictions can modify this impact by making available alternative areas for recreational housing. The consequent increase in capital intensive development could mean more income leaving the region to investors of large condominiums and lodging facilities or, conversely, additional community income from additional service employment. The actual impact on community employment and income cannot be determined at this level of analysis. However, a change in the type of recreational housing from single family to condominiums and larger lodging facilities would cause a change in the type of construction and service employment. An income redistribution could result from increasing the cost of secondary homes and making more open space available, effectively lowering the price of recreational activity.

While a determination of the net fiscal impact of such a change in housing type cannot be determined, one might expect changes in property values within and between tax assessment districts. If there is adequate substitute view property within the taxing jurisdiction there will be a shifting of property values within that jurisdiction with no negative jurisdictional redistribution effects. If not, there will be a shifting of property values outside the taxing jurisdictions. Inability to predict the likelihood that a restricted activity will relocate within a coastal jurisdiction and the related use changes in the restricted area prohibit more rigorous analysis. It should be reemphasized, however, as with shorelands, by internalizing the costs created by development and by reducing the damages to life and property associated with inappropriate development, the tax burden should decline as well as the tax base.

Provision in comprehensive plans for access to public lands and waters could add new costs of acquiring public access or increased pressure for private easements to public areas by State and local governments. If the previous ownership of the access property was private, there would be a negative impact on the tax assessment district. There is a possibility that values of property immediately adjacent to the public access would be negatively affected. One would expect the value of parcels which did not previously have access to the beach, shoreland, or dunes to increase. Increased benefits of the use of public land and water would result.

(4) Ocean Resources

Consequences of Current Activity

Oregon's continental shelf fisheries are endangered from over-fishing and inappropriate fishing practices which, over time, may reduce the current level of activity and restrict the development potential of the commercial and recreational fishing and fish processing industries. The fishing industry may already be approaching the point of resource depletion in that the level of fishing efficiency appears to be dropping. Such resource depletion is also caused by the loss of important feeding and spawning areas, nurseries, migration routes, and other biologically important areas.

The pressure for developing mineral resources of the Oregon continental shelf is increasing because of the energy shortage and Federal outer continental shelf leasing programs. Oregon has not established specific policy or regulations to control development of the continental shelf. There is potential for future conflicts of territorial sea and continental shelf development with current fishing, navigation, recreation, and aesthetic values.

The short-term and long-term consequences of implementing the proposed continental shelf Goal are discussed below.

Short-Term Consequences of Goal

Over the short run there will be additional inventory costs to the Oregon Coastal Management Program and State and Federal agencies for identifying hydrographic conditions and processes, geology, biological features, mineral deposits, and present and future uses and values. There will also be increased regulatory costs as fishing regulations are developed and enforced.

Long-Term Consequences of Goal

Identifying and maintaining the maximum sustained yield of fisheries over the long run will assure a continued source of fisheries supply, employment, and income benefits. The ability of coastal communities to increase the current level of fishery activity depends on increased demand for fishery products, incentives to harvest, and local provision of required infrastructure in commercial fishing ports. The latter would include adequate bar and channel depths, boat moorages, sufficient water supply, adequate labor, and capital for fish processing.

If additional development of the fisheries industry takes place, one could expect increased employment and income from new economic activity linked to commercial fisheries such as boat repair and maintenance

shops and processing fishmeal from fishery wastes. One could also expect increased potential for employment and income related to recreational fishing.

Consideration of biological habitats of the continental shelf can assure continuance of those species dependent on such habitats, i.e., the importance of kelp beds to sealions, seals, and sea otters or benthic habitats to dungeness crab, English sole, and sand sole. Kelp beds are adversely affected by pollutants, industrial wastes, and localized discharge. Benthic sand habitats are adversely affected by localized pulp mill and sewage plant discharges and disposition of dredge tailings offshore.

The Goal requires comprehensive planning on a statewide basis for port and navigation needs and will provide for a more efficient use of port resources. It anticipates that activities for port development and enlargement, especially to deep water status, will be focused on a few selected port areas.

The aesthetic and recreational use of Oregon's coastline are the fastest growing sectors of the coastal economy. Inclusion of the needs of these two activities into planning considerations for the continental shelf will protect the economic and cultural benefits they provide.

Institutionally, the Oregon Coastal Management Program establishes a mechanism for coordinating the concerns and responsibilities of a wide variety of interests: local government, State and Federal agencies, private interest groups, and the general public. This coordination may result in increased costs and time associated with plan development, or it may reduce these costs if the benefits deriving from the increased efficiency of the system exceed the expanded scope proposed. Such coordination will result in less conflict between the various interests, an earlier identification of serious controversy among the interests, and more effective management of coastal resources.

The State is attempting to avoid duplication of existing State procedures in such matters as certifying applications for Federal licenses and permits for compliance with the coastal management program. Although this may cause some administrative adjustments in the agencies involved, it would avoid the increased costs and time delay associated with creating a new permit review system. Given the licenses and permits which Oregon has chosen to certify, the State anticipates reviewing for certification about 275 to 350 permits and licenses a year.

The overall impact of the Oregon Coastal Management Program will be to provide more effective use of coastal land and water resources. Section 302(h) of the CZMA declares that the key to effective management of coastal resources is for the States to exercise their full authority and to develop unified policies, criteria, standards, methods, and processes to deal with land and water uses of greater than local significance. Oregon has done this with the establishment of LCDC and designation of the responsibility for coastal management to that agency. While LCDC does not directly engage in planning activities (except where local governments may fail to develop a plan), the agency has established statewide standards for land and water use planning. It has proposed additional standards for the coastal zone. After the development of local comprehensive plans, LCDC will also review those plans for compliance with the Goals before approval.

By this means and with full participation of the public and Federal, State, and local agencies and governments, the objectives stipulated in Section 303 of the CZMA--"to preserve, protect, develop, restore and enhance the resources of the Nation's coastal zone for this and succeeding generations"--will be achieved.

The Goals for coastal resources have been subjected to economic evaluation throughout their development from Draft #1 through the newly adopted Goals. Draft #1, the OCCDC policies, for which the LCDC held hearings in March and April of 1975, were evaluated policy by policy during their development under the OCCDC. During the summer of 1975, four Technical Advisory Committees (TAC) developed goal recommendations for the LCDC. These recommendations were evaluated for their potential impact on the coastal economy by a team of six economists. During the fall of 1975, the DLCD prepared goal recommendations which were also evaluated for economic impacts. On December 20, 1975, the LCDC reviewed both the TAC and DLCD goal recommendations and the respective economic evaluations of both alternatives. The Commission substantially revised Draft #1 on the basis of this input and prepared Draft #2 for public hearing.

To evaluate the economic impact of Draft #3, the LCDC provided staff support and 12,500 dollars to hire an economic consultant. Unlike past impact evaluations which addressed both the positive and negative impacts of the draft Goals, the consultant was directed to examine concerns of coastal residents and economic interests about possible economic impacts and determine which of those concerns might be valid under a moderate or intensive (worst case) interpretation of the Goals.

The consultant presented a report to the LCDC at their December 7, 1975, coastal Goal policy and issue session. During the mark-up sessions on 17 and 18 December, 1975, substantial changes were made to Draft #3 in response to the consultant's report and hearing testimony.

Several important points were raised during the report on economic impact: (1) The report was a general overview which identifies implications of Goal implementation, not a study of impacts;

(2) the study was not a prediction of what would happen under Goal implementation; rather, an identification of possible implications of regulation in general; and (3) the implications identified do not warrent amending the Goal adoption schedule.

The consultant's report identified three considerations for Commission redrafting the coastal Goals; areas of ambiguity causing variation in interpretation, alleviating uncertainity, and accounting for area differences. The following is a point by point review of considerations raised in the report and the Commission's response. (The consultant's comments are the numbered items and the Commission's response follow each comment.)

I. Areas of Ambiguity Causing Variation in Interpretation

A. Estuarine Resources Goal

1. Limitation of future development which would require dredging or filling.

Requirement that dredging or filling activities only be permitted when it will "provide a significant public gain which cannot feasibly be provided in any other manner."

RESPONSE: Ambiguity found in Draft #3 has been substantially removed clarifying the intent of the Goal. One of the purposes of this Goal is to maintain estuarine resources necessary for the survival of the commercial and recreational fishing, fish processing, and port industries on the coast. Filling estuarines would reduce these uses.

2. Added project development costs related to replacing or restoring areas of similar biological potential to those dredged or filled.

RESPONSE: The Commission retained the concept of mitigation but classified it by limiting it to dredge or fill in intertidal or tidal marsh areas, and provided additional guidelines on mitigation techniques. Mitigation is an explicit attempt to internalize the costs caused by estuarine alteration which have traditionally been borne by society.

3. Interpretation of "water-dependent commercial enterprises and activities" as applied to future development.

RESPONSE: The Commission retained the definition of water-dependent and water-related uses explicitly but under what conditions clarified "non-dependent, non-related uses are appropriate." The purpose of designating uses in estuarine areas is to reduce conflicts between present and future estuary uses by considering the long-term economic, natural, and recreational opportunities of estuarine resources. Such consideration can reduce the future loss of benefits resulting from short run, inefficient estuary decisions e.g., allowing non-water related use of estuaries today at the expense of future beneficial water-dependent uses.

4. Provision for land storage of logs as an alternative to water storage "whenever feasible."

RESPONSE: The Commission removed this clause and made explicit provision for, "Water storage areas where needed for products used in/or resulting from industry, commerce and recreation."

B. Coastal Shorelands Goals

1. Designation of temporary and permanent boundaries based on the limited criteria provided.

RESPONSE: The Commission deleted the concept of a temporary boundary. It defined a planning area for inventory and study purposes. Development or use is <u>not</u> prohibited in this area.

2. Provision that local government will rule on proposed

activities in the interim period while temporary boundaries are in effect, on the basis of local interpretation of the Goal.

RESPONSE: The Commission removed the ambiguity of this concept by setting a minimum boundary of 200 feet from the shoreline where local jurisdictions would rule on proposed activities according to the Goal. This greatly reduced the area of concern from the Draft #3 shorelands Goal.

3. Limitation of activities which would adversely impact related resources through "man-induced erosion and sedimentation."

RESPONSE: The Commission deleted this requirement and added a requirement in the estuarine resources Goal to reduce man-induced sedimentation into the estuaries.

4. Prohibition on most development within the 100-year flood plain that would cause an increase in "flood damage potential."

RESPONSE: The Commission deleted the prohibition and established priority uses for flood hazard and flood plain areas. The Commission moved the references to public project expenditures to the guidelines.

5. Limitation of structural solutions to problems of erosion and flooding.

RESPONSE: The Commission clarified this concept on the advice of the Soil Conservation Service to read "Land-use management practices and non-structural solutions to problems of erosion and flooding shall be encouraged" (emphasis added).

6. Limitation of activities which would subtract from the "vegetative fringe adjacent to coastal waters".

RESPONSE: The Commission clarified this concept but retained a strong requirement because the benefits the vegetative fringe provides. The requirement distinguishes needs for water-dependent uses.

C. Beaches and Dunes

1. Prohibition on activities which would increase erosion.

RESPONSE: The Commission removed the prohibition, amending it to read that activities should be regulated to minimize erosion.

2. Requirement for a site investigation report for all development valued over 2,000 dollars.

RESPONSE: The Commission dropped the requirement replacing it with a requirement for specific finding of facts for decisions on plans, ordinance, and land use actions in beach and dune areas other than older stabilized dunes.

3. Prohibition of beach front protective structures in undeveloped property and developed property outside designated urban growth boundaries.

RESPONSE: The Commission limited this prohibition to only those beaches controlled by the Oregon Department of Transportation under Oregon Beach Law (ORS 390.605).

D. Ocean Resources

1. Creation and enforcement of fishing regulations

which would maintain an optimum sustainable yield.

RESPONSE: The Commission retained this concept since it is already State and Federal policy.

2. Limitation of mineral extraction and industrial waste discharge.

RESPONSE: The Commission retained this concept since the Goal does not limit mineral extraction and waste discharge as much as direct it away from other activities. During public hearings, representatives from the petroleum industry did not indicate concern over these directions.

3. Environmental impact review for extraction or storage of mineral resources.

RESPONSE: The Commission retained this requirement since environmental impact reviews are currently required for extraction activities but not necessarily for storage of mineral resources. The Commission believes these reviews are justified in light of the potential economic and ecologic consequence of such activity on the long terms viability of the coast.

The format of the new Goals was changed by the Commission in an effort to remove confusion caused by the Draft #3 Goal categories of Comprehensive Plan and Considerations and Requirements. Under the new format, requirements are either Comprehensive Plan Requirements or Implementation Requirements.

II. Alleviating Uncertainty

1. The consultant's report recommends referencing more clearly the existing statutory authority relating to an agency's role in implementing a particular Goal topic.

RESPONSE: The Commission referenced extensively existing State and Federal statutory authority as they applied to topics within each of the four Goals. Such authorities include the National Flood Insurance Program and Flood Disaster Protection Act of 1973; Department of Environmental Quality under Section 208 of the Federal Water Pollution Control Act; the Fill and Removal Permit Program administered by the Division of State Lands; the Oregon Forest Practices Act; programs of the Soil and Water Conservation Commission; and agricultural land use legislation in ORS 215.

III. Accounting for Area Difference

1. The consultant's report stated that simple overlays of Goals and Guidelines on all estuaries do not account for real differences between estuaries such as Astoria and Alsea. The Consultant recommended a combination of (1) refining the Goals to account for area differences and (2) restating the Goals to grant immunity to establish critical centers of economic activity.

RESPONSE: Estuary planning will proceed under a general designation which specifies the most intensive level of development or alteration which may occur within each estuary. This will set an initial distinction which accounts for some area differences. Once estuary inventories and initial planning efforts are completed, these designations will be reviewed. By making this initial designation, the individual characteristics of each estuary are taken into account from the beginning of the planning process.

During the review of the draft Program and draft EIS, comments were also received indicating concern about trespassing, taking, loss of tax base, condemnation, and financial impacts on local government. The Program will not increase or result in trespassing or taking, both of which are subject to a variety of laws and constitutional restrictions. While the Goals promote recreational use of some resources, and require that needs for access to coastal resources be examined and provided, these would only be allowed within the limits of the law. Private lands would only be used if suitable compensation or other agreements are provided to the landowner. By providing for sufficient public or private recreational areas and opportunities, and by identifying and providing access to important resources the Program should result in focusing access, relieving pressures on private lands, resulting in reduced trespass on private property.

Neither the Goals nor the Program authorize nor anticipate the "taking" of private land. Where use is so restricted as to provide no economic return, the State constitution requires the owner be compensated. It is anticipated that such cases will be very few. Acquisition or other means of compensation will be required for such cases.

While there are no specific plans or requirements for condemnation of lands in the Oregon Coastal Management Program, and while it is not projected that condemnation will play a significant role in the Program, it may be a necessary tool to fully implement all parts of comprehensive plans. For example, condemnation may be necessary to acquire areas for port expansion, waterfront areas for other water-dependent uses, and lands for roads and other public services and facilities. Condemnation may also be necessary to acquire areas for recreational use or for the protection of significant fish and wildlife habitat, although these can usually be acquired or protected in other ways, such as a requirement to dedicate lands during subdivision approval.

Where necessary, condemnation will in most cases be exercised by local governments or special districts. Occasionally State agencies may also find it necessary to condemn lands. In all cases, however, condemnation procedures will follow existing State, and where applicable, Federal laws, including certified appraisals, relocation costs, and the opportunity for the landowner to challenge in court unjust offerings. Despite this compensation, condemnation, especially that involving the relocation of an established residence, may cause inconvenience and even personal trauma. Because condemnation proceedings may be lengthy and costly (to both the government body and the landowner) they will generally be avoided where possible.

While there will be changes in property values (decreases and increases) within taxing jurisdictions, one cannot determine the net fiscal impact of the Program before its implementation. Limiting more intensive use on certain parcels may increase the value of those surrounding or contiguous parcels where intensive use is allowed. This will result in a shifting of values with no effect on the aggregate tax base of the jurisdictions. In cases where prime developable lots are restricted in their development, local jurisdictions must zone substitute parcels for that development, if not, there could be a shifting of tax base between taxing jurisdictions. Inability to predict the likelihood that a restricted activity will relocate within a coastal jurisdiction and the related use changes within the restricted area prohibit further analysis.

Communities implementing the Program will experience increased administrative costs for servicing citizen involvement programs, coordination, and planning. Portions of these costs will be absorbed by State and Federal agencies participating in the Program. The costs to the local jurisdiction will be absorbed 80 percent by coastal zone managmment funding and 20 percent by local match. Local jurisdictions seldom have problems raising in kind match if citizen participation in the planning program is utilized for match.

In the long-term communities implementing the Program will receive fiscal benefits from the savings in costs for construction, maintenance, and operation of facilities in newly developed areas. Under the public facilities, urbanization and coastal Goals, future development will be more compact and more economically serviceable.

VI. ALTERNATIVES

Throughout the development of Oregon's Coastal Management Program a variety of alternatives to specific elements of the Program were considered. Many of these derived from comments by the involved local, State, Federal, and public entities and interests.

As required by the Council on Environmental Quality guidelines (40 CFR 1500.8(a) (4)) the following discussion considers the more significant alternatives even though they may not be within the existing authority of OCZM to control.

A. Federal Alternatives to Approval of Oregon Coastal Management Program

1. The Secretary could delay or deny approval of Oregon's Coastal Management Program until all coastal city and county comprehensive plans are completed and approved by the Oregon Land Conservation and Development Commission.

The local city, county, and special district comprehensive plans required under the Oregon Land Use Act will be the basic implementing mechanism for the Oregon Coastal Management Program. Delay of Program approval until their completion might allow better determination to be made of the ability of the State and its local governments to meet the intention of the CZMA and especially to comply with the national interest provision. Performance could be more thoroughly analyzed, leading to a better evaluation of specific items.

The CZMA requires adequate and careful consideration of a number of factors, some of which are subject to wide interpretation. For a variety of reasons, including failure to meet these requirements, the Secretary could refuse to approve Program. This would save Federal 306 funds, and would prevent the implementation of Federal consistency.

Review of local comprehensive plans was not initiated until January 1, 1976, and appeals and revisions may take several months. Although individual actions will be required to conform to the Goals, the compliance of local government plans with the coastal Goals will not be required until one year after adoption (i.e., December, 1977). In all probability, because of extensive work required, most local government units will request an extension for compliance. Coordinated comprehensive plans will probably not be achieved in many cases until four or five years after funding becomes available. The intent of the review for compliance with State and regional Goals is to facilitate cohesive regional planning for the Oregon coast, and to insure an effective ongoing coastal management program. The ultimate use of Section 306 funds will be to aid the local governments in meeting those Goals, and to aid them in refining the Program. The existing body of State legislation, standards, and other program elements appear to meet the spirit and letter of the CZMA which requires, as one acceptable course, the State establish criteria and standards for local implementation (306(e) (1) (A)).

In Oregon, the adopted State planning Goals form the basis for an effective management program, with local comprehensive plans acting as the vehicle for compliance with those Goals. Compliance of actions and activities with the Goals is required, even if individual plans have not been revised to incorporate the Goals. With this authority and the petition provisions of ORS 197.300, the Goals and Guidelines of the Program can be implemented during the interim period when local comprehensive plans are being prepared.

In all probability the objectives of the CZMA would be accomplished as a part of Oregon's land use efforts even without Secretarial approval of the Program. However, denial of approval would result in the loss of two important benefits which will assist the State to achieve those objectives: Federal funding and Federal consistency. Delay in approval for Section 306 funding until all comprehensive plans are complete would impede implementation and refinement of the Program, and could seriously jeopardize the momentum for effective coastal management which Oregon has initiated.

Furthermore, if approval is not given for the Oregon Coastal Management Program, then the Federal consistency section (Section 307) of the CZMA cannot be applied within the State.
The consequence of delayed approval is that Federal decisions and actions will continue to be uncoordinated and perhaps conflicting. Such inconsistent Federal actions in the coastal zone may disrupt existing State standards and local comprehensive plans.

2. The Secretary could grant approval of the Oregon Coastal Management Program for "initial implementation," under Section 305(a)(2) of the CZMA, before the State qualifies for administrative grants under Section 306 of the CZMA.

In July, 1976, the CZMA was amended to allow program grants for "initial implementation" if a State meets all of the eligibility requirements of Section 305 but has not yet been approved by the Secretary under Section 306. This section was added to the CZMA, in part, to assist those States that have met all of the basic planning requirements for Section 306 approval, but have not been able to establish the requisite elements called for in Section 306 of the CZMA, such as the authorities called for under Sections 306(d) and (e), which typically require legislative action. In Oregon these elements have been established and OCZM feels the Program qualifies for consideration for final approval.

In order to approve the Program under Section 305 rather than under Section 306, the State would have to do the following, in accordance with Section 306 (d)(2):

- specifically identify any deficiencies in the Program which make it ineligible for approval under Section 306, and establish a reasonable schedule during which it can remedy such deficiencies;
- specify the purposes for which any grant will be used; and
- take (or is taking) adequate steps to meet any requirement under Section 306 or 307 which involves any Federal official or agency.

Oregon has not addressed these requirements, because it does not believe any deficiencies remain in the Program to make it ineligible for Section 306 approval. If OCZM were to delay or deny approval of the Oregon Coastal Zone Management Program, (see alternative A.1) this new section of the CZMA could be used to provide funds for "initial implementation."

The impacts of "initial implementation" approval in lieu of Section 306 approval would be a substantial reduction in the amount of Federal funds that would be available to State and local government agencies to implement tasks. Funds allocated for implementation of this section of the CZMA are available only from the appropriated funds for program development (Section 305), which are generally one-third of those appropriated for Section 306. Federal consistency provisions do not apply to programs approved under Section 305(a)(2), therefore the benefits to the State as previously described for Section 307 implementation would not apply. Furthermore, due to the delay in full approval of the Program, the protection of coastal resources, and the economic gains from better planned development might be of a smaller magnitude, although the extent of those substantive impacts cannot be precisely determined.

In addition, delay in full approval of the Program might remove or reduce the impetus for swift and satisfactory resolution of the conflicts. As such, Oregon's ability to effectively manage its coastline could be diminished rather than enhanced.

B. Alternatives for the Oregon Coastal Management Program

1. Authorities or agencies to fund, implement, and administer the Program.

Although the Oregon Coastal Management Program has been broadly coordinated to include the authorities and responsibilities of many other local, State, and Federal agencies, some interests have suggested it might be preferable to designate or create other agencies to be responsible for coastal zone management. Specific possibilites have included the Oregon Department of Environmental Quality (DEQ), a new agency created specifically for coastal management, or an association of coastal local governments. These options have all been examined on the basis of potential efficiency, effectiveness, long-term benefit, balance of program, and the requirements of the CZMA.

Placement of the coastal management authorities under the DEQ might result in greater emphasis on environmental protection in the Program. However, because DEQ lacks the broad coordinating roles of LCDC, this alternative would not be as effective in establishing the necessary local government and State agency cooperation. No other State agency has the broad concerns provided to LCDC; most have a narrower charge and are more mission-oriented. Designation of a separate agency to administer the Program would also create the additional burden of coordination and integration with the general statewide land use planning efforts by LCDC.

This last concern--coordination with statewide land use efforts--would also apply to the recommendations of creating a new State agency or administering the Program through an amalgam of local governments. During the last year of its existence, OCCDC examined both of these possibilities and hired an independent consultant to also review the major alternatives for, the Program implementation.

The consultant concluded LCDC was the appropriate agency for administration of the Oregon Coastal Management Program. Some concern was expressed during the review that the wide scope of LCDC's responsibilities and the land use planning needs of the rest of the State might reduce the attention to or momentum for implementing the Oregon Coastal Management Program; indeed, some delay in the final development of the Program has occurred since active responsibility for the Program was transferred from OCCDC to LCDC. However, the greater effectiveness and potential efficiency generated by integration of the Program into the statewide land use effort will exceed any effects caused by this delay.

Finally, some interests have expressed support for the concept of placing the sole responsibility for the Oregon Coastal Management Program with the local governments. Such action would, it is felt, place the decision-making closer to local needs.

The land use program, including the Oregon Coastal Management Program, administered by LCDC provides for specific decision-making at the local level, in compliance with overall standards established by the State. This allows for local plans to reflect local needs. Moreover, State administration of the Oregon Coastal Management Program provides many benefits not available at the local level. For example, it requires and provides a mechanism for regional coordination and for the consideration of uses of greater than local benefit and of the national interest, which would be absent in local plans.

Location of the Oregon Coastal Management Program at the local government level would also require amendments to both the CZMA and the Oregon Land Use Planning Act. Not only does the CZMA require, for example, that the State develop and administer a management program for its coastal zone, but its central philosophy is "The key to more effective protection and use of the land and water resources of the coastal zone is to encourage the states to exercise their full authority over the lands and waters in the coastal zone..." (Section 302(h)). Oregon has interpreted this as the development of State planning standards (Goals and Guidelines) with administrative review for compliance and enforcement.

It is improbable that location of the responsibilities for the Oregon Coastal Management Program with local government would result in greater environmental benefits. It is also unclear how this alternative would result in conditions different from those which now exist in the coastal zone, or how it would address the "increasing and competing demands" upon and the "urgent need to protect...natural systems" in the coastal zone (Section 302).

2. Alternative boundaries.

Some reviewers have suggested that Oregon adopt a more restricted boundary for its coastal zone than the one currently proposed. Under this concept, Oregon's coastal zone might be defined as a narrower width of land (such as California selected), or be restricted to a band similar to the shorelands concept provided in the draft shorelands Goal. The impacts of this alternative are varied. Such a restricted definition might allow a more stringent degree of management by the State over the coastal zone; some have suggested the State might directly develop the land use plans for this narrow strip. Essentially, the State would be trading stronger control over a smaller area for less intense control over a larger area.

Since the State already has a statewide land use planning program, this restriction would not leave other areas without plans. It would however, restrict the application of the special coastal Goals, which would permit adverse environmental impacts to occur affecting the coastal waters. It would also preclude the expenditure of Section 306 grant monies to develop, administer, or enforce the plans, including the data and inventory requirements for the interior lands excluded from a restricted boundary.

A reduced boundary would reduce the administrative burdens of coordination and cooperation on property owners, including Federal agencies, whose lands would be excluded from the coastal zone. The requirements for Federal consistency for licenses and permits, as established in CZMA, also would not apply to those lands which were omitted.

The biggest impact of reducing the boundary, however, would be to detract significantly from the effectiveness of the overall Oregon Coastal Management Program. The coastal inventories, studies and data which Oregon developed demonstrated the use of the uplands to the limit of the coast ridge has a direct and significant impact on coastal waters. The California example is not appropriate to the Oregon coast because of significant differences in natural features and processes, such as topography and rainfall. Forest practices on the coastal slopes of Oregon, for example, can cause siltation, changes in water temperature, flow rates, and aesthetics in coastal waters. Removal of these lands from the coastal boundary, and the loss of funds to administer, study, and enforce the Program in these lands, would result in continued adverse and significant impact on the coastal waters and resources. Virtually every State agency conducting business utilizes the same boundary (the coastal range watershed) for its planning, management, and regulating authorities. Some of these, for example, the Oregon Water Resources Department, have substantial import. Reduction of the Oregon coastal boundary would divide this natural physiographic unit artificially and impose special and inconsistent administrative burdens on both LCDC and other such State agencies.

This would detract from the overall comprehensiveness and coordination of the Program. This issue was reexamined because of comments received during the draft EIS review, and the decision to omit Portland was reaffirmed for the same reason. However, the issue will continue to be examined during the Program implementation.

3. Alternative definition of excluded Federal lands.

For the purpose of the coastal management program the State of Oregon, in its staff management program, defined excluded Federal lands, pursuant to Section 304(1) of the CZMA, as: "Lands the use of which is by law subject solely to the discretion of or which is held in trust by the Federal Government, its officers or agents," and interpreted this to mean only those lands owned by the United States and over which it has exclusive jurisdiction. In Oregon this was limited to a few military facilities. The bulk of the Federal lands would have been included within the State's coastal zone, comprising approximately 36 percent of the land area.

A number of Federal agencies disagreed with the State's interpretation of the excluded lands position and with the National Ocean and Atmospheric Administration (NOAA) support for this position at the time. In response to the disagreement which arose, NOAA's General Counsel made a formal request to the U. S. Department of Justice for clarification of the legal question concerning the status of Federal Lands in the coastal zone.

On August 10, 1976, while the draft EIS was being reviewed, the Assistant Attorney General, Department of Justice, issued an opinion concluding that, "the exclusionary clause excludes all lands owned by the United States from the definition of the coastal zone."

The State of Oregon has agreed to abide by this opinion and to exclude all Federally owned land for the purpose of meeting the requirements of Section 304(a) until such time as the issue of the Federal exclusion is further clarified by Congress or the courts.

As an alternative to the policy adopted in the final Oregon Coastal Management Program to exclude all Federally owned lands, the State could maintain the policy of the draft coastal management program, which was described in the draft EIS, and seek approval of a limited Federal lands exclusion. Since NOAA has accepted the opinion of the Department of Justice on this matter, and because, under Section 307(b), the Secretary cannot approve a management program unless the views of Federal agencies principally affected by the program have been adequately considered, the State of Oregon could obtain approval of this policy only through formal mediation proceedings or through judicial action which would uphold the State's earlier position. In either approach, considerable time would be lost, with a resulting loss in Federal funds for implementation to the State and local governments. It is also doubtful that such an approach would be successful, given the language of the CZMA, its legislative history, and the Attorney General's opinion.

Because of the combination of : 1) The national mandate for Federal agencies to coordinate and implement their actions consistent with an approved State program; 2) the complex and interdependent nature of activities and land ownership in the Oregon coastal zone; and, 3) the national interest in the protection, development, and use of coastal resources; the exclusion of Federal lands from the boundaries and conditions of Oregon's Coastal Management Program is a significant issue.

However, in close examination of the effects of the excluded lands opinion it appears that the draft EIS description of the impacts of excluding all Federally owned lands may have been overstated.

The exclusion of Federally owned lands does not exempt Federal agencies from the consistency requirements of the CZMA or reduce the administrative responsibility of these agencies to coordinate with the State. This is clear from the Congressional Conference Report on the original CZMA which stated, "Federal lands are not included within a State's coastal zone. As to the use of such lands which would affect a State's coastal zone, the provisions of Section 307(c) would apply" (emphasis added).

Section 307(c) of the CZMA addresses Federal activities, development projects, and licenses and permits.

Accordingly, regardless of the fact that lands owned by the Federal government are not to be included within the boundaries of a State's coastal zone, authority under the Federal consistency provisions of the CZMA is still sufficient to require Federal land-holding agencies to conduct actions on such lands in conformance with approved State programs when the proposed actions would have spill-over impacts in the coastal zone.

Furthermore, and very important to States such as Oregon with large land areas in Federal ownership participation in the Federal coastal zone management program does not diminish state jurisdiction respecting Federal lands. The CZMA simply removes Federal lands from the "coastal zone" and thus from direct State control pursuant to a Federally approved coastal management program. States are still free to exercise police power authority on Federal lands excluded from the coastal zone when such State action is legally permissible by virtue of some authority other than the CZMA

Federal lands from the "coastal zone" and thus from direct State control pursuant to a Federally approved coastal management program. States are still free to exercise police power authority on Federal lands excluded from the coastal zone when such State action is legally permissible by virtue of some authority other than the CZMA.

Due to the extent of the Federal consistency of the CZMA and existing State authority over Federal lands, which remains diminished, the impact of the Federal lands exclusion may be more perceptive than substantive. Comments received from the draft EIS review and public hearings on the Program indicated that several parties perceive Federal agencies as receiving special exemption from the Program. The excluded lands opinion, from this view, detracts from the ability of the State and local governments to develop truly comprehensive plans, and from the concepts of application of the "full authority" of the State and cooperation between all levels of government, which are central to the philosophy of the CZMA.

The excluded lands opinion has created some uncertainity in the management and planning for Federally owned lands. Some Federally owned lands in Oregon's coastal area are managed by the State or by private contractors. For example, Fort Stevens State Park in Clatsop county is owned by the U.S. Army Corps of Engineers but is managed by the Oregon State Parks Division. The daily operation of this park has significant impacts on rural Clatsop county, particularly during the summer tourist season. Also in Clatsop county, the Corps of Engineers own a large marina which is operated as a private enterprise by a private contractor. With the excluded lands opinion, the planning and management responsibilities for such areas, pursuant to the Oregon Coastal Management Program and the CZMA is confusing and as yet not completely resolved.

4. Alternative coastal goals.

During the development of the Oregon Coastal Management Program several possible coastal Goals, creating standards for land and water use planning activities, were discussed. After identifying over 300 separate issues OCCDC established 42 policies, each designating necessary and recommended planning actions. After the OCCDC responsibilities were assumed by LCDC in April, 1975, these policies were examined in light of existing statewide Goals. Eight special coastal Goals were drafted to address specific resource needs unique to the coastal zone. These were presented at a public hearing December, 1975, at which time three--Estuaries, Beaches and Dunes, and Shorelands--were selected for final review, and a new one--Continental Shelf--was added. This last Goal was later changed to "Ocean Resources." The others, addressing freshwater resources; geologic hazards; visual values scientific and natural areas; historical and archaeological resources; and fish and wildlife resources were either felt to be adequately covered in existing statewide Goals, or were incorporated into other draft coastal Goals. These four draft coastal Goals were reviewed at a series of 34 public hearings and 94 community meetings before their adoption December 18, 1976 (Appendix 3).

Some reviewers of the revised draft Goals indicated concern about the adequacy of coverage for freshwater fish resources and for the consumptive use of potable freshwater resources. These issues are addressed in other Goals and existing State authorities. These comments were considered during the coastal Goal review and revision process.

5. Alternatives to geographic areas of particular concern.

Using criteria described in Oregon's Coastal Management Program, several geographic areas of particular concern have been identified, as required in Section 305(b) (3) of the CZMA. These areas are generally based on certain classes of resources within the coastal zone of particular value, benefit, or importance. They are addressed through a combination of the coastal and statewide Goals and existing special purpose State acts.

During the identification of these areas, which are all identifiable features, other methods for determining or controlling such areas were considered. Most significant were the designation of areas of critical State concern by LCDC, or the selection of separate, geographically specific sites rather than general resource features. Such processes would allow the more specific recognition of ual areas, and after legislative review and approval, might permit more specific State regulatory authorities. However, such processes would also require additional time, and for designation of areas of critical State concern, legislative review. These delays would reduce the effectiveness of dealing with these areas. Moreover, both procedures will be used as the Program is administered and refined as tools to express the specific particular concerns about the protection or use of these special resources. By themselves, however, they are not sufficient to address all geographic areas of particular concern.

Also, during the review of the Oregon Coastal Management Program, it was suggested that shorelands might be added to the list of areas of particular concern. The specific State interest is expressed in the draft coastal shorelands Goal. Indeed, it might be argued, the development of a special Goal for the shorelands area itself is an explicit expression of particular concern. While this proposal is being considered by the State for future action, under the requirements imposed by the CZMA, all shorelands cannot now be designated as areas of particular State concern because they have not yet been defined and identified; this will depend on the Program implementation. In the interim, however, coastal headlands defined in the shorelands Goal are included within the Oregon Coastal Management Program as areas of particular concern, because these have been identified and mapped in the OCCDC "Visual Resource Analysis in the Oregon Coastal Zone."

6. Alternative Federal consistency procedures.

During the review of the Oregon Coastal Management Program and draft EIS, and in public hearings on the Program, several individuals expressed concern about the process proposed for determination and certification of Federal consistency, especially with regard to licenses and permits issued by Federal agencies. The major concerns expressed were:

a) duplication of existing State permit or A-95 review procedures,
b) the method for notification for consistency review and for soliciting comments from reviewers,
c) the roles of State agencies, councils of governments, and local units of government in the review and consistency determination process,
d) the potential for delay in permit review and approval as a result of the new consistency procedures, and the impacts of any delay, and
c) a general uncertainity as to how the process was to work.

Some of the concerns expressed during the review of the State's draft consistency policies in the Oregon Coastal Management Program were due to a separate and competitive consistency proposal developed by a State agency other than the lead agency, LCDC. The proposal developed by the Intergovernmental Relations Division (IRD) utilized the A-95 clearinghouses entirely for all consistency review and determination. The LCDC proposal suggested the use of existing State agency permit procedures, approved local comprehensive plans, and the use of A-95 procedures for review of activities and development projects. The essential differences between the two proposals centers on the mechanism to be used to certify Federal licenses or permits. The basic features of the two proposals are summarized as:

	LCDC Staff Proposal	IRD Alternative
How would consistency be determined?	A de facto determination would be made when the State agency issued a corresponding State agency permit. As required in SB 100, the State agency determination must be consistent with local comprehensive plan and State goals.	LCDC would make the determination after receiving comments solicited as a result of an expanded A-95 review.
May a State permit be issued if the proposal is inconsistent with a local comprehensive plan?	No.	Treated as separate processes.
Who is responsible for determination of consistency with local government comprehensive plan?	The affected unit(s) of local government.	Council of Governments (COG) collect comments, identifies conflicts, and attempts to resolve. In event of conflicts, COG makes decision.
How could notice of consistency review be distributed?	By distribution of the State agency permit notices, directly from State agencies to affected parties.	By expanding the A-95 review to include public, Federal agencies, and by requiring that Federal licenses and permits be submitted to an A-95 review. Local COG's would distribute information to all affected parties.

	LCDC Staff Proposal	IRD Alternative
Who will coordinate regional comments and provide a regional overview?	The County Coordinator, with COG's used if desired by local government.	COG's.
Who will be responsible for resolving conflicting comments by local governments?	County Coordinator.	COG's.
Who will negotiate conflicts between applicant and reviewers?	At the State level, the State agency with resource and technical expertise. At the local level (during determination of consistency with local plan), local government and County Coordinator will negotiate conflicts.	IRD at State level, and COG at local level.

The Federal consistency provisions described in the Oregon Coastal Management Program have been described in general so as to allow LCDC to study the issues and problems of the two approaches prior to adopting a final mechanism for review of Federal licenses and permits. Neither the CZMA or the NOAA regulations require the detailed procedures for consistency review to be in place at the time of approval.

Oregon is developing a method for determining consistency which will be reviewed and revised as necessary on a regular basis during the annual review of the Oregon Coastal Management Program. The Program also may be revised at other times as necessary. In the first year of implementation of the Oregon Coastal Management Program the State will consult with Federal and State agencies, councils of government and local governments to work out a final procedure. A task force will be formed by LCDC to include representatives of various levels of government to review the concerns listed above and make recommendations.

VII. PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

While an overall assessment of the probable effects would indicate the Oregon Coastal Management Program is environmentally beneficial, a few potential adverse impacts can be identified. As has been discussed, because the Program does not designate site specific land use decisions, but planning standards and criteria, impacts can only be generalized.

The Program will clearly preserve and protect some areas and resources, while requiring others (not yet identified) to be developed or reserved for development. While the latter may be considered to be an adverse environmental effect in that some resources will be damaged, it is clearly an improvement over the existing process of land use allocation. Such development activities and the concomitant loss of resources already occur, and the Oregon Coastal Management Program will guide future development so it more clearly reflects resource constraints. The Program will assure selected appropriate areas will be developed more fully and more swiftly than if development were to proceed in a fragmented, less controlled fashion.

The same program, regulations, and plans will reduce or restrict the usability of some lands; this may result in diminished value for some coastal property, with a loss to the property owner and a decrease in property taxes. The Program will cause the value of other areas to be increased.

Non-renewable resource extraction or exploitation, which does not now have a prominent role in the coastal Oregon economy, may be restricted or prohibited in some coastal lands.

Finally, population and industrial growth will be limited to specific areas, with the result that both may ultimately become more densely concentrated. Development pressures may be redirected from coastal shorelands to more interior lands. While this will provide further protection for the fragile and valuable coastal resources, it will place greater stress on the interior resources. The existing statewide land use efforts will help mitigate this impact. Local government can also mitigate many impacts while developing their local comprehensive plans by providing alternative upland sites and facilities for activity restricted on shorelands, estuaries, or beaches and dunes.

VIII. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

While approval of the proposed State coastal management program will restrict local, short-term uses of the environment, it will also provide a long-term assurance that the natural resources and benefits provided by the Oregon coast will be available for future use and enjoyment. This theme is central to the State and Federal coastal management programs.

Without the implementation of rationally based land and water use management programs intense short-term uses and gains, such as provided by residential or industrial development, might be realized. These gains would generally accrue to the private sector. However, such uses would most likely result in long-term restrictions on coastal resource use and benefit because of degradation of the environment and loss of basic resources. These losses, representing externalities, accrue to both the public and private sectors. Without proper management the traditional conflicts between coastal resource users -- residential, commercial, industrial, timber, recreational, and wildlife -- could be expected to occur.

By providing a sound basis for decision-making, and by protecting the important segments of the natural system, the Program will directly contribute to the long-term maintenance of the environment. It will internalize many previous external costs, with the result they will be borne directly to the source causing them. It also establishes a basis for restoring resources which have already been degraded.

IX. IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES THAT WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

The approval of the Oregon Coastal Management Program will not in itself lead to the loss of resources that a site specific project would. Implementation of the Program, through the local comprehensive plans and coordination of local, State, and Federal activities, however, will lead certain areas of the Oregon coastline to be intensely, and for all practical purposes, irreversibly developed. This will cause the loss of some environmental resources. Development would occur in the absence of Program approval, but the Oregon Coastal Management Program will channel such activity toward appropriate but discreet sites based on specific land and water resource considerations.

X. CONSULTATION AND COORDINATION WITH OTHERS

The Oregon Land Conservation and Development Commission (LCDC) and its predecessor OCCDC in developing the Program, have solicited extensive participation by a variety of State and Federal agencies, local governments, special interest groups, and the public at large during the preparation of the Program and its components. A complete discussion of this input as presented in the Oregon Coastal Management Program. The major types and opportunities for review and participation are summarized below.

Major opportunities for public involvement in developing the general Goals for the entire State included two series of 28 workshops; 17 public hearings; 17 Technical Advisory Committees (TACs); a Citizens Involvement Advisory Committee (CIAC); Local Officials Advisory Committee (LOAC); State Agency Advisory Committee; and Federal Agency Advisory Committee.

Similar opportunities for public involvement during the OCCDC policy development process included 21 public workshops, development and review of resource inventories; and extensive public and agency review of the draft and revised policies. These were followed by 34 public hearings; three public work sessions; and a two day public mark-up session prior to the adoption of the Goals on coastal resources.

Major types of opportunities for participation have included public workshops; TACs or resource specialist teams; local government, State and Federal agency and citizen advisory committees; Commission meetings and work sessions; and public hearings.

At least 35 Federal departments and agencies and 25 State agencies were invited to participate on the Federal and State agency task forces for the development of the coastal Goals and the coastal management program; 25 Federal and 16 State agencies actually attended one or more of the task force meetings. Where problems were identified, the LCDC held several individual meetings with concerned agencies.

In addition to this participation in development of the Goals, the public was also involved in development of the coastal management program through continuing review of successive drafts by the State and Federal agency task forces, OCCDA, CIAC, LOAC, and individual cities, counties and areawide agencies, and private organizations, and the general public in the coastal zone, as well as through public hearings.

The Impacts and Consequences Technical Advisory Committee, established to review the environmental and economic impacts of the coastal Goals, included representatives of Oregon universities, the Federal government, public interest groups, environmental organizations, and industry.

Coordination with all these interests remains a key component of Oregon's Coastal Management Program. Their review and input will remain necessary during the development, review, approval, and administration of the final coastal Goals and the local comprehensive plans.

XI. PUBLIC HEARING

As a part of the review and comment process pursuant to this proposal, a public hearing was conducted by the Office of Coastal Zone Management for the purpose of receiving information and comments from concerned public and private organizations and citizens:

September 15, 1976
Marine Science Center
Newport, Oregon

September 16, 1976
Multnomah County Courthouse
Portland, Oregon

Copies of the complete State application, with supporting documents, will be available for public inspection at the following locations:

Oregon Land Conservation and Development Commission
1175 Court Street, N. E.
Salem, Oregon
Astoria Public Library
Astoria, Oregon
Bandon Public Library
Bandon, Oregon
Bay City Library
Bay City, Oregon

Chetco Community Library
Brookings, Oregon
Coos Bay Public Library
Coos Bay, Oregon
Coquille Public Library
Coquille, Oregon
Garibaldi Public Library
Gilchrist, Oregon
Gold Beach Library
Gold Beach, Oregon

Langlois Library
Langlois, Oregon
Lincoln City Library
Lincoln City, Oregon
Manzanita Library
Manzanita, Oregon
Myrtle Point Library
Myrtle Point, Oregon
Newport Public Library
Newport, Oregon
North Bend Public Library
North Bend, Oregon
Pacific City Library
Pacific City, Oregon
Port Orford Public Library
Port Orford, Oregon
Powers Public Library
Powers, Oregon
Reedsport Public Library
Reedsport, Oregon
Seaside Public Library
Seaside, Oregon

Siletz Public Library
Siletz, Oregon
Tillamook County Library
Tillamook, Oregon
Toledo Public Library
Toledo, Oregon
Waldport Public Library
Waldport, Oregon
Yachats Public Library
Yachats, Oregon
Clatsop County Courthouse, Library
Astoria, Oregon
Oregon State University, Library
Corvallis, Oregon
Southwestern Oregon Community College, Library
Coos Bay, Oregon
Umpqua Community College, Library
Roseburg, Oregon
University of Oregon, Library
Eugene, Oregon

And at the following locations in the vicinity of Washington, D.C.:

Office of Coastal Zone Management
National Oceanic and Atmospheric Administration
3300 Whitehaven Street, N.W., Room 301
Washington, D.C. 20235

U.S. Department of Commerce
Main Commerce Building
14th and Constitution, N.W., Room 7046
Washington, D.C. 20230

APPENDIX 3

Note: This is only the "Newly Adopted Goals and Guidelines for Coastal Resources" section of Appendix 3 taken from the Oregon Coastal Management Program.

STATEWIDE PLANNING GOALS AND GUIDELINES 16, 17, 18, & 19

for COASTAL RESOURCES

Effective: 1 January 1977

Land Conservation and Development Commission - 1175 Court Street N.E. - Salem, Oregon 97310

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The preparation of this publication of state-wide planning goals was financed in part through a Program Development Grant under the Coastal Zone Management of the National Oceanic and Atmospheric Administration.

BEFORE THE LAND CONSERVATION AND DEVELOPMENT COMMISSION
OF THE
STATE OF OREGON

In The Matter of the Adoption of Additional State-wide Planning Goals	)))	ORDER

I.

Adoption of Coastal State-wide Planning Goals

The Land Conservation and Development Commission pursuant to ORS 197.245, 197.235 and 197.240, and as the agency designated by the Governor to administer Oregon's Coastal Management Program, has conducted hearings and heard evidence on additional State-wide Planning Goals. These goals expand upon the group of initial State-wide Planning Goals adopted by the Commission on December 27, 1974 and December 6, 1975.

Based on such hearings and evidence the Commission adopts:

The Estuarine Resources Goal	(Appendix A hereto)
The Coastal Shorelands Goal	(Appendix B hereto)
The Beaches and Dunes Goal	(Appendix C hereto)
The Ocean Resources Goal	(Appendix D hereto)
The definitions associated with these goals	(Appendix E hereto)

These goals shall take effect on January 1, 1977.

II.

Inclusion of Temporary Provision in Coastal Shorelands Goal

The Coastal Shorelands Goal, one of the four state-wide planning goals adopted above, establishes a "coastal shorelands planning area." The purpose of the planning area is to provide an area within which inventories are conducted in order for cities and counties to identify coastal shorelands and accomplish initial planning for development and use consistent with the Coastal Shorelands Goal. In physical terms the area is quite broad and some of it may ultimately be determined by the city or county governing body not to constitute shorelands.

The goal will take effect on January 1, 1977. However, the process of identifying coastal shorelands within the jurisdiction of a city or county may not be completed until a year after that date or even longer. In the meantime it would be unfair and not the Commission's intent that the entire coastal shorelands planning area be subject to the restrictive provisions of the goal pending identification and adoption of coastal shorelands by a city or county governing body. The Coastal Shorelands Goal, however, may be subject to this interpretation.

For these reasons the Commission finds it necessary to limit the area subject to the restrictive provisions of the goal and adopts the following temporary provision for inclusion in the Coastal Shorelands Goal:

> "During the interim period prior to the final identification by a city or county governing body of the coastal shorelands within its jurisdiction, only land within 200 feet measured horizontally from the shoreline or, where there are tidal marshes, then 200 feet from the inland extent of tidal marshes, shall be presumed to constitute shorelands subject to the provisions of the Coastal Shorelands Goal."

This provision shall be deemed to be a part of the Coastal Shorelands Goal and to apply to all planning activities affecting land uses within a city or county until such time as the city or county governing body has identified and approved the areas constituting coastal shorelands within its jurisdiction.

Dated this 18th day of December, 1976.

FOR THE COMMISSION:

John D. Mosser

John D. Mosser, Chairman
Land Conservation and
Development Commission

GOAL 16. ESTUARINE RESOURCES

OVERALL STATEMENT

To recognize and protect the unique environmental, economic and social values of each estuary and associated wetlands; and

To protect, maintain, where appropriate develop, and where appropriate restore the long-term environmental, economic, and social values, diversity and benefits of Oregon's estuaries.

Comprehensive management programs to achieve these objectives shall be developed by appropriate local, state, and federal agencies for all estuaries.

To assure diversity among the estuaries of the State, by June 15, 1977, LCDC with the cooperation and participation of local governments, special districts, and state and federal agencies shall classify the Oregon estuaries to specify the most intensive level of development or alteration which may be allowed to occur within each estuary. After completion for all estuaries of the inventories and initial planning efforts, including identification of needs and potential conflicts among needs and goals and upon request of any coastal jurisdiction, the Commission will review the overall Oregon Estuary Classification.

Comprehensive plans and activities for each estuary shall provide for appropriate uses (including preservation) with as much diversity as is consistent with the overall Oregon Estuary Classification, as well as with the biological, economic, recreational, and aesthetic benefits of the estuary. Estuary plans and activities shall protect the estuarine ecosystem, including its natural biological productivity, habitat, diversity, unique features and water quality. Dredge, fill, or other reduction or degradation of these natural values by man shall be allowed only:

(1) if required for navigation or other water-dependent uses that require an estuarine location; and
(2) if a public need is demonstrated; and
(3) if no alternative upland locations exist; and
(4) if adverse impacts are minimized as much as feasible.

INVENTORY REQUIREMENTS

Inventories shall be conducted to provide information necessary for designating estuary uses and policies. These inventories shall provide information on the nature, location, and extent of physical, biological, social and economic resources in sufficient detail to establish a sound basis for estuarine management and to enable the identification of areas for preservation and areas of exceptional potential for development.

State and federal agencies shall assist in the inventories of estuarine resources. The Department of Land Conservation and Development, with assistance from local government, state and federal agencies, shall establish common inventory standards and techniques, so that inventory data collected by different agencies or units of government, or data between estuaries, will be comparable.

COMPREHENSIVE PLAN REQUIREMENTS

Based upon inventories, the limits imposed by the overall Oregon Estuary Classification, and needs identified in the planning process, comprehensive plans for coastal areas shall:

(1) identify each estuarine area;
(2) describe and maintain the diversity of important and unique environmental, economic and social features within the estuary;
(3) classify the estuary into management units; and
(4) establish policies and use priorities for each management unit using the standards and procedures set forth below.

Management Units

Diverse resources, values, and benefits shall be maintained by classifying the estuary into distinct water use management units. When classifying estuarine areas into management units, the following shall be considered in addition to the inventories:

(1) Adjacent upland characteristics and existing land uses;
(2) Compatibility with adjacent uses;
(3) Energy costs and benefits; and
(4) The extent to which the limited water surface area of the estuary shall be committed to different surface uses.

As a minimum, the following kinds of management units shall be established:

(1) Natural – In all estuaries, areas shall be designated to assure the protection of significant fish and wildlife habitats, of continued biological productivity within the estuary, and of scientific, research, and educational needs. These shall be managed to preserve the natural resources in recognition of dynamic, natural, geological and evolutionary processes. Such areas shall include, at a minimum, all major tracts of salt marsh, tideflats, and seagrass and algae beds.

Permissible uses in natural areas shall be undeveloped low-intensity water-dependent recreation; research and educational observation; navigational aides, such as beacons and buoys; protection of habitat, nutrient, fish, wildlife and aesthetic resources; passive restoration measures; and where consistent with the resource capabilities of the area and the purposes of this management unit, aquaculture; communication facilities; and active restoration measures.

(2) Conservation – In all estuaries, except those in the overall Oregon Estuary Classification which are classed for preservation, areas shall be designated for long-term uses of renewable resources that do not require major alteration of the estuary, except for the purpose of restoration. These areas shall be managed to conserve the natural resources and benefits. These shall include areas needed for maintenance and enhancement of biological productivity, recreational and aesthetic uses, and aquaculture. They shall include tracts of significant habitat smaller or of less biological importance than those in (1) above, and oyster and clam beds. Partially altered areas or estuarine areas adjacent to existing development of moderate intensity shall also be included in this classification unless otherwise needed for preservation or development consistent with the overall Oregon Estuary Classification.

Permissible uses in conservation areas shall be those allowed in (1) above; active restoration measures; aquaculture; and communication facilities. Where consistent with resource capabilities of the area and the purposes of this management unit, high-intensity water-dependent recreation; maintenance dredging of existing facilities; minor navigational improvements; mining and mineral extraction; water dependent uses requiring occupation of water surface area by means other than fill; and bridge crossings, shall also be appropriate.

(3) Development – In estuaries classified in the overall Oregon Estuary Classification for more intense development or alteration, areas shall be designated to provide for navigation and other identified needs for public, commercial, and industrial water-dependent uses, consistent with the level of development or alteration allowed by the overall Oregon Estuary Classification. Such areas shall include deep-water areas adjacent or in proximity to the shoreline, navigation channels, subtidal areas for in-water disposal of dredged material and areas of minimal biological significance needed for uses requiring alteration of the estuary.

Permissible uses in areas managed for water-dependent activities shall be navigation and water-dependent commercial and industrial uses. Where consistent with the resource capabilities and the purposes of this management unit, water-related and non-dependent, non-related uses not requiring fill; mining and mineral extraction; and activities identified in (1) and (2) above, shall also be appropriate.

As appropriate, needs for the following uses shall be included:

(a) Dredge or fill, as allowed elsewhere in the goal;
(b) Navigation and water-dependent commercial enterprises and activities;
(c) Water transport channels where dredging may be necessary;
(d) Disposal of dredged material;
(e) Water storage areas where needed for products used in or resulting from industry, commerce, and recreation;
(f) Marinas;
(g) Aquaculture;
(h) Extraction of aggregate resources;
(i) Restoration.

The cumulative effect of all such uses, activities and alterations shall be considered and described during plan development and adoption. In designating areas for these uses, local governments shall consider the potential for using upland sites to reduce or limit the commitment of the estuarine surface area for surface uses.

Priority

Priorities for use of each of the management units shall be designated which maintain, promote, encourage, or enhance uses and activities compatible with the requirements of this Goal, the capability of the resources, and the objectives of the classification.

While the priorities may vary between individual management units consistent with these requirements, the general priorities (from highest to lowest) for use of estuarine resources and for designating different estuarine management units shall be:

(1) Uses which maintain the integrity of the estuarine ecosystem;
(2) Water-dependent uses requiring estuarine location, as consistent with the overall Oregon Estuarine Classification;
(3) Water-related uses which do not degrade or reduce the natural estuarine resources and values; and
(4) Non-dependent, non-related uses which do not alter, reduce or degrade the estuarine resources and values.

IMPLEMENTATION REQUIREMENTS

(1) Unless fully addressed during the development and adoption of comprehensive plans, actions which would potentially alter the integrity of the estuarine ecosystem shall be preceded by a clear presentation of the impacts of the proposed alteration, and a demonstration of the public's need and gain which warrant such modification or loss.

(2) State and federal agencies shall review, revise and implement their plans, actions and management authorities to maintain water quality and minimize man-induced sedimentation in estuaries. Local government shall recognize these authorities in managing lands rather than developing new or duplicatory management techniques or controls.

Existing programs which shall be utilized include:

(a) The Oregon Forest Practices Act and Administrative Rules, for forest lands as defined in ORS 527.610 – 527.730 and 527.990 and the Forest Lands Goal;
(b) The programs of the Soil and Water Conservation Commission and local districts and the Soil Conservation Service, for Agricultural Lands Goal;
(c) The non-point source discharge water quality program administered by the Department of Environmental Quality under Section 208 of the Federal Water Quality Act as amended in 1972 (PL 92-500); and
(d) The Fill and Removal Permit Program administered by the Division of State Lands under ORS 541.605 – 541.665.

(3) The State Water Policy Review Board, assisted by the staff of the Oregon Department of Water Resources, and the Oregon Department of Fish and Wildlife, the Oregon Department of Environmental Quality, the Division of State Lands, and the U.S. Geological Survey, shall consider establishing minimum fresh-water flow rates and standards so that resources and uses of the estuary, including navigation, fish and wildlife characteristics, and recreation, will be maintained.

(4) When dredge or fill activities are permitted in inter-tidal or tidal marsh areas, their effects shall be mitigated by creation or restoration of another area of similar biological potential to ensure that the integrity of the estuarine ecosystem is maintained.

(5) Local government and state and federal agencies shall develop comprehensive programs, including specific sites and procedures for disposal and stockpiling of dredged materials. These programs shall encourage the disposal of dredged material in uplands or ocean waters, and shall permit disposal in estuary waters only where such disposal will clearly be consistent with the objectives of this goal and state and federal law. Dredged material shall not be disposed in inter-tidal or tidal marsh estuarine areas unless part of an approved fill project.

(6) Local government and state and federal agencies shall act to restrict the proliferation of individual single-purpose docks and piers by encouraging community facilities common to several uses and interests. The size and shape of a dock or pier shall be limited to that required for the intended use. Alternatives to docks and piers, such as mooring buoys, dryland storage, and launching ramps shall be investigated and considered.

(7) State and federal agencies shall assist local government in identifying areas for restoration. Restoration is appropriate in areas where activities have adversely affected some aspect of the estuarine system, and where it would contribute to a greater achievement of the objective of this goal. Appropriate sites include areas of heavy erosion or sedimentation, degraded fish and wildlife habitat, anadromous fish spawning areas, abandoned diked estuarine marsh areas, and areas where water quality restricts the use of estuarine waters for fish and shellfish harvest and production, or for human recreation.

(8) State agencies with planning, permit, or review authorities affected by this goal shall review their procedures and standards to assure that the objectives and requirements of the goal are fully addressed. In estuarine areas the following authorities are of special concern:

Division of State Lands	Fill and Removal Law	ORS 541.605 --541.665
	Mineral Resources	OR S 273.551; ORS 273.775 --273.780
	Submersible and Submerged Lands	ORS 274.005 --274.940
Department of Economic Development	Ports Planning	ORS 777.835
Water Resources Department	Appropriation of Water	ORS 537.010 --537.990 ORS 543.010 --543.620
Department of Geology and Mineral Industries	Mineral Extraction Oil and Gas Drilling	ORS 520.005 --520.095
Department of Forestry	Forest Practices Act	ORS 527.610 --527.730
Department of Energy	Regulation of thermal power and nuclear installation	ORS 469.300 --469.570
Department of Environmental Quality	Water Quality	ORS 468.700 --468.775
	Sewage Treatment & Disposal Systems	ORS 454.010 --454.755

GUIDELINES

The requirements of the Estuarine Resources Goal should be addressed with the same consideration applied to previously adopted goals and guidelines. The planning process described in the Land Use Planning Goal (Goal 2), including the exceptions provisions described in Goal 2, applies to estuarine areas and implementation of the Estuarine Resources Goal.

Because of the strong relationship between estuaries and adjacent coastal shorelands, the inventories and planning requirements for these resources should be closely coordinated. These inventories and plans should also be fully coordinated with the requirements in other state planning goals, especially the Goals for Open Spaces, Scenic and Historic Areas and Natural Resources; Air, Water and Land Resources Quality; Recreational Needs; Transportation; and Economy of the State.

A. Inventories

In detail appropriate to the level of development or alteration proposed, the inventories for estuarine features should include:

1. Physical characteristics

   a. Size, shape, surface area, and contour, including water depths;
   b. Water characteristics including, but not limited to, salinity, temperature, and dissolved oxygen. Data should reflect average and extreme values for the months of March, June, September, and December as a minimum; and
   c. Substrate mapping showing location and extent of rock, gravel, sand, and mud.

2. Biological characteristics
   Location, Description, and Extent of:

   a. The common species of benthic (living in or on bottom) flora and fauna;
   b. The fish and wildlife species, including part-time residents;
   c. The important resting, feeding, and nesting areas for migrating and resident shorebirds, wading birds and wildfowl;
   d. The areas important for recreational fishing and hunting, including areas used for clam digging and crabbing;
   e. Estuarine wetlands;
   f. Fish and shellfish spawning areas;
   g. Significant natural areas; and
   h. Areas presently in commercial aquaculture.

3. Social and economic characteristics
   Location, Description, and Extent of:

   a. The importance of the estuary to the economy of the area;
   b. Existing land uses surrounding the estuary;
   c. Man-made alterations of the natural estuarine system;

d. Water dependent industrial and/or commercial enterprises;
e. Public access;
f. Historical or archaeological sites associated with the estuary; and
g. Existing transportation systems.

B. Historic, Unique and Scenic Waterfront Communities

Local government comprehensive plans should encourage the maintenance and enhancement of historic, unique, and scenic waterfront communities, allowing for non-water dependent uses as appropriate in keeping with such communities.

C. Transportation

Local governments and state and federal agencies should closely coordinate and integrate navigation and port needs with shoreland and upland transportation facilities and the requirements of the Transportation Goal. The cumulative effects of such plans and facilities on the estuarine resources and values should be considered.

D. Mitigation

In identifying and assessing sites to mitigate the effects of dredging or filling, the following factors should be considered:

1. In selecting sites of similar biological potential, areas should preferably be chosen with similar ecological characteristics. The intention of the requirement is to provide an area that, with time, will develop a qualitatively and quantitatively similar fauna and flora. The emphasis is on similar potential, not substitute productivity. The area provided does not have to be fully developed biologically; the opportunity, at least, should exist for it to develop once the area is returned to the estuarine system. However, the surface area of the estuary should not be diminished.

2. The most appropriate sites would be those in the general proximity of the proposed dredge or fill action. These would probably contain the most similar ecological characteristics. If similar areas are not available nearby, then areas in other parts of the estuary may be selected according to the similarity of the following characteristics (in order of importance, most important first):

   a. salinity regime
   b. tidal exposure and elevation
   c. substrate type
   d. current velocity and patterns
   e. orientation to solar radiation
   f. slope

3. If similar areas, or those with a similar potential, cannot be found or provided, then mitigation efforts should seek to restore areas or resources which are in the greatest scarcity compared to their past abundance and distribution. That is, those resources which have been most severely impacted by man's activities, measured by a ratio of present to past abundance, should be restored through mitigation.

4. Appropriate locations for mitigation activities include:

   a. Dredged material islands, which could be lowered (by removal of spoil) to the intertidal level, thus adding the surface area back to the estuarine system;
   b. Diked marsh areas which have been abandoned or are in disrepair; and
   c. Estuarine areas removed from effective circulation by causeways or other fills, where circulation can be restored or improved through replacement of the causeway with pilings or culverts.

5. The transfer of ownership of estuarine lands, including wetlands and submersible lands, to public ownership; the dedication of estuarine lands for certain natural uses; and the provision of funds for research or land acquisition do not constitute mitigation as required by this Goal.

E. Impact Assessment

The impact assessment required in the Goal should be applied at the time of plan development, for alterations projected or identified in the plan, or at the time of permit review and approval for actions not identified in the plan.

The impact assessment should not be lengthy or complex, but it should enable reviewers to gain a clear understanding of the impacts to be expected. It should include information on:

1. The type and extent of alterations expected;
2. The type of resources (s) affected;
3. The expected extent of impacts of the proposed alteration on water quality and other physical characteristics of the estuary, living resources, recreation and aesthetic use, navigation and other existing and potential uses of the estuary; and
4. The methods which could be employed to avoid or minimize adverse impacts.

GOAL 17. COASTAL SHORELANDS

OVERALL STATEMENT

To conserve, protect, where appropriate develop and where appropriate restore the resources and benefits of all coastal shorelands, recognizing their value for protection and maintenance of water quality, fish and wildlife habitat, water-dependent uses, economic resources and recreation and aesthetics. The management of these shoreland areas shall be compatible with the characteristics of the adjacent coastal waters; and

To reduce the hazard to human life and property, and the adverse effects upon water quality and fish and wildlife habitat, resulting from the use and enjoyment of Oregon's coastal shorelands.

Programs to achieve these objectives shall be developed by local, state, and federal agencies having jurisdiction over coastal shorelands.

Land use plans, implementing actions and permit reviews shall include consideration of the critical relationships between coastal shorelands and resources of coastal waters, and of the geologic and hydrologic hazards associated with coastal shorelands. Local, state and federal agencies shall within the limit of their authorities maintain the diverse environmental, economic, and social values of coastal shorelands and water quality in coastal waters. Within those limits, they shall also minimize man-induced sedimentation in estuaries, nearshore ocean waters, and coastal lakes.

INVENTORY REQUIREMENTS

Inventories shall be conducted to provide information necessary for identifying coastal shorelands and designating uses and policies. These inventories shall provide information on the nature, location, and extent of geologic and hydrologic hazards and shoreland values, including fish and wildlife habitat, water dependent uses, economic resources, recreational uses, and aesthetics in sufficient detail to establish a sound basis for land and water use management.

The inventory requirements shall be applied within an area known as a coastal shorelands planning area. This planning area is *not* an area within which development or use is prohibited. It *is* an area for inventory, study, and initial planning for development and use to meet the Coastal Shorelands Goal.

The planning area shall be defined by the following:

(1) All lands west of the Oregon Coast Highway as described in ORS 366.235, except that:

(a) In Tillamook County, only the lands west of a line formed by connecting the western boundaries of the following described roadways: Brooten Road (County Road 887) northerly from its junction with the Oregon Coast Highway to Pacific City

McPhillips Drive (County Road 915) northerly from Pacific City to its junction with Sandlake Road (County Road 871), Sandlake–Cape Lookout Road, (County Road 871) northerly to its junction with Cape Lookout Park, Netarts Bay Drive (County Road 665) northerly from its junction with the Sandlake–Cape Lookout Road (County Road 871) to its junction at Netarts with State Highway 131, and northerly along State Highway 131 to its junction with the Oregon Coast Highway near Tillamook.

(b) In Coos County, only the lands west of a line formed by connecting the western boundaries of the following described roadways: Oregon State 240, Cape Arago Secondary (FAS 263) southerly from its junction with the Oregon Coast Highway to Charleston; Seven Devils Road (County Road 33) southerly from its junction with Oregon State 240 (FAS 263) to its junction with the Oregon Coast Highway, near Bandon;

and

(2) All lands within an area defined by a line measured horizontally

(a) 1000 feet from the shoreline of estuaries; and
(b) 500 feet from the shoreline of coastal lakes.

COMPREHENSIVE PLAN REQUIREMENTS

Based upon inventories, comprehensive plans for coastal areas adjacent to the ocean, estuaries, or coastal lakes shall:

(1) identify coastal shorelands;
(2) establish policies and uses of coastal shorelands in accordance with standards set forth below:

Identification

Lands contiguous with the ocean, estuaries, and coastal lakes shall be identified as coastal shorelands. The extent of shorelands shall include at least:

(1) Lands which limit, control, or are directly affected by the hydraulic action of the coastal water body, including floodways;
(2) Adjacent areas of geologic instability;
(3) Natural or man-made riparian resources, especially vegetation necessary to stabilize the shoreline and to maintain water quality and temperature necessary for the maintenance of fish habitat and spawning areas;
(4) Areas of significant shoreland and wetland biological habitats;
(5) Areas necessary for water-dependent and water-related uses, including areas of recreational importance which utilize coastal water or riparian resources, areas appropriate for navigation and port facilities, and areas having characteristics suitable for aquaculture;

(6) Areas of exceptional aesthetic or scenic quality, where the quality is primarily derived from or related to the association with coastal water areas; and
(7) Coastal headlands.

Coastal Shoreland Uses

(1) Major marshes, significant wildlife habitat, coastal headlands, exceptional aesthetic resources, and historic and archaeological sites shall be protected. Uses in these areas shall be consistent with protection of natural values. Such uses may include propagation and selective harvesting of forest products consistent with the Oregon Forest Practices Act, grazing, harvesting wild crops, and low intensity water-dependent recreation.

(2) Shorelands in urban and urbanizable areas especially suited for water-dependent uses shall be protected for water-dependent recreational, commercial and industrial uses. Some factors which contribute to this special suitability are:

(a) deep water close to shore with supporting land transport facilities suitable for ship and barge facilities;
(b) potential for aquaculture;
(c) protected areas subject to scour which would require little dredging for use as marinas; and
(d) potential for recreational utilization of coastal water or riparian resources.

(3) Shorelands in rural areas other than those designated in (1) above shall be used as appropriate for:

(a) farm uses as provided in ORS Chapter 215;
(b) propagation and harvesting of forest products consistent with the Oregon Forest Practices Act;
(c) private and public water-dependent recreation developments;
(d) aquaculture;
(e) water-dependent commercial and industrial uses and water-related uses only upon a finding by the governing body of the county that such uses satisfy a need which cannot be accommodated on shorelands in urban and urbanizable areas;
(f) subdivisions, major and minor partitions and other uses only upon a finding by the governing body of the county that such uses satisfy a need which cannot be accommodated at other upland locations or in urban or urbanizable areas and are compatible with the objectives of this goal to protect riparian vegetation and wildlife habitat; and
(g) a single family residence on existing lots, parcels or units of land when compatible with the objectives and implementation standards of this goal.

Priority

General priorities for the overall use of coastal shorelands (from highest to lowest) shall be to:

(1) Promote uses which maintain the integrity of estuaries and coastal waters;
(2) Provide for water-dependent uses;
(3) Provide for water-related uses;
(4) Provide for non-dependent, non-related uses which retain flexibility of future use and do not prematurely or inalterably commit shorelands to more intensive uses;
(5) Provide for development, including non-dependent, non-related uses, in urban areas compatible with existing or committed uses;
(6) Permit non-dependent, non-related uses which cause a permanent or long-term change in the features of coastal shorelands only upon a demonstration of public need.

IMPLEMENTATION REQUIREMENTS

(1) The Oregon Department of Forestry shall recognize the unique and special values provided by coastal shorelands when developing standards and policies to regulate uses of forest lands within coastal shorelands. With other state and federal agencies, the Department of Forestry shall develop forest management practices and policies which protect and maintain the special shoreland values and forest uses.

(2) The land use planning and regulatory authorites of local government and state and federal agencies shall manage floodplain areas in coastal shorelands to promote use and development consistent with the hazards to life and property. Priority uses for flood hazard and floodplain areas shall include agriculture, forestry, recreation and open space, and uses which are water-dependent.

(3) Local government, with assistance from state and federal agencies, shall identify coastal shoreland areas which may be used to fulfill the mitigation requirement of the Estuarine Resources Goal. These areas shall be protected from new uses and activities which would prevent their ultimate restoration or addition to the estuarine ecosystems.

(4) Coastal shorelands identified under the Estuarine Resources Goal for dredged material disposal shall be protected from new uses and activities which would prevent their ultimate use for dredged material disposal.

(5) Because of the importance of the vegetative fringe adjacent to coastal waters to water quality, fish and wildlife habitat, recreational use and aesthetic resources, riparian vegetation shall be maintained; and where appropriate restored and enhanced, consistent with water-dependent uses.

(6) Land-use management practices and non-structural solutions to problems of erosion and flooding shall be preferred to structural solutions. Where shown to be necessary, water and erosion control structures, such as jetties, bulkheads, seawalls, and similar protective structures; and fill, whether located in the waterways or on shorelands above ordinary high water mark, shall be designed to minimize adverse impacts on water currents, erosion and accretion patterns.

GUIDELINES

The requirements of the Coastal Shorelands Goal should be addressed with the same consideration as applied to previously adopted goals and guidelines. The planning process described in the Land Use Planning Goal (Goal 2), including the exceptions provisions described in Goal 2, applies to coastal shoreland areas and implementation of the Coastal Shorelands Goal.

Because of the strong relation of estuarine shorelands to adjacent estuaries, the inventory and planning requirements for estuaries and estuarine shorelands should be fully coordinated. Coastal shoreland inventories and planning should also be fully coordinated with those required in other statewide planning goals, supplementing them where necessary. Of special importance are the plan requirements of the Goals for Agricultural Lands; Forest Lands; Open Spaces, Scenic and Historic Areas and Natural Resources; Air, Water and Land Resources Quality; Areas Subject to Natural Disasters and Hazards; Recreational Needs; and Economy of the State.

A. Inventories

In coastal shoreland areas the following inventory needs should be reviewed. The level of detail of information needed will differ depending on the development or alteration proposed and the degree of conflict over the potential designation.

1. Hazard areas, including at least:

   a. Areas the use of which may result in significant hydraulic alteration of other lands or water bodies;
   b. Areas of geological instability in, or adjacent to shorelines; and
   c. The 100 Year Floodplain.

2. Existing land uses and ownership patterns, economic resources, development needs, public facilities, topography, hydrography, and similar information affecting shorelands;

3. Areas of aesthetic and scenic importance;

4. Coastal shoreland and wetland biological habitats which are dependent upon the adjacent water body, plus other coastal shoreland and adjacent aquatic areas of biological importance (feeding grounds, nesting sites, areas of high productivity, etc.) natural areas and fish and wildlife habitats;

5. Areas of recreational importance;

6. Areas of vegetative cover which are riparian in nature or which function to maintain water quality and to stabilize the shoreline;

7. Sedimentation sources;

8. Areas of present public access and recreational use;

9. The location of archaeological and historical sites; and

10. Coastal headlands.

B. Floodplain

In the development of comprehensive plans, the management of uses and development in floodplain areas should be expanded beyond the minimal considerations necessary to comply with the HUD National Flood Insurance Program and the requirements of the Flood Disaster Protection Act of 1973. Communities may wish to distinguish between the floodway and floodfringe in developing coastal shoreland plans; development in the floodway should be more strictly controlled.

Government projects in coastal shorelands should be examined for their impact on flooding, potential flood damage, and effect on growth patterns in the floodplain. Non-water dependent emergency service structures (such as hospitals, police and fire stations) should not be constructed in the floodplain. Although they may be flood-proofed, access and egress may be prevented during a flood emergency.

C. Open Space, Natural Areas and Aesthetic Resources, and Recreation

Coastal Shorelands provide many areas of unique or exceptional value and benefit for open space, natural areas, and aesthetic and recreational use. The requirements of the Goals for Open Spaces, Scenic and Historic Areas and Natural Resources (Goal No. 5) and Recreational Needs (Goal No. 8) should be carefully coordinated with the coastal shoreland planning effort.

The plan should provide for appropriate public access to and recreational use of coastal waters. Public access through and the use of private property shall require the consent of the owner and is a trespass unless appropriate easements and access have been acquired in accordance with law.

D. Development Needs

In coordination with planning for the Estuarine Resources Goal, coastal shoreland plans should designate appropriate sites for water-dependent activities, and for dredged material disposal.

Historic, unique, and scenic waterfront communities should be maintained and enhanced, allowing for non water-dependent uses as appropriate in keeping with such communities.

E. Transportation

The requirements of the Transportation Goal should be closely coordinated with the Coastal Shorelands Goal. Coastal transportation systems frequently utilize shoreland areas and may significantly affect the resources and values of coastal shorelands and adjacent waters; they should allow appropriate access to coastal shorelands and adjacent waters, and be planned in full recognition of the protection needs for the special resources and benefits which shorelands provide.

GOAL 18. BEACHES AND DUNES

OVERALL STATEMENT

To conserve, protect, where appropriate develop, and where appropriate restore the resources and benefits of coastal beach and dune areas; and

To reduce the hazard to human life and property from natural or man-induced actions associated with these areas.

Coastal comprehensive plans and implementing actions shall provide for diverse and appropriate use of beach and dune areas consistent with their ecological, recreational, aesthetic, water resource, and economic values, and consistent with the natural limitations of beaches, dunes and dune vegetation for development.

INVENTORY REQUIREMENTS

Inventories shall be conducted to provide information necessary for identifying and designating beach and dune uses and policies. Inventories shall describe the stability, movement, groundwater resource, hazards and values of the beach and dune areas in sufficient detail to establish a sound basis for planning and management. For beach and dune areas adjacent to coastal waters, inventories shall also address the inventory requirements of the Coastal Shorelands Goal.

COMPREHENSIVE PLAN REQUIREMENTS

Based upon the inventory, comprehensive plans for coastal areas shall:

(1) identify beach and dune areas; and
(2) establish policies and uses for these areas consistent with the provisions of this goal.

Identification

Coastal areas subject to this goal shall include beaches, active dune forms, recently stabilized dune forms, older stabilized dune forms and interdune forms.

Uses

Uses shall be based on the capabilities and limitations of beach and dune areas to sustain different levels of use or development, and the need to protect areas of critical environmental concern, areas having scenic, scientific, or biological importance, and significant wildlife habitat.

IMPLEMENTATION REQUIREMENTS

(1) Local governments and state and federal agencies shall base decisions on plans, ordinances and land use actions in beach and dune areas, other than older stabilized dunes, on specific findings that shall include at least:

    (a) the type of use proposed and the adverse effects it might have on the site and adjacent areas;

(b) temporary and permanent stabilization programs and the planned maintenance of new and existing vegetation;
(c) methods for protecting the surrounding area from any adverse effects of the development; and
(d) hazards to life, public and private property, and the natural environment which may be caused by the proposed use.

(2) Local governments and state and federal agencies shall prohibit residential developments and commerical and industrial buildings on active foredunes, on other foredunes which are conditionally stable and that are subject to ocean undercutting or wave overtopping, and on interdune areas (deflation plains) that are subject to ocean flooding. Other development in these areas shall be permitted only if the findings required in (1) above are presented and it is demonstrated that the proposed development:

(a) is adequately protected from any geologic hazards, wind erosion, undercutting, ocean flooding and storm waves; or is of minimal value; and
(b) is designed to minimize adverse environmental effects.

(3) Local governments and state and federal agencies shall regulate actions in beach and dune areas to minimize the resulting erosion. Such actions include, but are not limited to the destruction of desirable vegetation (including inadvertent destruction by moisture loss or root damage), the exposure of stable and conditionally stable areas to erosion, and construction of shore structures which modify current or wave patterns leading to beach erosion.

(4) Local, state and federal plans, implementing actions and permit reviews shall protect the groundwater from drawdown which would lead to loss of stabilizing vegetation, loss of water quality, or intrusion of salt water into water supplies.

(5) Permits for beach front protective structures shall be issued under ORS 390.605 – 390.770, only where development existed on January 1, 1977. The Oregon Department of Transportation, cooperating with local, state and federal agencies shall develop criteria to supplement the Oregon Beach Law (ORS 390.605 – 390.770) for issuing permits for construction of beach front protective structures. The criteria shall provide that:

(a) visual impacts are minimized;
(b) necessary access to the beach is maintained;
(c) negative impacts on adjacent property are minimized; and
(d) long-term or recurring costs to the public are avoided.

(6) Foredunes shall be breached only to replenish sand supply in interdune areas, or on a temporary basis in an emergency (e.g., fire control, cleaning up oil spills, draining farm lands, and alleviating flood hazards), and only if the breaching and restoration after breaching is consistent with sound principles of conservation.

GUIDELINES

The requirements of the Beaches and Dunes Goal should be addressed with the same consideration as applied to previously adopted goals and guidelines. The planning process described in the Land Use Planning Goal (Goal 2), including the exceptions provisions described in Goal 2, applies to beaches and dune areas and implementation of the Beaches and Dunes Goal.

Beaches and dunes, especially interdune areas (deflation plains) provide many unique or exceptional resources which should be addressed in the inventories and planning requirements of other goals, especially the Goals for Open Spaces, Scenic and Historic Areas and Natural Resources; and Recreational Needs. Habitat provided by these areas for coastal and migratory species is of special importance.

A. Inventories

Local government should begin the beach and dune inventory with a review of *Beaches and Dunes of the Oregon Coast*, USDA Soil Conservation Service and OCCDC, March, 1975, and determine what additional information is necessary to identify and describe:

1. The geologic nature and stability of the beach and dune landforms;
2. patterns of erosion, accretion, and migration;
3. storm and ocean flood hazards;
4. existing and projected use, development and economic activity on the beach and dune landforms; and
5. areas of significant biological importance.

B. Examples of Minimal Development

Examples of development activity which are of minimal value and suitable for development in conditionally stable dunes and deflation plains include beach and dune boardwalks, fences which do not affect sand erosion or migration, and temporary open-sided shelters.

C. Evaluating Beach and Dune Plans and Actions

Local government should adopt strict controls for carrying out the Implementation Requirements of this goal. The controls could include:

1. requirement of a site investigation report financed by the developer;
2. posting of performance bonds to assure that adverse effects can be corrected; and
3. requirement of re-establishing vegetation within a specified time.

D. Sand By-Pass

In developing structures that might excessively reduce the sand supply or interrupt the longshore transport or littoral drift, the developer should investigate, and where possible, provide methods of sand by-pass.

E. Public Access

Where appropriate, local government should require new developments to dedicate easements for public access to public beaches, dunes and associated waters. Access into or through dune areas, particularly conditionally stable dunes and dune complexes, should be controlled or designed to maintain the stability of the area, protect scenic values and avoid fire hazards.

F. Dune Stabilization

Dune stabilization programs should be allowed only when in conformance with the comprehensive plan, and only after assessment of their potential impact.

G. Off Road Vehicles

Appropriate levels of government should designate specific areas for the recreational use of off road vehicles (ORV's). This use should be restricted to limit damage to natural resources and avoid conflict with other activities, including other recreational use.

GOAL 19. OCEAN RESOURCES

OVERALL STATEMENT

To conserve the long-term values, benefits and natural resources of the nearshore ocean and the continental shelf.

All local, state, and federal plans, policies, projects, and activities which affect the territorial sea shall be developed, managed and conducted to maintain, and where appropriate, enhance and restore, the long-term benefits derived from the nearshore oceanic resources of Oregon. Since renewable ocean resources and uses, such as food production, water quality, navigation, recreation, and aesthetic enjoyment, will provide greater long-term benefits than will non-renewable resources, such plans and activities shall give clear priority to the proper management and protection of renewable resources.

INVENTORY REQUIREMENTS

As local governments and state and federal agencies implement plans or carry out actions, projects, or activities related to or affecting ocean resources, they shall develop inventory information necessary to understand the impacts and relationship of the proposed activity to continental shelf and nearshore ocean resources. As specific actions are proposed, inventory information shall be gathered by the unit of government considering the action with assistance from those agencies and governments which use or manage the resources. The inventory shall be sufficient to describe the long-term impacts of the proposed action on resources and uses of the continental shelf and nearshore ocean.

IMPLEMENTATION REQUIREMENTS

(1) State and federal agencies with planning, permit, or review authorities affected by the Ocean Resources Goal shall review their procedures and standards to assure that the objectives and requirements of the goal are fully addressed. The following authorities are of special concern:

Division of State Lands	Fill and Removal Law	ORS 541.605 --541.665
	Mineral resources	ORS 273.775 --273.780
	Submersible and submerged Lands	ORS 274.005 --274.940
	Kelp Law	ORS 274.885 --274.895
Department of Economic Development	Ports Planning	ORS 777.835
Department of Geology and Mineral Industries	Mineral Extraction Oil and Gas Drilling	ORS 520.005 --520.095

Department of Energy	Regulation of thermal power and nuclear installation	ORS 469.300 --469.570
Department of Environmental Quality	Water Quality Permits	ORS 468.700 --468.775
	Oil spillage regulation	ORS 468.780 --468.815
Department of Fish and Wildlife	Fisheries regulation	ORS Chapter --506

(2) Each state and federal agency, special district, city and county within the limits of its jurisdiction and as necessary to:

(i.) determine the impact of proposed projects or actions; and

(ii.) for the sound conservation of ocean resources;

shall:

(a) Fishery Resources

(i.) Develop scientific information on the stocks and life histories of commercially, recreationally, and ecologically important species of fish, shellfish, marine mammals and other marine fauna.

(ii.) Designate and enforce fishing regulations to maintain the optimum sustainable yield (OSY) while protecting the natural marine ecosystem.

(iii.) Develop and encourage improved fishing practices and equipment to achieve the OSY while protecting the natural marine ecosystem.

(iv.) Develop scientific understanding of the effects of man's activities, including navigation, mineral extraction, recreation, and waste discharge, on the marine ecosystem.

(b) Biological Habitat

(i.) Identify and protect areas of important biological habitat, including kelp and other algae beds, seagrass beds, rock reef areas and areas of important fish, shellfish and invertebrate concentration.

(ii.) Identify and protect important feeding areas; spawning areas; nurseries; migration routes; and other biologically important areas or marine mammals, marine birds, and commercially and recreationally important fish and shellfish.

(iii.) Determine and protect the integrity of the marine ecosystem, including its natural biological productivity and diversity.

(c) Navigation and Ports

(i.) Determine for the state as a whole, the navigation needs for the coast of Oregon. Such needs will reflect, in part, the capability of each port to handle differing types of ship traffic, consistent with other statewide planning goals.

(ii.) Maintain appropriate navigation lanes and facilities free from interference by other uses to provide safe transportation along and to the Oregon Coast.

(d) Aesthetic Use

Maintain the aesthetic enjoyment and experiences provided by ocean resources.

(e) Recreation

Identify, maintain and enhance the diversity, quality, and quantity of recreational opportunities on and over the Oregon continental shelf, as consistent with the Beaches and Dunes Goal and Estuarine Resources Goal.

(f) Waste Discharge and Mineral Extraction

Provide that extraction of materials from or discharge of waste products into or affecting the Oregon territorial sea do not substantially interfere with or detract from the use of the continental shelf for fishing, navigation, recreation, or aesthetic purposes, or from the long-term protection of renewable resources.

(g) Dredged Material Disposal

Provide for suitable sites and practices for the open sea discharge of dredged materials, which do not substantially interfere with or detract from the use of the continental shelf for fishing, navigation, or recreation, or from the long-term protection of renewable resources.

(h) Archaeological Sites

Identify and protect, whenever possible, significant underwater archaeological sites of the continental shelf.

(3) Contingency Plans

Before issuing permits for development on the Oregon continental shelf, state and federal agencies, in coordination with the permitee, shall establish contingency plans and emergency procedures to be followed in the event that the operation results in conditions which threaten to damage the environment.

GUIDELINES

A. Implementation

The Ocean Resources Goal does not include any specific plan requirements. It primarily sets implementation requirements, giving priority to certain uses and requiring that actions affecting Ocean Resources must be preceded by an inventory and based on sound information.

These requirements address all units of government. Examples of plans, actions or programs of local government which might affect the identified ocean resources include construction and expansion of port and navigation facilities, recreation use, and disposal of chemical, thermal, sewage or dredged material wastes. Other kinds of actions in ocean resource and continental shelf areas are primarily under the regulatory authority of state and federal agencies; these activites must be closely coordinated with local government to avoid or minimize impact on adjacent and affected upland areas.

B. Inventory

The goal does not intend that local government and state and federal agencies develop complete inventories of ocean resources. Rather, it requires that actions affecting the nearshore ocean and continental shelf areas be based upon a sound understanding of the resources and potential impacts. Therefore, the inventory should identify the affected ocean area and describe the extent and significance of:

1. Hydrographic conditions and processes, including characteristics of ocean waves, current, tidal, water quality, and bottom;

2. Geology,

3. Biological features, including fish and shellfish stocks; other biologically important species; important habitat areas including sea grass and algae beds; and other elements important to maintaining the biological resource such as plankton and benthos;

4. Mineral deposits, including sand and gravel and hydrocarbon resources; and

5. Present and projected uses, use patterns, and values associated with the ocean resource, including commercial fishing, port and navigation uses, recreational activities, and waste discharges.

C. Research

Resource agencies and research organizations should continue to develop complete and comprehensive information on ocean resources to promote their proper management and protection.

D. Fish Harvest

State and federal agencies should encourage, where appropriate and in keeping with sound practices for conservation of ocean resources, the exploitation of unutilized and underutilized fish species.

E. Permits

Permits for development on the Oregon continental shelf should:

1. Designate areas within the proposed development where activities such as exploration and extraction, will be prohibited;

2. Specify methods and equipment to be used and standards to be met;

3. Require the developer to finance monitoring and inspection of the development by the appropriate state agency;

4. Require that pollution abatement utilize the best available technology when needed to protect coastal resources;

5. Require the developer to be liable for individual or public damage caused by the development and to post adequate bonding or other evidence of financial responsibility to cover damages;

6. Specify the extent of restoration that must be accomplished, where appropriate, when the development is finished;

7. Specify that the state or federal government may revoke or modify a permit to prevent or halt damage to the environment and that such revocation or modification will recognize vested rights of the developer;

8. Require the developer to describe the extent and magnitude of onshore support and operation facilities and their social, economic and environmental impacts on the Oregon coast; and

9. Be available for public review and comment before issuance.

DEFINITIONS

A

ACCRETION: The build-up of land along a beach or shore by the deposition of waterborne or airborne sand, sediment, or other material.

ANADROMOUS: Referring to fish, such as salmon, which hatch in fresh water, migrate to ocean waters to grow and mature, and return to fresh waters to spawn.

ARCHAEOLOGICAL RESOURCES: Those districts, sites, buildings, structures, and artifacts which possess material evidence of human life and culture of the prehistoric and historic past. (See Historical Resources definition.)

AVULSION: A tearing away or separation by the force of water. Land which is separated from uplands or adjacent properties by the action of a stream or river cutting through the land to form a new stream bed.

B

BEACH: Gently sloping areas of loose material (e.g., sand, gravel, and cobbles) that extend landward from the low-water line to a point where there is a definite change in the material type or landform, or to the line of vegetation.

BENTHIC: Living on or within the bottom sediments in water bodies.

C

COASTAL LAKES: Lakes in the coastal zone that are created by a dune formation or that have a hydrologic surface or subsurface connection with salt water.

COASTAL SHORELANDS: Those areas immediately adjacent to the ocean, all estuaries and associated wetlands, and all coastal lakes.

COASTAL STREAM: Any stream within the coastal zone as defined in ORS 191.110.

COASTAL WATERS: Territorial ocean waters of the continental shelf; estuaries; and coastal lakes.

COASTAL ZONE: The area lying between the Washington border on the north to the California border on the south, bounded on the west by the extent of the state's jurisdiction, and in the east by the crest of the coastal mountain range, with the exception of: (a) The Umpqua River basin, where the coastal zone shall extend to Scottsburg; (b) The Rogue River basin, where the coastal zone shall extend to Agness; (c) The Columbia River basin, where the coastal zone shall extend to the downstream end of Puget Island. (ORS 191.110)

CONTINENTAL SHELF: The area seaward from the ocean shore to the distance when the ocean depth is 200 meters, or where the ocean floor slopes more steeply to the deep ocean floor. The area beyond the state's jurisdiction is the OUTER Continental Shelf.

D

DEFLATION PLAIN: The broad interdune area which is wind scoured to the level of the summer water table.

DIVERSITY: The variety of natural, environmental, economic, and social resources, values, benefits, and activities.

DUNE: A hill or ridge of sand built up by the wind along sandy coasts.

- DUNE, ACTIVE: A dune that migrates, grows and diminishes from the face of wind and supply of sand. Active dunes include all open sand dunes, active hummocks, and active foredunes.
- DUNE, CONDITIONALLY STABLE: A dune presently in a stable condition, but vulnerable to becoming active due to fragile vegetative cover.
- DUNE, OLDER STABILIZED: A dune that is stable from wind erosion, and that has significant soil development and that may include diverse forest cover. They include older foredunes.
- DUNE, OPEN SAND: A collective term for active, unvegetative dune landforms.
- DUNE, RECENTLY STABILIZED: A dune with sufficient vegetation to be stabilized from wind erosion, but with little, if any, development of soil or cohesion of the sand under the vegetation. Recently stabilized dunes include conditionally stable foredunes, conditionally stable dunes, dune complexes, and younger stabilized dunes.
- DUNES, YOUNGER STABILIZED: A wind stable dune with weakly developed soils and vegetation.

DUNE COMPLEX: Various patterns of small

dunes with partially stabilized intervening areas.

E

ECOSYSTEM: The living and non-living components of the environment which interact or function together, including plant and animal organisms, the physical environment, and the energy systems in which they exist. All the components of an ecosystem are inter-related.

ESTUARY: A body of water semi-enclosed by land, connected with the open ocean, and within which salt water is usually diluted by freshwater derived from the land. The estuary includes: (a) Estuarine water; (b) Tidelands; (c) Tidal marshes; and (d) Submerged lands. Estuaries extend upstream to the head of tidewater, except for the Columbia River Estuary, which by definition is considered to extend to the western edge of Puget Island.

F

FILL: The placement by man of sand, sediment, or other material, usually in submerged lands or wetlands, to create new uplands or raise the elevation of land.

FLOODPLAIN: The area adjoining a stream, tidal estuary or coast that is subject to regional flooding.

A REGIONAL (100-YEAR) FLOOD is a standard statistical calculation used by engineers to determine the probability of severe flooding. It represents the largest flood which has a one-percent chance of occurring in any one year in an area as a result of periods of higher than normal rainfall or streamflows, extremely high tides, high winds, rapid snowmelt, natural stream blockages, tsunamis, or combinations thereof.

FLOODWAY: The normal stream channel and that adjoining area of the natural floodplain needed to convey the waters of a regional flood while causing less than one foot increase in upstream flood elevations.

FLOODFRINGE: The area of the floodplain lying outside of the floodway, but subject to periodic inundation from flooding.

FOREDUNE, ACTIVE: An unstable barrier ridge of sand paralleling the beach and subject to wind erosion, water erosion, and growth from new sand deposits. Active foredunes may include areas with beach grass, and occur in sand spits and at river mouths as well as elsewhere.

FOREDUNE, CONDITIONALLY STABLE: An active foredune that has ceased growing in height and that has become conditionally stable with regard to wind erosion.

FOREDUNE, OLDER: A conditionally stable foredune that has become wind stabilized by diverse vegetation and soil development.

FOREST LANDS: See definition of commercial forest lands and uses in the Oregon Forest Practices Act and the Forest Lands Goal.

G

GEOLOGIC: Relating to the occurrence and properties of earth. Geologic hazards include faults, land and mudslides, and earthquakes.

H

HEADLANDS: Bluffs, promontories or points of high shore land jutting out into the ocean, generally sloping abruptly into the water. Oregon headlands are generally identified in the report on *Visual Resource Analysis of the Oregon Coastal Zone, OCCDC, 1974.*

HISTORICAL RESOURCES: Those districts, sites, buildings, structures, and artifacts which have a relationship to events or conditions of the human past. (See Archaeological Resources definition.)

HUMMOCK, ACTIVE: Partially vegetated (usually with beach grass), circular, and elevated mounds of sand which are actively growing in size.

HYDRAULIC: Related to the movement or pressure of water. Hydraulic hazards are those associated with erosion or sedimentation caused by the action of water flowing in a river or streambed, or oceanic currents and waves.

HYDRAULIC PROCESSES: Actions resulting from the effect of moving water or water pressure on the bed, banks, and shorelands of water bodies (ocean, estuarine, streams, lakes, and rivers).

HYDROGRAPHY: The study, description and mapping of oceans, estuaries, rivers and lakes.

HYDROLOGIC: Relating to the occurrence and properties of water. Hydrologic hazards including flooding (the rise of water) as well as hydraulic hazards associated with the movement of water.

I

IMPACT: The consequences of a course of action; the effect of a goal, guideline, plan, or decision.

INTEGRITY: The quality or state of being complete and functionally unimpaired; the wholeness or entirety of a body or system, including its parts, materials, and processes. The integrity of an ecosystem emphasizes the interrelatedness of all parts and the unity of its whole.

INTERDUNE AREA: Low-lying areas between higher sand landforms which are generally under water during part of the year. (See also Deflation Plain)

INTERTIDAL: Between the levels of mean lower low tide (MLLT) and mean higher high tide (MHHT).

L

LCDC: Land Conservation and Development Commission of the State of Oregon. Seven lay-citizens, non-salaried, appointed by the Governor, confirmed by the Oregon Senate; at least one commissioner from each Congressional District; no more than two from Multnomah County.

LITTORAL DRIFT: The material moved, such as sand or gravel, in the littoral (shallow water nearshore) zone under the influence of waves and currents.

M

MANAGEMENT UNIT: A discrete geographic area, defined by biophysical characteristics and features, within which particular uses and activities are promoted, encouraged, protected, or enhanced, and others are discouraged, restricted, or prohibited.

N

NATURAL AREAS: Includes land and water that has substantially retained its natural character, which is an important habitat for plant, animal, or marine life. Such areas are not necessarily completely natural or undisturbed, but can be significant for the study of natural, historical, scientific, or paleontological features, or for the appreciation of natural features.

O

OCCDC: Oregon Coastal Conservation and Development Commission, created by ORS 191; existed from 1971 to 1975. Its work is continued by LCDC.

OCEAN FLOODING: The flooding of lowland areas by salt water owing to tidal action, storm surge, or tsunamis (seismic sea waves). Land forms subject to Ocean Flooding include beaches, marshes, coastal lowlands, and low-lying interdune areas. The highest predicted tide is approximately six (6) feet above Mean Sea Level (MSL). The highest probable storm surge is four to seven (4 - 7) feet above prevailing tidal elevation. The highest probable tsunami is approximately 14 feet above prevailing tidal elevation in mouths of estuaries and slightly higher on beaches. Because tidal flooding occurs twice daily, the effect of high tide is superposed on that of storm surges or tsunamis in determining the impact of these phenomena.

P

PUBLIC GAIN: The net gain from combined economic, social, and environmental effects which accrue to the public because of a use or activity and its subsequent resulting effects.

R

RECREATION: Any experience voluntarily engaged in largely during leisure (discretionary time) from which the individual derives satisfaction.

COASTAL RECREATION occurs in offshore ocean waters, estuaries, and streams, along beaches and bluffs, and in adjacent shorelands. It includes a variety of activities, from swimming, scuba diving, boating, fishing, hunting, and use of dune buggies, shell collecting, painting, wildlife observation, and sightseeing, to coastal resorts and water-oriented restaurants.

LOW INTENSITY RECREATION does not require developed facilities and can be

accommodated without change to the area or resource. E.g., boating, hunting, hiking, wildlife photography, and beach or shore activities can be low intensity recreation.

HIGH INTENSITY RECREATION uses specially built facilities, or occurs in such density or form that it requires or results in a modification of the area or resource. Campgrounds, golf courses, public beaches, and marinas are examples of high intensity recreation.

RESTORE: Revitalizing, returning, or replacing original attributes and amenities, such as natural biological productivity, aesthetic and cultural resources, which have been diminished or lost by past alterations, activities, or catastrophic events.

ACTIVE RESTORATION involves the use of specific positive remedial actions, such as removing fills, installing water treatment facilities, or rebuilding deteriorated urban waterfront areas.

PASSIVE RESTORATION is the use of natural processes, sequences, and timing or which occurs after the removal or reduction of adverse stresses without other specific positive remedial action.

RIPARIAN: Of, pertaining to, or situated on the edge of the bank of a river or other body of water.

RIPRAP: A layer, facing, or protective mound of stones randomly placed to prevent erosion, scour or sloughing of a structure or embankment; also, the stone so used. In local usage, the similar use of other hard material, such as concrete rubble, is also frequently included as riprap.

S

SEDENTARY: Attached firmly to the bottom, generally incapable of movement.

SHORELINE: The boundary line between a body of water and the land, measured on tidal waters at mean higher high water, and on non-tidal waterways at the ordinary high water mark.

SIGNIFICANT HABITAT AREAS: A land or water area where sustaining the natural resource characteristics is important or essential to the production and maintenance of aquatic life or wildlife populations.

SUBSTRATE: The medium upon which an organism lives and grows. The surface of the land or bottom of a water body.

SUBTIDAL: Below the level of mean lower low tide (MLLT).

T

TERRITORIAL SEA: The ocean and seafloor area from mean low water seaward three nautical miles.

TIDAL MARSH: Wetlands from lower high water (LHW) inland to the line of non-aquatic vegetation.

W

WATER-DEPENDENT: A use or activity which can be carried out only on, in, or adjacent to water areas because the use requires access to the water body for water-borne transportation, recreation, energy production, or source of water.

WATER-RELATED: Uses which are not directly dependent upon access to a water body, but which provide goods or services that are directly associated with water-dependent land or waterway use, and which, if not located adjacent to water, would result in a public loss of quality in the goods or services offered. Except as necessary for water-dependent or water-related uses or facilities, residences, parking lots, spoil and dump sites, roads and highways, restaurants, businesses, factories; and trailer parks are not generally considered dependent on or related to water location needs.

WETLANDS: Land areas where excess water is the dominant factor determining the nature of soil development and the types of plant and animal communities living at the soil surface. Wetland soils retain sufficient moisture to support aquatic or semi-aquatic plant life. In marine and estuarine areas, wetlands are bounded at the lower extreme by extreme low water; in freshwater areas, by a depth of six feet. The area below wetlands are submerged lands.

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