CHAPTER I
GOALS, POLICIES, RECOMMENDATIONS, AND PLAN IMPLEMENTATION

October 10, 2013

INTRODUCTION

A. Foreword

This Comprehensive Plan is a general plan for the logical and orderly development of Dunes City over the years. There are reasons for writing it beyond the State requirements that each city and county in Oregon have a plan.

There are already in existence building codes, zoning ordinances, health and safety codes, anti-pollution requirements, and many more laws that restrict what a person may do with their own property. These are necessary rules so that we can have some assurance of what our neighborhoods will generally be like in the future.

Developers should be able to put the proper type of construction in the right place with the least damage to the environment. New citizens may be attracted by having some assurance of what their future surroundings will look like. Residents who are already here should gain confidence that their city will not deteriorate as has been the case in so many unplanned communities.

The first section of the plan contains the policies that guide the city decision-makers. Following the policies are sections that contain inventory material that were used to develop the policies and a section on the history of Dunes City and the surrounding area.

The original plan, adopted September 9, 1976, was put together by a group of area citizens with a variety of backgrounds. New members were appointed by the Mayor and the City Council at public meetings from a list of interested citizens. This Comprehensive Plan Advisory Committee met 24 times in 1974. The group learned the mechanics of planning. They gathered statistics, made a partial survey, determined desires and complaints of the populace, and discussed solutions to the problems.

The next operation was the assembly into usable form of all the information that had been gathered. This resulted in an outline of the Plan and Preliminary Goals and Policies being completed by the end of 1974.

The first Dunes City Comprehensive Plan was adopted by the City Council on September 9, 1976. The Comprehensive Plan was reviewed by the Land Conservation and Development Commission. The staff report stated:

> *The Dunes City Comprehensive Plan is one of the finest small community plans the staff has had the opportunity to review. Almost all statewide planning goals are adequately addressed, with the exception of the coastal goals and other minor deficiencies as outlined in the findings of fact. The Plan is an accurate reflection of Dunes City's needs, because it was developed almost entirely by area residents.*

In 1978, the City began a process to review and update the Comprehensive Plan. The ongoing Citizen Involvement Program was established to further refine the Plan and to reflect the majority wishes of the community. Over the years the citizens' committee has held many meetings and has done a great deal of work to develop and update the plan. Any resident or landowner attending a Citizen's Committee for Involvement (CCI) meeting automatically became a voting member. This town hall meeting atmosphere helped assure that the plan truly represents the desires of Dunes City residents. With changes made to the plan in 2013, the City moved to the format for citizen involvement described in Statewide Planning Goal 1, with a standing Committee for Citizen Involvement (CCI) that is devoted solely to maintaining the City's Citizen Involvement Program and ad hoc Citizen Advisory Committees formed to address land use matters as needed. This document contains more detailed maps and planning data and addresses comments made on the first plan by citizens, city officials, and the State Department of Land Conservation and Development. However, the intent, spirit and much of the original wording has been retained.

To ensure that the plan continued to meet Statewide Planning Goals, it was reviewed and updated in 1978, 1985 and in 1996. Evaluation of the plan is conducted as part of the Plan Update and Periodic Review process required by the State Department of Land Conservation and Development (DLCD). A review of the Plan resulted in recommendations for adding, deleting, or modifying Plan findings, goals, objectives, and policies. The CCI and Periodic Review Committee met numerous times to review the Plan page by page. The Committee discussed outdated information, current problems, and possible solutions. A Periodic Review Grant allowed the Lane Council of Governments (LCOG) to do parts of the update, although much of the work was done by citizens of Dunes City.

Dunes City is a naturally beautiful city located in western Lane County, Oregon. The purposes of this Comprehensive Plan are to formulate guidelines under which Dunes City will develop in an orderly manner, and to reflect the desire of its people to maintain the City as a predominantly rural residential community. The majority of people recognize that, while growth will occur, it should be limited to that which the land will support without the necessity for expensive public services, such as municipal water and sewage disposal systems. Growth for growth's sake should not be encouraged. Single-family residences are more desirable than multiple-family apartments, high-rise type condominiums, and motel-hotel complexes in order to preserve the rural atmosphere and to keep an attractive, natural setting. Planned Unit Developments (PUDs) could be an asset if the densities are limited.

This plan is based on citizen desires (including surveys) as developed by the Comprehensive Plan Advisory Committee and the CCI, which has continued the work of the former committee during the Plan update process. Other mention of surveys in the text refers to these same surveys and that a vote for a water system on March 18, 1975, was defeated by a margin of three to one and was defeated again in 1993. This Plan will be further refined to reflect majority wishes through the methods outlined in the Citizen Involvement Program.

Dunes City provides a different type of living experience that can be classed as semi-rural because of the nature of the land, the presence of two coastal lakes, and the low overall density. This plan has provided a framework on which the city may grow at a reasonable rate and provide this same living style for future residents to the year 2017. With 33.6 percent of its residents in the low/moderate income category the city provides opportunities for citizens of varying incomes to share the beauty of this unique city. When the time comes that the compact urban growth form characteristic of most cities with their multiple dwellings and high density must be forced on Dunes City, this plan will be history. The fish runs and wildlife and natural vegetation will vanish. In this case, the demand to share this way of life cannot be satisfied but will only destroy the supply.

I. COMPREHENSIVE PLAN POLICIES

A. Citizen Involvement and Land Use Planning

Policy A1. Dunes City Citizens Involvement Program

A. Citizens Involvement Program. The City shall maintain a Citizen Involvement Program (CIP) that incorporates the following components:

1. *Citizen Involvement.* The CIP shall provide for widespread citizen involvement. The CIP shall provide opportunities for the involvement of a cross-section of affected citizens in all phases of the planning process.

2. *Communication.* The CIP shall assure effective two-way communication with citizens. Mechanisms shall be established to provide for effective communication between citizens and elected and appointed officials of Dunes City, including but not limited to the use of newsletters, mailings, posters, mail-back questionnaires, and other available media.

3. *Citizen Influence.* The CIP shall provide the opportunity for the general public to be involved in the following phases of the planning process:

- Data Collection: Inventorying, recording, mapping, describing, analyzing and evaluating the elements necessary for development of the City's Comprehensive Plan.

- Plan Preparation: Developing a body of sound information to identify public goals, develop policy guidelines, and evaluate alternatives for the preparation of the City's Comprehensive Plan.

- Plan Adoption: Reviewing and recommending changes to the City's proposed Comprehensive Plan.

- Plan Implementation: Development, adoption, and application of legislation necessary to implement the City's Comprehensive Plan.

- Plan Evaluation: Evaluation of the City's Comprehensive Plan.

- Plan Revision: Reviewing and recommending proposed changes to the City's Comprehensive Plan.

4. *Technical Information.* The CIP shall include measures to assure technical information is available in an understandable form. Assistance shall be provided to interpret and effectively use technical information. A copy of all technical information relied upon in each decision-making process will be available at Dunes City Hall.

5. *Feedback Mechanism.* The CIP should include measures to assure citizens receive a response from policymakers. Recommendations resulting from the CIP shall be retained and made available for public assessment. The rationale used to reach land use policy decisions shall be available in the form of a written decision.

6. *Financial Support.* Adequate human, financial and informational resources shall be allocated for the CIP. These allocations shall be part of the City planning budget.

Implementation Measure: Except during periodic review and when the Council, in its sole discretion, determines that a greater level of citizen involvement is required, compliance with state law requirements and the requirements of the City's land use code shall constitute compliance with this Policy A1 and the CIP. During periodic review, a citizen advisory committee may be appointed to advise the Planning Commission on periodic review subject matters.

B. Committee for Citizen Involvement.

1. *Appointment.* The Planning Commission will serve as the City's Committee for Citizen Involvement (CCI). The Land Conservation and Development Commission (LCDC) will be notified as required by Goal 1.

2. *Duties.* The CCI will assist the City Council with the continued development of the CIP that promotes and enhances citizen involvement in land-use planning. The CCI will also assist in the implementation of the CIP and will evaluate the process being used for citizen involvement.

C. Citizens Advisory Committee.

1. *Appointment.* During periodic review or when directed by the Council, the Planning Commission may appoint citizens to a Citizen Advisory Committee (CAC), in order to solicit citizen input on proposed changes to the City's Comprehensive Plan and/or land use regulations. CACs are fluid and may be appointed or reappointed on an ad hoc basis for each issue on which the Planning Commission seeks public input.

2. *Duties.* CACs will make recommendations to the Planning Commission specifically regarding the proposed change to the Comprehensive Plan and/or land use regulation for which the CAC was created.

Policy A2. Amendments to the Comprehensive Plan shall abide by the statewide planning goals.

Planning, Zoning, and Subdivision Control Policies

Policy A3. Dunes City's City Council shall appoint a Planning Commission for planning and zoning.

Policy A4. The City shall coordinate and cooperate with Lane County Planning, Building, and Sanitation Departments for staff assistance.

Policy A5. Before a permit is issued on any lot or parcel of land the applicant must present a development plan to the city. Such plan shall include, but not be limited to, water supply and sewage disposal locations, proposed land drainage system and means of controlling run-off, and a plan and time schedule for re-landscaping land from which vegetation is to be removed. Standards for the above will be set by the City Council.

Policy A6. All construction on property contiguous to a lake, class F (fish bearing) stream, or wetland shall require a site review.

Lane County Boundary Commission

Policy A7. Annexations, special district boundary amendments, extra-territorial extensions of sewer or water services, and Community Sewer and Water Systems are required by law to be approved by the Lane County Boundary Commission.

Planning Program Responsibilities

Policy A8. Dunes City should develop emergency disaster awareness..

Land Use and Urbanization

Policy A9. Dunes City shall provide for the orderly development and preservation of the land, control densities to prevent the need of extensive public services and remain commensurate with the carrying capacity of the land and water resources of the city.

Policy A10. Dunes City shall create an environment which is visually attractive and which preserves the basically rural, low-density residential character of the city.

Policy A11. Dunes City defines its urban growth boundary as Dunes City's corporate limits. Lands commonly referred to as Ordinance 15 lands will be dealt with in the following manner.

1. Dunes City will withdraw those lands from its jurisdictional boundary which are identified on Appendix "O" as "area to be withdrawn." These lands represent a major portion of the Ordinance 15 lands.

2. Dunes City will extend its urban growth boundary to include the remainder of the Ordinance 15 lands.

+/- 10 acres of Map 19-12-13, Tax Lot 308
+/- 11 acres of Map 19-12-13, Tax Lot 306
+/- 1.47 acres - All of Map 19-12-24, Tax Lot 209

3. Dunes City will extend its residential zone to the property being added to its urban growth boundary.

(NOTE: Ordinance 15 lands adjusted as described above by Lane County Boundary Commission Final Order #1108 effective June 11, 1997 which re-defined Dunes City's corporate and urban growth boundaries. See Appendix "O".)

Policy A12. Dunes City shall coordinate land use decisions where needed with Lane County, Douglas County, the Oregon Dunes National Recreation Area, Oregon State Parks, Oregon Department of Transportation, Oregon Department of Fish and Wildlife, The Oregon Department of Forestry, and other local, state and federal agencies.

Policy A13. Before additional land can be annexed to the city, a plan amendment is required to extend the urban growth boundary. Land must be necessary, buildable and suitable for urban use.

Policy A14. Dunes City shall continue land use coordination with Lane County within its sphere of influence to ensure that Dunes City will have the opportunity to review and comment on actions taken by the West Lane Planning Commission (Lane County) and Hearings Official Public Hearings.

Policy A15. Dunes City shall continue to operate under the State Building Code, providing standards for building construction.

Policy A16. Final action on applications for land use permits or zone changes shall occur within 120 days after a complete application has been received by the City, as per ORS 227.178.

Policy A17. Dunes City shall comply with the urban growth management requirements of Oregon Land Conservation and Development Commission.

B. Open Space, Scenic Areas, and Natural Resources

Policy B1. The City shall protect natural resources and encourage their wise management, proper development, and reuse. Areas possessing unique ecological, scenic, aesthetic, scientific, or educational values shall be considered in the planning and zoning process.

Policy B2. The City shall protect the waterways and geologic and wooded integrity of the area so that the community may proudly identify itself with trees, lakes, dunes and rivers.

Dunes

Policy B3. Stabilizing vegetation on older dunes will be protected through special planning and development review procedures. Approval of new development on stabilized dunes will be subject to a site review.

Policy B4. Dunes City will coordinate with Lane County, the Oregon Department of Transportation, and the Oregon Dunes National Recreation Area to protect the stabilized dunes west of Highway 101.

Lakes

Policy B5. Elements of the aquatic environment such as the lakes, marshes, mudflats, lagoons, riparian vegetation, and critical wildlife habitat and resources shall be considered in the planning and zoning process.

Policy B6. Methods of conserving water resources must be considered in all land use and development proposals and decisions. In compliance with the Mid-Coast Basin Program adopted on September 25, 1984, the City recognizes that Siltcoos and Woahink Lakes are classified only for utilization of water for domestic, livestock, and in-lake uses for recreation, wildlife, and fish life purposes.

Policy B7. Dunes City will coordinate its efforts with governmental agencies and nearby jurisdictions, for implementing and studying possible alternatives for maintaining good water quality.

Policy B8. Dunes City shall strive to maintain the high water quality of Siltcoos and Woahink Lakes through monitoring recreation use, commercial and industrial use, and run-off of septic tank effluent. A Water Quality Control Committee will be formed to examine problems with water quality.

Policy B9. Non-point pollution sources are a threat to the water quality of the city's lakes and streams. There shall be no direct urban run off into the city's lakes and streams. New construction and site development, including roads, shall provide a storm water management system consistent with sound engineering practice and the requirements of this policy. Owners of existing

homes are to be encouraged to contain their run off as well. Site construction procedures shall not contribute to erosion into lakes and streams.

Policy B10. The City will work with Lane County, ODOT and other state agencies to develop a protective barrier where highway 101 runs parallel to Woahink Lake. ODOT needs to protect the lake from spills and road runoff.

Fish and Wildlife

Policy B11. The City shall strive to protect the habitat of wildlife and fish, including lakes, fish-bearing (Class "F") streams, wetlands, riparian areas, and forested-lands. These resources shall be protected and conserved to the greatest extent possible, consistent with low-density development of the city.

Policy B12. Significant natural areas and habitats of listed plant and animal species (refer to federal and state law) shall be retained in open space whenever possible and will be considered in the planning and zoning process, particularly those areas containing unique ecological, scenic, aesthetic, scientific or educational values.

Scenic Areas Policies

Policy B13. Urban appurtenances, such as roadway and building signs, traffic signals, overhead wires, and utility poles, shall have an uncluttered appearance and be subordinate to their urban, rural, or natural setting. Removal of vegetation in privately-owned areas must comply with Dunes City's vegetation ordinance.

Policy B14. The City will adopt policies and regulations to control vegetation removal in the public right-of-way.

Policy B15. Open space shall be used to protect and enhance the character and identity of the community and serve as a buffer between incompatible land uses.

Wetlands

Policy B16. Dunes City hereby adopts the Dunes City Local Wetlands Inventory and Riparian Inventory, prepared by LCOG/Pacific Habitat Services, Inc., November, 1996, as part of its comprehensive plan.

Policy B17. The wetlands in Dunes City serve as the most efficient biofilter known in maintaining a high level of water quality. They provide critical habitat for fish, plants and wildlife. The city shall protect these assets by regulating filling or dredging of the wetlands and by requiring setbacks to protect and maintain these values. Review of development activities within the setback area will be coordinated with the Division of State Lands.

Policy B18. In compliance with the LCDC Administrative Rule on Goal 5, Natural Resources, the City shall classify the Darlingtonia California bogs identified in the Dunes City Local Wetlands Inventory and located on private property as a "1B" resource.

C. Geology, Natural Hazards, and Development Constraints

Policy C1. The City will protect against natural hazards by requiring that building and land division are done within the limits of the natural environment.

Policy C2. The City shall encourage areas subject to flooding or severe soil erosion to be retained as open space.

Policy C3. Grading and excavation shall complement the natural configuration of the topography. No grading shall occur which impacts riparian areas without a site review.

Policy C4. Development will not exceed the level of use that can be accommodated without irreversible damage to or impairment of the natural resources or their quality.

Policy C5. Dunes City will continue participation in the National Flood Insurance Program (NFIP).

Policy C6. Development proposed on slopes 12 to 16 percent is subject to site review. New development on slopes over 16 percent will require documentation from a licensed Oregon Engineer which shows such development to be safe.

Policy C7. No development will be permitted in areas subject to landslide, as identified in Department of Geology and Mineral Industries (DOGAMI) maps and/or text.

D. Public Utilities, Facilities, and Services

Policy D1. Where possible, the City shall provide public utilities, services, and facilities in an orderly and efficient manner.

Policy D2. Where possible, the City shall provide services through decentralized systems which do not require tax money for support. Community systems should be funded through direct user charges to those who use them.

Policy D3. The City shall encourage citizens to make use of the existing procedures for funding neighborhood improvements for levying and collecting special assessments. This would allow the creation of local improvement districts where those directly benefiting from improvements would pay for them.

Policy D4. The City will cooperate with the Lane County Sheriffs' Office, Oregon State Police, and the Neighborhood Watch program.

Policy D5. The City supports efforts of the Siuslaw Rural Fire District to encourage citizen participation in fire prevention programs.

Policy D6. The City shall cooperate with Central Lincoln PUD to assist Dunes City residents in reducing their consumption of energy through conservation.

E. Air, Land and Water Quality

General Policies

Policy E1. The City shall strive to preserve the quality of the land, air, and water resources in the city.

Policy E2. All development in the City shall comply with DEQ's applicable air and water quality standards and noise control standards.

Policy E3. Waste discharges from future facilities shall not exceed the carrying capacity nor degrade the quality of the land, air, and water resources.

Policy E4. Regulations involving land, air, and water resources of the city shall be based upon long-term capabilities of the available natural resources to both support economic activity and absorb the future, resulting man-made pollutants.

Sewage Systems Policies

Policy E5. The City shall cooperate with the Department of Environmental Quality to ensure compliance with disposal system requirements.

Policy E6. The City shall adopt a program to improve maintenance of septic systems for the benefit of all residents.

Water Supply Policies

Policy E7. The City shall draft city ordinances regulating nonpoint source polluted runoff into lakes and streams and will work with the Oregon Department of Agriculture to address the use of pesticides and herbicides within the city.

Policy E8. Providing that an application meets Lane County requirements, the city shall permit adjoining lots to share a water system (Note: if more than three residences share a well it is considered a community water system and is subject to the approval by the Lane County Boundary Commission and applicable state law).

Policy E9. In compliance with the Mid-Coast Basin Program, the City recognizes that it should not exceed its water right from Woahink Lake issued by the Water Resource Board.

Policy E10. Future land developments shall demonstrate adequate water supply.

Solid Waste Policies

Policy E11. The City shall coordinate solid waste planning with Lane County. Solid waste disposal must not exceed the carrying capacity of the land nor contaminate water resources.

Noise Policies

Policy E12. The City recognizes that increased efforts will be needed to minimize noise problems. Off-road vehicles in violation of noise levels near the city limits will be discouraged. The City shall continue to work with Oregon Dunes National Recreation Area, the Department of Environmental Quality, and other local, state and federal agencies to work toward alleviating noise problems.

Air Quality Policies

Policy E13. The City shall work with other agencies to provide information to residents that will help them maintain good air quality.

F. Transportation

Policy F1. The City shall strive to maintain an efficient, safe and attractive road system. All modes of transportation will be considered. The city will appoint a road commission consisting of Dunes City residents for planning and recommendations.

Policy F2. The City shall strive to minimize adverse impacts of the transportation system.

Policy F3. Public or private streets shall not be used to encourage development in an area where such development would constitute a threat to public health or welfare, or create excessive public expense.

Policy F4. Every developed property shall have direct access by streets or deeded easements.

Policy F5. Public street rights-of-way shall continue to serve as primary access to properties for transportation and public utilities.

Policy F6. The City shall require subdividers to provide adequate streets with no less than minimum requirements as set forth in the Subdivision Ordinance. All future dead-end streets must have turn-arounds that meet state requirements for emergency vehicles.

Policy F7. Off-street parking must be provided as part of any land development.

Policy F8. The City shall encourage provisions to be made for pedestrian and bicycle access.

Policy F9. The City will limit access to major thoroughfares.

Policy F10. Dunes City will coordinate the local planning review of highway projects with the Oregon Department of Transportation.

Policy F11. Dunes City will coordinate efforts with existing local agencies to provide public transportation and alternative transportation services in Dunes City.

Policy F12. A minimum driving width adequate for emergency vehicles will be maintained.

Policy F13. The City will encourage improvement programs to bring substandard street and drainage systems to minimum standards.

Policy F14. The City will develop a master transportation plan that includes an inventory of existing streets, bike and pedestrian ways and their condition, prioritizes needed improvements, and estimates costs.

Policy F15. The City will adopt standards for maintaining the road system.

G. The Economy

Economic Policies

Policy G1. Dunes City and its residents should take an active interest in maintaining and improving the economic health of the region, including continued participation with the Lane Economic Committee.

Policy G2. The City discourages strip development.

Policy G3. The retirement industry shall be encouraged as the prime economic base of the city.

Policy G4. Minor economic activities, such as home occupations, will be permitted if they are not harmful to air, water, or land quality, and if they are not potential nuisances to neighboring uses. Dunes City does not seek industries to locate in the city.

H. Residential Land Use

Residential Land Use and Housing

Policy H1. Dunes City shall provide housing opportunities responding to the needs of Dunes City residents.

Policy H2. Dunes City shall allow infilling of existing vacant lots to provide for a more compact urban growth form when sanitary conditions are met.

Policy H3. Dunes City shall allow orderly residential development through the use of the PUD to cluster housing and protect areas with open space or natural values.

Policy H4. Dunes City shall allow a mixture of dwelling unit types where use criteria and conditions can be met, as specified in the zoning ordinance, consistent with the rural residential nature of the city.

Policy H5. The City shall require that lot size be capable of providing permanent subsurface sewage disposal.

Policy H6. Dunes City shall require partitions and subdivisions of properties to include provisions for paved street, drainage, and underground utilities.

Policy H7. In future land divisions and developments, individual lots shall contain a minimum of one acre and in the case of Planned Unit Developments, the density shall not exceed one unit per acre. Existing parcels may be developed if DEQ regulations and city ordinances are met.

Policy H8. Dunes City shall encourage the elimination/improvement of dilapidated or abandoned buildings through strict enforcement of building, housing, and health codes.

Policy H9. Dunes City will use its ordinances to encourage property owners to remove abandoned cars, appliances, junk, and litter.

Policy H10. Dunes City will implement clear and objective conditional use standards for multifamily housing.

I. Commercial Land Use

Commercial Policies

Policy I-1. Dunes City will strive to preserve the rural residential atmosphere; commercial development should be controlled so as not to detract from the city.

Policy I-2. New commercial enterprises which would allow permanent or transient residences shall not have a greater density than allowed in the City as a whole.

Policy I-3. Dunes City will allow new commercial zones only when public need can be established through public hearings as part of the zone change process.

Policy I-4. Existing commercial businesses should be allowed to continue. Any new businesses, expansions or changes of existing businesses shall comply with the zoning ordinance.

Policy I-5. Declining commercial areas should be either upgraded or eliminated through enforcement of building codes and zoning ordinances.

Policy I-6. Dunes City will discourage strip commercial development.

Policy I-7. Commercial establishments shall comply with the goals and policies for natural resources and physical environment.

Policy I-8. Commercial building size, location, and lot coverage regulations shall comply with aesthetic and scenic values contained in the plan and ordinances.

Policy I-9. Commercial activity in residential districts shall be limited to the home occupation listed in the applicable zoning ordinance.

Policy I-10. Commercial properties shall have adequate sewage disposal systems and be in harmony with their natural surroundings.

Policy I-11. Buffer zones or adequate screening or fencing must separate commercial enterprises and trailer parks from residential properties.

Policy I-12. Dunes City will establish controls for outdoor advertising and other detracting features.

Policy I-13. Dunes City will use policies and ordinances to implement this Comprehensive Plan.

Policy I-14. As provided in the Dunes City Zoning Ordinance, all commercial facilities shall provide off-street parking on their sites or within 200 feet of their location.

J. Industrial Land Use

Industrial Policies

Policy J1. Dunes City shall preserve the rural and scenic character of Dunes City by excluding any major industry by allowing only small-scale industry which is compatible with residential uses and which would not produce excessive noise or pollution.

K. Coastal Shorelands

Shorelands Policies

Policy K1. As defined by the Oregon Division of State Lands, the ordinary high water line of Siltcoos Lake is 12' above mean sea level and the ordinary high water line of Woahink Lake is 39.8' above mean sea level. The shorelands area is 50 feet measured horizontally from these points. Shoreland uses and development should avoid physical alterations of the shore, such as dredging, filling, riprap, and channelization.

Policy K2. The city will strive to preserve water quality, aesthetic values, and fish and wildlife habitat of shorelands, and provide for orderly development of water-dependent uses of shorelands, such as boating, fishing, and swimming.

Policy K3. Except as allowed by the zoning ordinance, new nonwater-dependent structures shall be excluded from the shorelands areas to protect water quality, fish and wildlife habitat, and to avoid adverse visual impact.

Policy K4. Shoreland vegetation and trees shall be retained in as natural a state as possible. All vegetation and trees removed shall be replaced within a specified time to prevent erosion and to protect the water quality, fish and wildlife habitat, and visual values, subject to city approval.

Policy K5. No more than one water access development shall be allowed per lakefront lot. The city shall work with ODSL in regulating boathouses, docks, piers, wharfs, or combinations thereof.

Policy K6. Shoreland access structures to houseboats used as dwellings shall not be allowed.

Policy K7. The City shall notify the State Parks Division and the Oregon Department of Fish and Wildlife of public access projects and provide a sufficient period of time for comment.

Policy K8. Public access in coastal shoreland areas shall be retained or replaced when public property, rights-of-way, or public easements are sold, exchanged, or transferred.

Policy K9. In order to achieve a uniform aesthetic appearance within the shoreland and upon the water in keeping with the natural wooded Dunes City shoreline, access structures on Dunes City shorelands will be denied unless all new boathouses, piers, and docks are constructed of materials that blend with the natural surroundings and complement the landscape and meet the requirements of the State Marine Board.

Policy K10. The Dunes City boundary description is confusing. The city shall clarify it through the proper agencies as soon as reasonably possible.

L. Forested Lands

Policy L1. Dunes City shall strive to maintain the forested character of Dunes City through the enforcement of its ordinances and the Forest Practices Act.

Policy L2. Logging not within the 50' shoreland area shall be regulated and enforced by the Oregon Department of Forestry under the Forest Practices Act or applicable city regulations.

Policy L3. The City should move toward writing and adopting ordinances for the harvesting and removal of timber from lands within Dunes City.

M. Agriculture

Agricultural and livestock Policies

Policy M1. Dunes City shall permit agricultural usage of land that is consistent with water quality protection.

Policy M2. Existing agricultural uses will be allowed to continue as conditional uses except where a nuisance situation or continuing air or water pollution is found to occur.

Policy M3. Dunes City will review proposals to raise domestic animals and livestock as conditional uses with restrictions necessary to avoid public nuisances, health hazards or contamination of the shorelands, streams and wetlands.

Policy M4. The City shall require all water front owners to restrict all livestock from entering the setback requirement for all lakes, streams and wetlands within the city.

Policy M5. The City will encourage reforestation of marginal agricultural lands.

II. PLAN IMPLEMENTATION

The development and adoption of a Land Use Plan is only the first step in the overall process. If a Plan is to serve as a guide for regulating growth and change, it must also: 1) be used as a policy guide by public decision makers, 2) be implemented through the application of regulatory ordinances, and 3) be reviewed and revised periodically.

A. The Plan as a Guide

Land use plans can be used as guides in the following ways:

1. General Guide for Public Decision Making

Land use plans provide public governing bodies with the basis for making decisions regarding the allocation of land uses, population densities, and development standards.

Without such a guide, it is difficult, if not impossible, to make land use decisions which are economically and environmentally sound, provide compatibility among different activities and, in general, provide orderly change and growth.

2. General Guide for Private Decision Making

Private individuals, businesses, and developers can effectively use a land use plan to determine the best locations for carrying out their activities. The individual seeking a single homesite, the business seeking a new commercial market, and the developer seeking the most appropriate location for a housing tract can all use the Plan as a basic reference document. Since the Plan represents public policy, private development decisions must be made in compliance with the Plan.

Aside from being a locational guide for private decisions, the Plan provides private decision makers with a store of basic information about socio-economic conditions, land use patterns, environmental concerns, and public service requirements. Use of this information will help private decision makers understand and support public actions based on the same information. It will also alert them to the problems and needs of the community and will provide directions through which private decisions can assist in solving the problems and meeting the needs. In these ways, the "public sector" and the "private sector" can work together to achieve common ends.

3. Guide for Providing Public Services

By indicating the direction and nature of growth and change, public bodies can program for capital improvements such as schools, roads, utilities, parks, recreation facilities, etc., in order to obtain maximum efficiency and utilization of these services.

4. Guide for Future Studies

In the process of gathering data and information for a land use plan (i.e., information on population, natural resources, economics), it sometimes becomes apparent that detailed studies in specific areas are needed.

Additionally, a land use plan is the first step in the development of performance standards for future land use proposals. Having identified the nature and character of an area and established policies for land use, performance standards can be used to relate particular development proposals to the natural and environmental limitations of particular development proposals to the natural and environmental limitations of a particular site.

B. Plan Review and Refinement

This land use plan update attempts to anticipate and guide change in a manner which reflects the goals of the area's citizens and is responsive to statewide planning goals and local environmental constraints. However, it is impossible to predict the nature and scope of all changes in an area, the types of pressures to which an area will be subjected, and the direction growth will always take.

New information on population growth, residential development trends, economic changes, etc., must be reviewed in light of the adopted Plan, and discrepancies and inconsistencies need to be eliminated, and additional goals and guidelines adopted. The Dunes City Comprehensive Plan shall be reviewed on an as-needed basis and updated during periodic reviews or through post-acknowledgment Plan amendments.

C. Implementation

In order for the Dunes City Comprehensive Plan to have any significance, it must be carried out. There are seven main ways in which the Plan can be put to use:

City policy
Ordinances
Capital Improvement Program
Community projects
Citizen participation
Private investment
Intergovernmental cooperation

1. City Policy

The Plan is adopted by the City Council as a statement of the city's basic policies. These policies are an important basis upon which decisions by the City Council are reached.

Many of the specific recommendations of this Plan are actually ways of implementing it. However, these recommendations, in most instances, require City Council action to be accomplished.

2. Ordinances

Ordinances, such as zoning and subdivision control, can be utilized to guide future development so that it is in accordance with the community's objectives and future plans.

a. Zoning: The division of the city into zoning districts and the establishment of regulations governing permitted activities in each district and to prepare and adopt a zoning map.

Dunes City's Zoning Ordinance took effect in August 1978. The Ordinance established procedures and criteria for considering zoning, rezoning, conditional use permits, temporary permits, variances, site review permits, and amendments to the Zoning Ordinances.

b. Subdivision: Regulations governing the division of land within the city and establishing standards and requirements the subdivider must meet.

c. Building Codes and Permits: Regulations emphasizing structural safety and fire resistance for new construction. The most common building code adopted in Oregon is the Uniform Building Code published by the International Conference of Building Officials.

d. Abatement of Building Nuisances: Regulations whereby a city can deal with buildings that are so deteriorated as to be a nuisance. This code would allow the City to deal with existing buildings, whereas a building code would be applicable to new construction.

3. Capital Improvement Program

The City should consider various projects and decide which are most important in terms of its stated policies. The priority assigned to each project should reflect the importance of that project in working toward the community's major objective.

When the City has decided on the priority of major projects, a capital improvement program can be established. This program should indicate the estimated cost of each project, the anticipated revenues to finance them, and the timing of each one. An important aspect of this program would be the allocation of funds to maintain projects or improvements which have already been initiated.

4. Community Projects

Many possible improvements noted in the Plan can be accomplished with minimum cost by various community groups. The Volunteer Fire Department is an example of a municipal service provided by community members. Capital improvements could also utilize the participation of the

community. These improvements should be coordinated with the overall objectives of the City. The Plan established guidelines for beneficial cooperation.

5. Citizen Participation

Constructive participation in Planning Commission and City Council meetings is essential if the plan is to adequately reflect the objectives of the community.

6. Private Investment

It is important for the City that private investors who plan to build in Dunes City recognize and use the Plan as a guide. This can help the City maintain an orderly pattern of growth, while reducing the possibility of conflict between the desires of the community and private investors.

7. Intergovernmental Cooperation

Cooperation between a number of governmental units and agencies will be necessary for successful implementation of the Plan. Foremost among the units of government is Lane County. In addition, close cooperation with other local, state and federal agencies will be necessary to carry out many of the policies and recommendations of the Plan.

CHAPTER II
POPULATION AND ECONOMY

A. Area Description

According to a 1972 planning survey, 3.3 percent of the work force was employed in Dunes City and 56.2 percent worked in Florence, while 19.8 percent were employed in Gardiner and Reedsport. The remainder commuted to scattered areas such as Cushman, Mapleton, and the Willamette Valley. Census data from 1990 shows that the average travel time to work was approximately 17.5 minutes, indicating that most of the work force in Dunes City continued to commute to scattered areas for employment purposes. From the most recent information, it appears that no drastic change of work location has occurred for Dunes City residents since 1972.

Census information provides data on the type of occupations of employed persons in Dunes City. The table below indicates that 26.7 percent are employed in technical, sales, and administrative support occupations. Managerial and professional specialty occupations were next at 24 percent; service occupations represented 18.8 percent; and 10.1 percent were precision production, craft, and repair occupations. Farming, forestry, and fishing occupations at 5.9 percent and operators, fabricators, and laborers rounded out the grouping at 14.6 percent.

OCCUPATIONS OF EMPLOYED PERSONS 16 YEARS OR OLDER - 1990

Occupation	Number	Percent
Technical, sales, and administrative support occupations	108	26.7
Managerial and professional specialty occupations	97	24.0
Service occupations	76	18.8
Farming, forestry, and fishing occupations	24	5.9
Precision production, craft, and repair occupations	41	10.1
Operators, fabricators, and laborers	59	14.6
TOTAL	405	100

Source: 1990 Census data

In terms of income, 4 percent of households categorized themselves as earning less than $5,000 per year. Those reporting incomes of $5,000 to $10,000 comprised 13.9 percent, while 82.1 percent listed their earnings as over $10,000. The response to this question, using 1990 Census data, was 474 households. The median household income for Dunes City was $25,185. (The median is the income level at which half the households earn more and half earn less.) The table below indicates that this is higher than the median family income for the City of Florence and approximately the same as Lane County's median household income.

MEDIAN HOUSEHOLD INCOME

Area	1990
Dunes City	$25,185
Florence	18,991
Lane County	25,268

Source: 1990 Census data

DUNES CITY POPULATION PROJECTIONS

It is assumed in this analysis that the estimated average annual growth rate (AAGR) for 1990-1995 of 2.5% per year, is not likely to be sustained for a twenty year period. The 1970s provide an example of a recent ten-year growth period. The AAGR for that period was 1.4%, and is used to estimate the high end of the range of likely future populations for Dunes City. Similarly, the period from 1980 to 1990 is an example of severe negative growth. Averaging the 1980s with either the 1970s (1970 - 1990) or the 1990s (1980 - 1995) yields and AAGR of 0.5%, which is used to estimate the low end of the range of likely future populations for Dunes City.

Over the entire twenty-five year period (1970 - 1995), Dunes City has grown at an average annual rate of 0.9%. This period includes the growth of the 70s, the estimated growth of the 90s, as well as the decline of the 80s. For this reason, the growth rate for this period is considered the best estimate for future growth.

Dunes City Population (Historical and Projected) as a Percent of Lane County Population

LOW MEDIUM HIGH

Year	Lane County	Dunes City	%	Dunes City	%	Dunes City	%
1970	213,401	976	0.45%	same		same	
1980	275,226	1,124	0.41%				
1990	282,912	1,081	0.38%				
1995	301,900	1,220	0.40%				
2000	330,000	1,251	0.38%	1,276	0.39%	1,370	0.42%
2005	352,300	1,282	0.36%	1,334	0.38%	1,455	0.41%
2010	381,000	1,315	0.35%	1,395	0.37%	1,540	0.40%
2015	413,300	1,348	0.33%	1,459	0.35%	1,625	0.39%
AARG 1995-2015	1.58%	0.50%		0.90%		1.40%	

Source: Actuals from 1970 - 1995 are provided by the Center for Population Research and Census.

The generally rural atmosphere of the City has attracted many senior citizens. The figures below indicate that persons aged 60 or over account for 33 percent of the population and is approximately 16 percentage points above Lane County's average, suggesting a large percentage of retirees in Dunes City. Dunes City's prime labor market population (age 20-55) accounts for 40 percent of the population, while the 0-19 school-age population represents 19.6 percent of the population. The large percentage of senior citizens has had a stabilizing effect in that their demands for schools, police, and other public services are low, while their income is steady.

POPULATION AGE DISTRIBUTION, 1990

Age	Male	Female	Totals	Percent	Cum. Percent
0-4	19	15	34	3.2	3.2
5-9	23	31	54	5.1	8.3
10-13	26	26	52	4.9	13.2
14-19	39	29	68	6.4	19.6
20-29	35	29	64	6.0	25.7
30-44	95	109	204	19.2	44.9
45-59	109	123	232	21.9	66.8
60-64	45	47	92	8.7	75.5
65+	134	126	260	24.5	100.0
	525	535	1,060	100.0	

Source: 1990 Census data

B. Economic Factors

There is no city tax at present. Revenue comes primarily from the following sources:

Liquor Receipts	Telephone Franchise
Cigarette Tax	TV Franchise
Motel Tax	Highway Department (Gas Tax)
CLPUD Franchise	Other Local Revenue (fees)
Emergency Telephone	Lane County Road Fund

Dunes City residents support several taxing districts that are located in Florence, including the library, Port of Siuslaw, School, Ambulance, and rural fire protection districts.

Dunes City is obviously a community to live in, not to work in. Economic development is unwanted by the populace. Its unemployment rate from in-city jobs is close to zero percent. Rather than demand for services, there is a widespread desire to be left alone. In one survey, about 60 percent of the people surveyed were against encouraging growth, while 12 percent wanted limited growth and 20 percent favored growth. However, a large majority believe that the city will grow.

Economic Base: According to 1990 Census data, a substantial majority of the labor force work in Florence, Gardiner, and Reedsport. There are no industries in Dunes City. Several resorts and other tourist commercial businesses provide some jobs.

Materials and Energy: Dunes City has no special advantage in regard to raw materials or supply of energy. Timber is the only raw material in the city. No intermediate goods used in the production of other goods are produced in the city. Electricity is supplied by Central Lincoln Peoples' Utility District.

Labor Market: Since Dunes City had only about 1,220 people in 1995, with a large percentage of retired persons, the labor market is too small to draw any kind of industry. On the other hand, Dunes City is only five miles from Florence where half of Dunes City's work force is employed.

The 1990 census revealed an unemployment rate of 5.8% in Dunes City and 7.1% in Lane County. Data in 1995 indicates the rate is 4.0% in Dunes City.

Transportation: Dunes City, though located on Highway 101, is by no means a transportation hub. Both Florence to the north and Reedsport to the south have trucking, rail, and port facilities. Both of these larger cities are located on Highway 101 with connections to Interstate 5.

Market Forces: Because of Dunes City's small population and remote location, there is no reason to expect that industry would desire to locate here.

The tourist source of income is mostly in dollars from out of the subarea and out of state. According to the Oregon Tourism Commission[1], West Lane County received over $82 million in travel expenditures in 1994. Travel expenditures in West Lane County increased steadily from 1991 to 1994, at an average annual rate of 4.1 percent.

More important is the transfer payment income of the residents. Because Dunes City has so many seniors, the economy receives a significant amount of retirement income, consisting in large part of federal transfer payments, dividends and pensions. Though exact figures are difficult to determine, according to the 1990 Census, 162 households received an average retirement income of $10,347, for a total of over $1,600,000. The multiplier effect would mean that Dunes City's retirement segment is contributing the equivalent of $6,700,000 in new money per year to western Lane County and to the State of Oregon.

INCOME TYPE IN 1989	Households with that type of income	Mean Income of that type($)	Total ($)	Percent
Wage and salary income	267	32,457	8,666,019	63.6%
Nonfarm self-employment inc.	74	17,252	1,276,648	9.4%
Farm self-employment income	8	2,825	22,600	0.2%
Social Security income	218	8,785	1,915,130	14.1%
Public assistance income	18	3,668	66,024	0.5%
Retirement income	162	10,347	1,676,214	12.3%
			13,622,635	100.0%

Source: 1990 Census
Note: Households may receive more than one kind of income.

Resources: Logs and timber from Dunes City lands shipped overseas and to other states has also brought in new money to the state. This will be at a declining rate until the new growth matures on a repeating forest cycle.

Large forested parcels east and south of Dunes City are owned by Roseburg Lumber Company, International Paper Company, Crown Zellerbach, Davidson Industries, and the U.S. Forest Service. Varying portions of the logs produced on this land are turned into timber, plywood, and paper in mills located at Cushman, Mapleton, and Gardiner. Some logs are shipped whole through Coos Bay to overseas markets. Some Dunes City residents derive their income from work both in these forests and in the mills.

[1] Economic Impacts of the Oregon Travel Industry, 1991-1995, March 1996

The tourist commercial businesses account for only three percent of the work force, but most are owner-operated. Much of the gross income coming from out of the area is put back into the local economy for construction and repair of facilities as well as retail purchases.

Although not significant, it is interesting that the Regional Bass Tournament on Siltcoos Lake also brings fresh money into the area. Sport fishing in general, as well as duck hunting, also contribute to the local economy.

Land Availability: As demonstrated above, retirement communities can contribute as much to the economy of the state as industrial plants can with less pollution and lower business cycle variations. Dunes City policies of maintaining an attractive, low-density minimum service and, therefore, a low tax area are enhancing the retirement industry. Any surplus vacant lands should be utilized for this highly-productive economic activity.

Pollution Control: Since there is no industry in Dunes City, there is no problem with industrial air or water pollution. Due to the scenic and recreational character of the area and due to the fact that both Woahink and Siltcoos Lakes are sources of drinking water the highest control standards should be maintained.

C. Conclusions

The underlying strength of the local economy is the very stable retirement industry, and this should be encouraged. When appropriate, the city should cooperate with the Lane Economic Committee, LCOG and other jurisdictions in the updating and implementation of Lane County Overall Economic Development Program.

There is no need for the allocation of more industrial or commercial land in Dunes City to provide an economic base. The City should resist large commercial establishments and high density which could destroy Dunes City's basic resource which is its natural attractiveness.

CHAPTER III
HOUSING INVENTORY

A. Area Description

Development in all areas of Dunes City has followed a natural and random pattern. There is a great deal of usable and vacant land scattered in and around these developed areas. Housing types of high value, moderate value, and low value, new and old, substantial and dilapidated, fixed and mobile, are randomly intermixed in many areas of Dunes City. Commercial development in the city is generally tourist-oriented and is located along Highway 101 and, also, at Westlake and North Beach.

The first houses in the area were on large homesteads that were developed around the lakes starting in 1876. These parcels were gradually split into segments and then subdivided. In 1913 Westlake was platted, creating 410 small lots. Half of these have been vacated and realigned into useable parcels. Development in Westlake is relatively concentrated in contrast with other areas of the city which are mostly low-density residential.

Westlake, with its sawmill, developed first, which accounts for it having the oldest buildings. The North Beach area followed next, followed by the strip along Highway 101 after its 1936 opening. The separate Clear Lake Road segments were connected and improved, bringing more development to the east side of Woahink Lake.

Housing values in Westlake range from $30,000 to $250,000. Homes in North Beach sell for $60,000 to $135,000. The lake-front homes have a wide value. About 20 high-value homes are mixed with two mobile home parks, a motel, and a seaplane base along Highway 101. Some vacant lots are kept for occasional use by camper units. This use must meet regulations that protect both neighbors and the water supply.

A complete set of street numbering system maps is on file in the City Recorder's office. These maps indicate the location and lot size of each dwelling in the city.

Because of the large range in age of dwellings, natural attrition will provide the variety of sale prices and rental rates that are desired. The older houses attain a low tax rate and then become more reasonable rentals.

B. Housing Inventory

According to an August 1992 study by Gary Dyer Engineering, there were 549 single family residences and 123 mobile homes in Dunes City. Census data from 1990 indicates that there were 94 vacant units, indicating a large number of the dwellings are used for seasonal/vacation use.

Following is a listing of water users from the Dyer study.

Residential		Water Use (est.)
549 Single Family Residences x 190 gpd*		104,310
123 Mobile Homes x 190 gpd		23,370
Commercial		
1.	Lakeshore Trailer Park	1,000
2.	Woahink Lake Suites	600
3.	Miller's Lakeside Gallery	200
4.	Woahink Lake RV Resort	1,900
5.	Siuslaw Fire Department	200
6.	Darling's Resort	5,000
7.	Community Center	100
8.	Siltcoos Lake Motel & RV Park	1,000
9.	Lane County Boat Ramp	-0-
10.	Westlake Resort	800
11.	Westlake Fishermen's Market	1,000
12.	Lake's Edge RV Park	800
13.	Westlake Post Office	100
14.	Fish Mill Lodges	2,000
15.	Tyee Campground	450
	Current Average Daily Demand	142,830 gpd
x 2.4 =	Current Maximum Daily Demand	342,800 gpd

Source: Gary Dyer Engineering, August 1992
* gpd = gallons per day

Comparison of Housing Costs 1970 - 1996

	1970	1980	1996
Median Value (Owner Occupied)	$13,000	$66,400	$93,000
Medial Rent	$81	$224	$431

(Source: 1990 Census)

1996 Housing Values

Under $30,000	5	$300,000 to 349,000	30
30,000 to 44,999	11	350,000 to 399,999	17
45,000 to 59,999	14	400,000 to 499,999	16
60,000 to 99,999	135	500,000 to 599,999	2
100,000 to 149,999	130	600,000 to 699,999	1
150,000 to 199,999	96	700,000 to 799,999	0
200,000 to 249,999	59	800,000 to 802,000	1
250,000 to 299,999	36	Class 107 - MH	89
		Commercial Living units	4

Source: 1996 Lane County Assessor

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1990 ESTIMATED SALE PRICE ON HOMES (PERCENT)

$ In Thousands	<$30	30-45	45-60	60-100	100-150	150-250	250+
	1.0	6.9	11.5	36.5	18.4	19.0	2.4

Source: 1990 Census

The above 1996 breakdowns are by total assessment, which includes land and all improvements on the lot, i.e., guest houses, garages, out buildings, etc. The earlier data is supplied for comparison.

In many cases the land assessment exceeds the improvement value.

Within the lots which have been identified by LCOG as 107-MH (mobile home) many of the units are sheds, docks, pumps, driveways, etc. The 107-MHs are listed separately as they are either not

developed with living units or could be redeveloped. The 107 MHs are dispersed through the first five value categories.

Within the improved lots that are larger than 2 acres there are 228 acres that have the potential of being further developed.

There may or may not be a few more commercial living units; however, the assessment records show them only as motels or mixed use. Computer sheets do not break down how much is living quarters or how much is commercial. If living quarters were listed separately, they would be included in one of the above categories.

Building permits were tabulated from 1979 to 1995. Almost one-fourth (25%) of the building permits were for mobile/manufactured homes; the remainder were for single-family homes.

Building permits issued between 1979 and 1995 are listed below.

Year	Stick-built Home	Mobile/Mfg. Home	Total
1979	10	-	10
1980	10	-	10
1981	7	-	7
1982	3	2	5
1983	3	4	7
1984	11	2	13
1985	1	3	4
1986	1	2	3
1987	5	3	8
1988	7	5	12
1989	17	5	22
1990	14	2	16
1991	8	3	11
1992	9	3	12
1993	8	4	12
1994	18	4	22
1995	9	3	12
Total	141	45	186

Source: Dunes City Building Records

For the 17 year period 1979 through 1995 an average of 8.3 stick-built and 2.65 Mobile/Manufactured homes were built or sited in Dunes City per year.

The presence of vacant houses tends to moderate fluctuations in rental and sale prices. The U.S. Dept. Of Housing and Urban Affairs (HUD) claims that an area like Dunes City should have a vacancy rate of less than 1 percent while rental vacancy should average 4 percent. The 1990 census

data listed 94 units as vacant out of 559, for a vacancy rate of 16 percent. This figure includes seasonal units, houses for sale and vacant rental units.

C. Housing Mix and Needs Assessment

There are currently only three types of housing in Dunes City: single-family, mobile homes, and duplexes. However, some mobile homes are on single-family lots and some are in mobile home parks. Of the total 123 mobile homes in Dunes City, the majority are located in mobile home parks. Of all housing units, 90 percent are single-family, 9.6 percent are mobile homes, and 0.03 percent are duplexes (1990 U.S. Census data).

When considering housing types and costs Dunes City cannot be considered alone. The County area known as Glenada, immediately north, has some 330 housing units. Because of age many are on the lower end of the price scale. The City of Florence, just five miles north, has 10 times as many houses priced under $50,000 as Dunes City has. Florence also has several subsidized low income rental projects that serve the region.

In Dunes City, 51 people received public assistance in 1989, including 11 that were less than 15 years old. These programs, run by Lane County and the state, cover the City of Florence as well as the county areas, which extend the range of choice as to location and type of housing to theee Geologyj regional situation.

In 1989 the median gross rent of $431 was 22.5 percent of the median household income. This percentage is less than Lane County or any other cities in Lane County with the exception of the City of Westfir, which had the same (22.5%) figures for their community.

Older houses, mobile homes, and mobile home parks have been meeting a need for low-cost housing. Since Dunes City has adopted a zoning ordinance allowing duplex, triplex, and four-plex units, a wider diversity of housing types could be made available. Because Dunes City does not have municipal water or sewer systems it must rely on the carrying capacity concept to protect the water supplies and livability of the residents. Multiple units up to four-plexes may be built as provided in the zoning ordinance. Existing small lots may be combined to meet DEQ on-site disposal standards, although one-half acre seems to be the minimum site that will receive approval for septic systems.

Newly-sited mobile homes must meet the standards of the State Mobile Home Code. Twenty-four percent of the building permits issued from 1979 to 1995 were for mobile homes. Manufactured Housing can be located on any lot zoned for single family uses.

As evidenced by the housing intermix, there is no discernible attitude that is either discriminatory or exclusionary. No controls exist on minimum housing size or value except those in the State Building Code. Market forces have supplied housing in the area for the last 50 years. As shown by

the inventory, such housing is in appropriate ranges of value to meet demands of all income ranges. As the present inventory ages, it will provide more housing in the lower cost classifications.

CHAPTER IV
PLANNING INVENTORY

The planning inventory gives us the background information we need to make planning decisions. It helps us to identify our opportunities and our constraints. It identifies issues and problems and provides the basis, in conjunction with community goals, for policies and recommendations adopted by the City in this Plan. For convenience, this inventory is divided into several subsections:

A. Natural Resources and the Environment

1. Open Space, Scenic Areas, and Natural Resources

a. The dunes. The western half of Dunes City, including Westlake, North Beach, and the strip along Highway 101, consists of stabilized dunes. These old dunes are covered by vegetation with weak to moderate soil development overlaying unconsolidated fine sand. Iron bands and buried soil horizons are common. These soils have severe development limitations.

These older, stabilized dunes can be developed safely where proper care is taken to retain or replace the protective cover of vegetation. Only low-intensity use which will not harm this vegetation should be permitted. Uncontrolled use of off-road vehicles or activities which lower the water table might destroy this protective cover and allow the dunes to become active.

Special review procedures for proposed dune developments could be established which would include the following recommended elements:

- A site investigation report financed by the developer to determine the limitations of the site and what measures should be taken to mitigate them;
- A performance bond to assure that any adverse effects are corrected; and
- A requirement to reestablish vegetation within a specified time.

The dunes are very important to the city in terms of scenic and recreational value and in terms of the potential danger to property which could result from erosion of stabilized dunes. The stabilized dunes west of the coast highway are particularly important in this regard. The city must coordinate with the county, the Oregon Dunes National Recreation Area, and the State Highway Department to insure that the protective vegetative cover is maintained and that the active dunes are not allowed to advance further. Additional development in this area is likely to be detrimental.

b. <u>The lakes</u>. All of Dunes City lies within the watershed on Siltcoos and Woahink Lakes. The greatest resource is the overall interrelationship of the lakes, forested and open areas, and surrounding dunes and hills. Together they create a visual impact of beauty not matched in many cities.

Data contained within Appendix D was excerpted from a memo from Bob Anderson, Lake Watch Volunteer and Dunes City Periodic Review Advisory Committee (PRAC) member, to the PRAC, May 21, 1996.

It was determined, by talking with Lane County staff on October 1, 1985, that the water quality of Woahink should be an important concern of the city. Recommendations include developing a water system on Woahink, implementing regulations to keep sewage out of the lake, and further study of the groundwater between Woahink and Siltcoos Lakes. Another recommendation included encouraging the city to coordinate its efforts with other nearby jurisdictions for implementing and studying possible alternatives for the water system. Some of the recommendations made by the staff were based on results from the Coastal Water Supply Study as well as general observations.

In accordance with the provisions of ORS 536.300(2), pertaining to water resources of the Mid-Coast Basin, in 1984 the Water Resource Board adopted a program to determine the highest and best use of the waters of the Mid-Coast Basin. Lakes of the Mid-Coast Basin, such as Devils, Triangle, Lily, Sutton, Mercer, Collard, Munsel, Cleawox, Carter, Lost, Elbow, Clear, Woahink, Siltcoos, Tahkenitch, and Threemile are classified for utilization of water for domestic, livestock, and in-lake uses for recreation, wildlife, and fish life purposes. The provisions exclude consumption on the lakes for power development and industrial and mining purposes. Future industrial use will be limited to the existing industrial consumption of water on Siltcoos Lake by International Paper.

Information from the Mid-Coast Basin Program indicates that the City has water rights in the amount of 1.4 cubic feet per second and an additional 1.5 cubic feet per second from Woahink Lake. With retention of these water rights, which could provide enough water for a population of approximately 25,000, there is reason to believe that a sufficient amount of water exists for the projected population (AAGR .9%) of 1459 in the year 2015. A sufficient amount of water will be available for domestic as well as commercial use if the City develops a public water system.

There is no problem at present with water withdrawal volumes on any of the lakes, however we must protect our water supply from the ever present threat of contaminant run off. Most lakes retain a relatively constant level all year due to subsurface water infiltration. Studies of the lakes show Woahink has a retention time of one-to-two years, whereas Siltcoos has a retention time of only approximately two months.

The lakes have outstanding recreational and scenic values. As a result, they are under continual and increasing development pressure. At present, there are no known direct waste discharges into either of the lakes. There are no serious pollution problems, but the potential for such problems exists. The main threats are septic tank seepage and nonpoint source pollution. This problem is particularly serious because many residents utilize the lakes for domestic water supplies.

Siltcoos Lake, the largest lake on the Oregon coast, is unique in that it has a very broad body. Siltcoos has an area of about 3,000 acres and 29.6 miles of shoreline of which 0.71 miles are in public ownership. Of the private shoreline, approximately 6.61 miles are already developed. Public recreation facilities are presently limited to a county park at Ada and a boat landing at Westlake. In addition, there are two hike-in campsites on the shore west of Booth Island. They are reached by boat or trail, starting at mile post 198 on Highway 101. Two separate parcels of land owned by the City will be developed for park use.

Booth Island in Siltcoos Lake has been designated a significant natural area by the Oregon Natural Heritage Program. Booth Island is characteristic of a natural island environment. Band-tailed pigeons make use of the island regularly, as do eagles and osprey.

Recreational use of the lake is substantial because of its unique fishery value. It is one of the prime large-mouth bass lakes in the Pacific Northwest and also supports rainbow trout, sea-run cutthroat, black bass, coho salmon, pan fish, and sturgeon. The Siltcoos River provides anadromous fish with access to the lake and its tributaries.

Siltcoos Lake serves as a source of industrial water supply for the International Paper Plant at Gardiner in Douglas County.

Siltcoos is quite shallow and exhibits complete mixing of waters at nearly all times, with subsequent uniform oxygen levels and generally higher nutrient and turbidity levels than most other nearby lakes. Brazil weed, a non-native plant, was introduced inadvertently and is now a pest. Algae growth is pronounced, giving the lake a characteristic green, murky appearance.

Characteristic of most Oregon coastal lakes, Siltcoos has low alkalinity and some enrichment with sodium and chloride from the ocean. In the winter months, the water is slightly acidic, while it is neutral to slightly alkaline in the summer. No problem exists with oxygen depletion.

Localized contamination problems may occur occasionally during summer months near specific out-falls and bathing-boating areas. There is a potential for contamination problems in lake arms draining agricultural areas and in locations where water turnover is low. Soil situations in the vicinity of the lakes are such that runoff is likely to pose increasing problems as recreational, vacation home, and residential development continues if not properly developed.

Woahink Lake has a surface area of 820 acres and a maximum depth of 80 feet. Water quality in Woahink Lake is considered to be very good. The manager at Honeyman Park indicated that between 50,000 and 100,000 gallons per day are pumped from Woahink Lake in order to supply domestic water for Honeyman Park. The water is treated and complies with the Clean Water Act and the water is tested twice a month (personal conversation with Honeyman Park Management).

c. Fish and wildlife. The anadromous fish infiltrate Dunes City's boundaries under the Highway 101 bridge at the Siltcoos River. Traveling singly or in groups they progress rapidly up the river and into Siltcoos Lake. Some follow the west shore, glide by Rocky Point, and turn east into Fiddle Creek. Another group may head east below Goat Island and enter Maple Creek. Other groups of all species, including trout, steelhead, salmon, and sturgeon, turn north at Westlake. They are joined by suckers and squawfish as they find their way into the largest of the marshes in Dunes City. This marsh and swamp extends from the Westlake boat landing to Darling's Resort, and covers over 80 acres. This area, as well as the other marshes in Woahink Lake and most of the aquatic vegetation areas along the Siltcoos shoreline, is breeding and feeding ground for dozens of species of wild fowl as well as the warm water fish. The migratory fish pass through the reeds and into Woahink Creek.

As the land rises slightly, the marsh becomes swamp, harboring other varieties such as crayfish, raccoons, frogs, owls, ravens, deer, muskrat, and weasel. Osprey, herons, hawks, and kingfishers often hunt here, maintaining the natural balance. Woahink Creek flows under Clear Lake Road through culverts near Highway 101 that are occasionally dammed by beavers. North of Clear Lake Road, the Heceta fine sand of the deflation plain becomes a type of bog soil known as brailler muck. This quicksand-type quality here protects the wildlife from man's intrusions. Much of Woahink Creek's value as fish habitat is due to cover provided by windfall trees and debris. In this upper half-mile south of Woahink Lake the creek narrows and flows faster. In dry years, the flows in August and September drop very low at the same time the sea-run cutthroat are arriving. In 1973, an unthinking individual dammed the north end of the creek at the outlet in order to raise the level of Woahink Lake. The State Water Board stopped this practice but not before hundreds of crayfish died and schools of large and small trout were trapped in pools and wiped out by predators. Some salmon and steelhead spawn in the gravel beds at the point where Woahink Creek flows out of Woahink Lake. They are very dark and inedible and fortunately will not strike at any lures or bait.

Salmon runs used to enter an unnamed creek in the northeast corner of Woahink Lake. This was dammed to form a private lake (Little Woahink) and no longer allows fish to pass. The overflow feeds into another marsh just south of Canary Road. While not a spawning ground, this area is another link in the aquatic food chain as well as being a harbor for wildlife.

The remaining Woahink Lake runs find their spawning grounds in Gibbs Creek at the end of the Summerhill Arm of Woahink. The reed and weed beds at the mouth of this creek are

another favored ground of various furbearers, waterfowl, and other birds. Another wildlife area at the tip of the northeast finger of Woahink Lake is only partially in Dunes City.

Immediately offshore of the south bank of Woahink Lake, between points approximately one-fourth and one-half mile east of Highway 101, the bottom, which is 20 to 30 feet deep, is covered with hundreds of trees, stumps, and logs. This is typical of many small stretches that are home to bass, mudcats, and crayfish. As development takes place around the shore, the temptation will exist to clean out these areas, thereby decreasing the number and size of the fish resources, the existence of which is one of the reasons for development. Although the State of Oregon controls the water and the lake bottom, such debris removal often takes place without approval. The public is generally not aware of the consequences of removal of debris, weed banks, or aquatic plants, or that infilling will have the same detrimental effect.

Siltcoos River and Siltcoos Lake are even more sensitive in that almost their entire submerged shoreline are important wildlife and fish habitat and food production sources. Cooperation with other governmental agencies is essential as the natural topography does not recognize paper boundaries.

According to the Lane County Coastal Resource Inventory and the Oregon Nature Conservancy Data Base, plant and animal species listed below can be found in the lake shorelands and surrounding areas of Dunes City.

The Northern Bald Eagle is classified as threatened. No known eagle nests have been found in Dunes City along the shorelines of the lakes. An observed nest site along Siltcoos Lake in Douglas County has fledged one young per year from 1977 to 1981 and also in 1982 and 1983. The eagles use the many snags which overlook the shallows of Siltcoos Lake.

Siltcoos and Woahink Lakes have a growing population of American Osprey. The nests are easily observed and offer a unique opportunity for viewing the chicks as they are being fed.

The Great Egret is not endangered or threatened, but is unusual to the Oregon Coast. Siltcoos Lake provides a feeding habitat for this bird.

The Northern Purple Martin, not considered endangered or threatened, is an uncommon bird which requires an abundance of suitable snags in order to maintain viable numbers.

The White Footed Vole, a small mammal, is not listed as rare or endangered. Riparian vegetation along the coastal lakes and nearby drainage provides a suitable habit The Snowy Plover, listed as threatened under federal and state law and has been spotted near the Siltcoos River where it flows into the ocean (outside city limits). The bird requires large open sandy beaches.

Adder's Tongue, listed as endangered in Oregon, has historically been found near Cleawox Lake, but may also be located in areas near Siltcoos and Woahink Lakes.

Bog Club-Moss, listed as very rare or threatened in Oregon, has been found near the Waxmyrtle Campground in Oregon Dunes National Recreation Area (outside the city limits).

d. Coastal shorelands

(i) The planning area. The shorelands planning area is defined as all lands 500 feet from the mean high water mark of Siltcoos and Woahink Lakes and all lands west of the Oregon Coast Highway. The north shore of Siltcoos Lake and most of the shoreline of Woahink Lake are in the city limits. Two parcels of land west of the coast highway and the coast highway, the Oregon Dunes National Recreation Area. A small portion of each triangle is in the city limits; the remainder is under County jurisdiction.

(ii) Shoreland identification. Within the planning area, an inventory was made to identify shorelands according to Statewide Goal 17.

Hydraulic Action: Siltcoos and Woahink Lakes are fresh water lakes and, hence, are not subject to ocean wave or tidal action. The level of water in the lakes varies somewhat over the year, flooding more of its wetlands during the winter months.

Geologic Instability: The areas of geologic instability are the active sand dunes west of the coast highway (see, DOGAMI Bulletin '85). Areas with active sand dunes should be protected and adjacent stabilized dunes maintained as a buffer against the advancement of the sand. Steep slopes along the lakes and in other areas will require careful review.

Riparian Resources: The vegetative cover on the shorelines of Siltcoos and Woahink Lakes is recognized as important habitat for fish and wildlife and for its importance in stabilizing the banks from erosion. A development setback of 50 feet has been established to protect those riparian resources.

The increasing pressure of urban development has resulted in substantial removal of vegetation in the riparian areas. The city shall have information available for shoreline owners as to the importance of maintaining the riparian area with vegetation. Native plants are preferred as they require no fertilizer and little maintenance. The riparian zone is a natural bio-filter and is the most efficient known means of stabilizing shorelines and is crucial for protecting the water quality. Originally Woahink lake was completely encircled with vegetation. As the loss of vegetation occurs we now see greater erosion. Siltcoos has more diverse riparian vegetation than other lakes in the area. Snags on Woahink and Siltcoos are especially important as roosts for eagles and osprey. In total, six species of mammals and 24 species of birds depend on the snags as nesting or den sites. (See appendix).

For more information on riparian resources see Dunes City Local Wetlands Inventory and Riparian Inventory.

Wetlands: Wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions.

The marshes and swamps around the two lakes are a rich breeding and feeding ground for a wide variety of wildlife. The largest of these is the marsh covering 80 acres between Westlake and Darling's Resort on Siltcoos Lake, which has been identified as significant.

The Woahink Lake Darlingtonia bogs have been designated as a significant natural area by the Oregon Natural Heritage Program. Woahink lake has two of the best quality darlingtonia bogs, one at the north end where Little Woahink enters the lake and the other at the end of Summerhill arm.

For more information on wetlands see Dunes City Local Wetlands Inventory and Riparian Inventory.

Water-Dependent and Water-Related Uses: All of the water-dependent and water-related uses in the area are recreational. The Oregon Dunes National Recreation Area and Honeyman State Park are identified as shorelands since, as shoreland parks, they are water-dependent uses. Facilities existing which provide public access to the lakes are: Tyee Campground and the boat ramp on the Siltcoos River; the boat ramp, fishing pier, and supporting commercial use at Westlake and North Beach; and Boy Scout Camp Baker. Private boat docks on residential parcels are water-dependent uses, although not the main use on the parcel.

Areas of Exceptional Aesthetic or Scenic Quality: The whole area is exceptional; however, substantial areas of land have been particularly selected and set aside for public use. The two major areas are the Oregon Dunes National Recreation Area and Honeyman State Park.

(iii) Residential and commercial uses. A considerable amount of low-density residential development has taken place adjacent to the shorelines of the two coastal lakes. Many property owners have or wish to construct private boat docks or otherwise develop the shoreland area. Examples of damage to the shoreline which could occur are cuts and fills or stripping of protective vegetation. The building of docks and boathouses can interfere with the natural flushing and overall ecology of the lakes. The shorelands are protected by city ordinances which regulate development within 50 feet of the high water line and regulates the removal of vegetation. Docks and boathouses over 200 sq. Ft. require a lease from the Division of State Lands.

(iv) Summary. Coastal shorelands, significant resources, and habitats are defined as the areas within 50 feet (measured horizontally) of the line twelve feet above mean sea level on

Siltcoos Lake, 39.8 feet above mean sea level for Woahink Lake, and the area within 50 feet (measured horizontally) of the stream bed of Woahink Creek and other Class F creeks as defined by the Forest Practices Act, and the jurisdictional wetlands identified within the Dunes City limits

The residential development adjacent to the shoreline is considered to be consistent with shoreland goals since a 50-foot setback is required. Public access to shorelands and the lakes has been provided and a large amount of the shorelands themselves have been reserved for public use. Controls have been established to protect and preserve that portion of the shoreline which is privately owned.

The commercial and tourist facilities at Westlake, North Beach, and the western shore of Woahink Lake provide access and supporting facilities for public recreational use of the lakes and are, therefore, water-related uses. Boat ramps, boat rental, bait and tackle shops, or other commercial uses which directly support recreational boating and fishing are water-dependent uses.

e. Forested lands. Dunes City has an abundance of natural vegetation, including the remnants of what was once a vast forest. These forested areas, an integral part of the overall scenic beauty of the city, were mainly composed of tree species such as spruce, hemlock, fir, cedar and pine. Alder and willow are prevalent in logged areas, while the understory consists mainly of salal and huckleberry. Other brush, such as thimbleberry, salmonberry, twinberry, blackberry, and strawberry, provide food and habitat for wildlife.

The removal of our forested areas, either through forest harvesting or development, should be regulated. Regulation should particularly cover the removal of any vegetation within 50 feet of the shoreline of both lakes and streams and on public rights-of-way. The City recognizes that it has been unsuccessful in its attempt to preserve forested lands through comprehensive plan policies and ordinances.

(i) Forest uses. Forested lands are important resources in urban areas for buffers between conflicting uses, wind breaks, wildlife and fisheries habitat, livestock habitat, scenic corridors, and recreational uses appropriate in a forest setting.

(ii) Forest lands inventory. The soils in Dunes City have been rated by the U.S. Soil Conservation Service for potential (commercial) productivity, windbreak performance, and wildlife habitat.

Lint soils are the best forestlands in the area, with a site class of 2. Lint soils predominate in the areas east and south of Woahink Lake, except for the areas shown as wetlands and a strip along the northeast shore of the lake which is Bullards. The west shore of the lake has a variety of soils. Westlake and the area south of North Beach are comprised of Westport soils which are not suitable for forestry. The wetlands, predominantly Braillier Muck and Nestucca Silt Loam, are not forestlands, but are rated as good habitat for woodland wildlife.

Commercial Productivity: While the majority of land within Dunes City is rated moderately high for commercial forestry potential, this is not a criterion for designation of forest land in an urban area. The existence of large tracts of commercial timber to the east of the current city limits acts as a constraint to potential growth in that direction. Commercial production is possible on lands with the plan designation Forest (F), which are inside the corporate limits but not within the UGB.

Windbreaks: Although none of the forested areas in Dunes City are rated good in their windbreak performance capacity, the forested areas do provide some windbreak against southwest storms and steady summer north winds.

Wildlife Habitats: Soils in the Lint series are rated "good" as potential woodland wildlife habitat. The brush and forest lands in Dunes City provide excellent wildlife habitat.

Fisheries Habitats: These include the wetlands and a 50-foot shoreland zone on the banks of Woahink Lake, Siltcoos Lake, Woahink Creek, Gibbs Creek and Siltcoos River.

Oregon Department of Forestry (ODOF) provided the following information:

Name of Streams	Fishbearing = "F"	Size
1. Siltcoos River to Pacific Ocean	F	L
2. Little Woahink Creek	F	M
3. Gibbs Creek	F	M
4. Woahink Creek (between the lakes)	F	L

"M" = Medium; "L" = Large

The above are the only streams in ODOF's inventory for Dunes City. These new categories identify whether the streams are fishbearing or not, and their approximate size (small, medium and large).

Other Forest Uses: Virtually all of the undeveloped land in Dunes City is either forested or has been harvested. All of the forested land is potentially valuable as a buffer between uses, as a scenic corridor, and for recreational use. Most of the large pieces of undeveloped land in Dunes City have been logged over, and not reforested.

The City's tools for protecting forested lands are:

- The Soil Erosion and Vegetation Ordinance No. 59 regulates the cutting or clearing of trees, shrubs, brush, plants, or grasses.

- Oregon Department of Forestry and the Forest Practices Act.

- Development standards for subdivision or conditional use approval in the City zoning ordinance.

- An overall residential density limit of one unit per acre which insures that the low density, rural character of the area will be maintained.

(iii) Conclusions. The city should adopt ordinances to address forest-related issues in the city. In the development of these ordinances the city should work with the Department of Forestry.

f. Agricultural activities. Dunes City is primarily a rural residential and recreational community. Agricultural activity is secondary in nature and is usually restricted to small animals, horses, and family gardens. One larger operation, a cattle ranch, and another smaller operation have existed for many years and are expected to continue. The agricultural capability of soils has been classified by the U.S. Soil Conservation Service. Soils classified as I through IV are potentially prime agricultural lands as defined by Statewide Goals, with I being the best agricultural soil.

The State Land Conservation and Development Commission has determined by its administrative rules that land inside an urban growth boundary is not subject to the statewide agricultural goal.

g. Scenic areas. Scenic values are of high magnitude. So much of the city is a scenic area that no specific inventory is possible. The land use constraints contained in the goals and policies of natural resources, recreation, and open space and land use will have the effect of preserving the scenic values.

Dunes City will cooperate with Oregon Department of Transportation and other agencies to consider lands within Dunes City adjacent to 101 for inclusion into the federal scenic byways program.

h. Other resources.

(i) Wilderness areas. There is no site within the planning area that would qualify as a wilderness area.

(ii) Wild and scenic waterways. Neither the State of Oregon nor the federal government has proposed or designated the lakes or rivers in the planning area as wild and scenic waterways.

(iii) Minerals. There are no known mineral or gravel deposits in Dunes City and, considering both surface and substrata composition, none are likely to be found.

i. Geological hazards and development constraints

(i) Geology. The western half of Dunes City consists of stabilized dunes.

The eastern half of the city is over tyee formation which is rhythmically bedded sandstone and siltstone in layers up to 15 feet thick. This formation is covered in varying depths with soils on the Lint series associations which have slight development limitations.

There are active dunes along the southwestern boundary of the city which show indications of reaching Highway 101 within ten to 20 years. Some dunes have already reached the highway. The possibility of stabilizing these dunes has been discussed with the National Recreation Area.

There are two earthquake faults that run through Dunes City. They are identified in Geologic Map of the Northern Coos Bay Area, Oregon, Prepared and Published by the Department of Geology and Mineral Industries, 1980. (See, Appendix J) Construction will be in accord with the uniform building code as amended by the state.

(ii) Development constraints. Several important factors are summarized on the Geological Constraints map. (See, Appendix E).

(1) Slope. Areas with slopes greater than 12 percent are less desirable for development because construction of buildings and roads is more expensive and problems of erosion or landslide are more likely. Areas which are subject to slope constraints but relatively free of other development constraints could best be developed through a PUD approach. By clustering, development could be concentrated on the most suitable areas, while the more constrained areas could be left in open space. This would achieve a higher density where the units are clustered, but maintain the low average density of the city overall.

(2) Landslide. Areas subject to landslide shall not be developed.

(3) Flooding. Dunes City participates in the National Flood Insurance Program.

(4) Wetlands. See Dunes City Local Wetlands Inventory and Riparian Inventory and zoning ordinance.

(5) Erosion. Stabilized dunes have severe potential for erosion if the vegetative cover is not maintained. Damage to the vegetative cover can occur through vehicular traffic, such as off-road vehicles, construction, or lowering of the water table. Use of lands west of the Pacific Coast Highway is of particular concern to Dunes City. These lands should be protected by the County and the Oregon Dunes National Recreation Area to act as a buffer from intrusion by moving sand. The city will work with these and other agencies to this purpose.

Another erosion problem occurs along the shores of the lakes, wetlands and streams, due to land use practices. This can cause siltation and other water quality problems. The city will work towards better enforcement and stronger ordinances to correct these problems.

(iii) Development suitability. A system for determining the suitability of soils for development purposes has been devised by the Soil Conservation Service (contained in the Soils Survey of Lane County) and the office of the Lane County Resource Soil Scientist. A rating is given to each soil type. This rating is based on the slope, wetness, depth to bedrock, shrink-swell potential, etc., as they affect foundations, roads, utilities, and natural hazards.

The Development Suitability map (contained in the Soils Survey of Lane County) shows where development should be encouraged and where development will be most difficult and expensive. Some areas may require more than one acre in order to meet setback and development requirements, i.e., setbacks, drainfield and water requirements, roads, etc. (Refer to Appendix F)

(iv) Subsurface disposal suitability. Since there is no public sewage system in Dunes City, subsurface disposal systems (septic tanks and drain fields) are the only available means of waste water treatment. The need to protect groundwater, lakes, and streams establishes a carrying capacity of about one residential unit per acre (see Sewage Disposal).

In addition, the availability or absence of approvable septic drain field soils will determine where development can or cannot occur. The Subsurface Disposal Suitability map was drawn from a soils map furnished by the Lane County Water Pollution Control Division. (Refer to Appendix K) The rating system for septic tank filter fields is based on permeability, hydraulic conductivity, percolation rate, and flooding hazard. Soils are rated according to the chance of system failure: slight, moderate, severe, and unsuitable.

In cases where conditions may be moderate to severe, there may be pockets of approvable soils. Land on totally unsuitable soil will remain undeveloped unless an alternative sewage disposal system is approved by the State Department of Environmental Quality and the County Department of Environmental Management.

B. The Man-Made Environment

1. Culture and History

a. Cultural aeas. There is no evidence of a site in the city characterizing an ethnic, religious, or social group with distinctive traits, beliefs, or social forms. The Historical and Archaeological Site Inventory (Preliminary) of the Oregon Coastal Conservation and Development Commission listed no sites in Dunes City.

b. Historic aeas. There are no historical sites in Dunes City listed in the Statewide Register of Historic Places. Some pilings just south of Fishmill Lodge in south Westlake are all that remain of the original sawmill. Robinson's Landing is in Honeyman State Park.

Parts of a train wreck are still located in 40 feet of water near the outlet of Woahink Lake. At one time, trains were barged across the lake. Now, scuba divers find it an interesting underwater landmark.

2. Public Utilities, Services, and Facilities

a. Air, water and land quality

(i) Sewage disposal. By limiting the density to one family unit per acre, plus the requirement that each unit have sufficient area to support a permanent subsurface system, the danger of water pollution can be avoided and the health of the citizens protected. This protection is essential considering that many Dunes City residents use water from the lakes.

The Lane County Coastal Resource Inventory (Wilsey and Ham, pp. II-32) concurs in the need to maintain low-density development in the coastal lakes areas:

> *Septic tank systems can be an economical and efficient means of sewage treatment for relatively low density development. However, reliance on septic tanks in areas of high density can cause severe problems including well contamination....The cost of installation of a sanitary sewer system is well beyond the means of the local communities in the lakes study area*.

Carrying capacity is the level of use that can be accommodated without irreversible damage to or impairment of the natural resources or their quality. The carrying capacity, therefore, will be based on the soil capacity.

The use of subsurface disposal systems is limited by soil characteristics. The so-called package sewer plants require a permit from the State Department of Environmental Quality. It is unlikely that such a permit would be issued for either single dwellings or larger developments. Lagoon types require more land and an area to dispose of effluent without environmental damage.

Because of the danger of polluting the lakes, which are a major domestic water source, private sewer plants other than subsurface sewage disposal systems should be prohibited for the present.

Site-specific investigations of soil subsurface sewage disposal capability and impacts on surface and subsurface water quality are conducted by the Environmental Health Division of Lane County, according to procedures established by the Oregon Department of Environmental Quality. Issuance of any building permit requires the concurrent issuance of a septic system permit or the determination that no sewage system is required.

Any regional sewer system would logically have its disposal plant and outfall line on the Siuslaw River. As the lines are extended southward, probably in conjunction with a water system, Dunes City might join the district either section-by-section or en mass. This would depend on citizens' willingness to pay for the services.

(ii) Water Systems. Some Dunes City residents are served by small community water systems, and more than 200 homes pump water directly from the lakes for domestic use. The remainder utilize either wells or springs. There have been some complaints about the water, mostly about the iron content and the quantity available from the springs and wells in dry years. The voters of dunes City have rejected the creation of a municipal water system three times.

Although Dunes City does not have a public water system, the potential to establish one at some time in the future still exists. The City has rights to water from Woahink Lake and has applied to retain and increase those rights.

The Lane County Coastal Domestic Water Supply Study projected future needs and potential supplies on a regional basis. The study found that Woahink Lake can supply enough water to serve the area south of the Siuslaw River. Siltcoos Lake or groundwater in the sand area could supply enough water for the region.

Individual filtration systems are available to reduce iron content, and chlorinators may be used to guard against possible coliform contamination.

Groundwater is more available on the west side of the city, although three good producing wells were drilled in the northeast corner of the city. Some good wells have been obtained on the east side, although the depth of the aquifer varied and seems to be channelized.

In most cases the minimum one-acre lot size would allow both wells and septic systems on the same lot provided the carrying capacity of the land is not exceeded. Wells can also supply community systems and need minimum storage capacity. New county, state, and federal regulations covering community systems using surface water are more stringent than in the past.

(iii) Water quality. Woahink Lake water is of high quality, while Siltcoos Lake water is of lower potable quality. The city shall protect water assets with vigilance for the benefit of

the entire community. The effective guarantee of preserving the quality is to enact specific regulations pertaining to development and land/water use in the region coupled with appropriate enforcement.

The Lane County Coastal Domestic Water Supply Study (Lane County Environmental Health Division, 1979), investigated the question of surface and groundwater uses and the effect on the water table. According to the study, concerns regarding domestic water supply include the following:

- Increasing recreation uses on Woahink Lake could result in serious health hazards for those water systems using the lake as a water source.

- Establishment of the Oregon Dunes National Recreation Area will require new sources of water for recreational purposes. An increasing number of visitors could overburden existing systems.

- Problems with individual wells exist due to the potential for crowding of subsurface sewage disposal systems and wells on relatively small lots in this area.

- Honeyman State Park utilizes Woahink Lake as a water source and discharges sewage effluent on dune sands during the summer months.

The State Water Quality Management Plan identifies several beneficial uses which are to be protected. Those applicable to Dunes City are: private domestic water supply, industrial water supply, anadromous fish passage, salmonid fish rearing, salmonid fish spawning, resident fish and aquatic life, wildlife and hunting, fishing, boating, water contact recreation, aesthetic quality, and public domestic water supply. Hydro power and commercial navigation and transportation are not applicable. The 208 Waste-water Management Program in Lane County does not include Dunes City.

The Statewide Non-Point 208 Assessment does not identify any stream erosion or sediment problems in Dunes City. Maple Creek and Fiddle Creek, which are tributaries of Siltcoos Lake, are identified and are under the jurisdiction of the county.

In general, the comprehensive plan strives to protect water quality and the beneficial uses listed above by avoiding concentrations of development on septic tanks, by providing for the protection of riparian vegetation, and by providing for review of proposals for development on the dunes soils, which are subject to erosion.

Groundwater pollution problems have been identified in two parts of Lane County: River Road/Santa Clara near Eugene, and North Florence. Dunes City has not been identified as a problem area, and this Plan is intended to keep groundwater pollution problems from occurring.

The Lane County Coastal Lakes Water Quality Report (Lane County, 1979) examined the water quality of various coastal lakes, including Siltcoos and Woahink Lakes. The study determined if any changes in lake water quality could be correlated to development between the years of 1972 and 1978. The study indicated that Woahink Lake's volume of water, surface size, and flushing activity contributes to its ability to retain its high water quality. Siltcoos Lake is considered one of the few "eutrophic" lakes on the Oregon coast. (Eutrophication refers to the "aging" process in lakes that is initiated by the enrichment of waters with plant nutrients. That is, a "eutrophic" lake is a lake which contains a large amount of plant life.)

(iv) Solid waste. Trash and garbage collection service is contracted with private companies under franchise agreements. Refuse is hauled to Lane County's transfer station at Florence before being taken to the Short Mountain Landfill. The capacity of the landfill will be adequate through the 20 year planning period.

Recycling is available at home collection or at the Lane County recycling center in Florence (located at the solid waste transfer station). Newspaper drop boxes are also located in Florence.

(v) Air quality. The air at present is of very high quality. State, county, and federal regulations control slash burning, highway fumes, and other outside burning.

Dunes City is not in an air quality maintenance area. Further, it has been determined by the Lane Regional Pollution Authority that the Dunes City Comprehensive Plan does not appear to conflict with Class II prevention of significant deterioration of air quality standards. There is no existing monitoring of carbon monoxide on the coast, and there does not appear to be a likelihood of future violations of the eight-hour carbon monoxide standard. Generally, ventilation is excellent.

To improve air quality standards in Oregon, after July 1, 1986, all new woodstoves and fireplace insert models sold in Oregon will have to be certified to meet DEQ emission standards. They will also be required to display labels that give their efficiency and emission ratings.

(vi) Nonpoint source pollution. Nonpoint Source Pollution (NPS) can be defined as discharged pollution (such as suspended solids, sediments, and nutrients) which enter surface water and groundwater in a diffuse manner that degrades water quality. NPS is often caused by poor land use practices and can include erosion, improper use of herbicides and pesticides, polluted urban runoff, and poor maintenance of septic tanks. The degradation occurs with the accumulation of many small actions but the combined cumulative impact can be serious. NSP is one of the major sources of contamination the city will have to address.

(vii) Noise. Sources of noise, such as barking dogs, aircraft and loud power boats on the lakes, have been identified. The city has a nuisance ordinance which can be used to control

unreasonably loud, disturbing, or unnecessary noise within the city. The Oregon Department of Environmental Quality has established noise standards and will work with the city to help resolve such problems.

Less clear is the ability of the City to control noise on the lakes, which are only partially inside the city. At any rate, it is likely that the State Water Resources Board has jurisdiction on the water; the City has little chance of enforcing regulations regarding use of the lakes on its own.

Significant noise problems in Dunes City have at times resulted from off-road vehicles in the Oregon Dunes National Recreation Area. However, the Oregon Dunes National Recreation Area has worked effectively with residents to address these problems. The city appreciates their efforts and looks forward to continued efforts in this regard.

b. Public facilities and services

(i) Police protection. Police protection is provided by Lane County Sheriffs' Office and the Oregon State Police.

(ii) Fire protection. Fire protection for Dunes City and surrounding areas is provided by the Siuslaw Rural Fire District #1, a volunteer department. All property within five miles of the station is in Fire Insurance Rating Class 4. Having a sufficient number of volunteers is the main concern for providing adequate fire protection. Another concern is the hazard of driving heavy equipment, such as fire trucks over poorly-maintained private roads.

Backup in large fires would come from Station #1 in Florence. Trucks could also come from the Florence Fire Department, Gardiner, State Forestry and Oregon Dunes National Recreation Area under mutual aid agreements.

(iii) Storm drainage. A storm drain system typically is not required for low-density residential development, though such developments are required to control runoff.

(iv) Planning, zoning and subdivision control. Planning, zoning, and subdivision control are managed by the City Council, the Planning Commission, the City Engineer, and the City Recorder. Building plan review and building inspections are performed by the City. Septic site inspections are performed by the County, with the City responsible for designating zoning requirements.

(v) Health services. Health services, including hospital, doctors, dentists, ambulance, and County Health offices, are available in the City of Florence. Dunes City is in the West Lane Ambulance District.

(vi) Recreation facilities. Recreation opportunities are extensive, including Siltcoos Lake, Woahink Lake, the Oregon Dunes National Recreation Area, Honeyman State Park with two boat ramps on Woahink Lake, Tyee Campground, the Dunes City Community Center, two city parks, and private fishing resorts.

The Statewide Comprehensive Outdoor Recreation Plan for the State of Oregon analyzes the outdoor recreation system in Oregon. Some of the objectives in that plan include seeking innovative sources of funding in order to maintain existing recreation facilities, increasing volunteerism in State Parks, and encouraging local governments to develop system-wide master plans to assess local supply and expressed need.

The Jessie M. Honeyman Memorial State Park Master Plan (Department of Transportation, 1981) indicated that past and proposed improvements to the park, such as improvements to the park sewer and water utilities (completed October 1980), swimming beach improvements, and improvements to the trail system, could increase public use of the Woahink Lake vicinity. No additional land acquisition is planned for the park.

(vii) Electric and communications services. Electric service is provided by the Central Lincoln People's Utility District. Telephone service is provided by U.S. West. Cable television is available from Falcon Cablevision, which is located in Florence and operating under franchise agreement.

(viii) Community governmental services. Dunes City has acquired a building which is used as a community center and city hall. It has been provided with furniture for public meetings and office space for City records. The building is steadily being improved. The Community Center, which is also the City Hall, provides meeting space for all city functions and various social activities.

(ix) Schools. School children are bused to Florence under the Unified School District (Siuslaw 97J), which includes both elementary and high school. Lane Community College operates a full-time facility in Florence. The 1980 the census counted 209 school-age children in Dunes City but by the 1990 census that number had dropped to 161 students. The School District has no plans to build a school in Dunes City.

(x) Post office. A 1,200 square foot post office was constructed in 1985 at Westlake to replace a rundown facility. Many residents have postal boxes at the Post Office. Rural delivery service originates in Florence to serve the balance of the City.

c. Energy conservation. Dunes City has a rather efficient arrangement of main roads. Many secondary roads feed into Clear Lake Road which has direct access to Highway 101 at both the north and south ends of the city. Since the main reliance is on the automobile, many miles are saved by this arrangement, depending on a destination of Reedsport or Florence. Most future subdivisions will be part of this same arrangement.

There are no sources of non-renewable energy present in Dunes City. Energy from renewable sources will be utilized as the technology improves.

Through experience, most permanent residences have been placed to take advantage of sunlight and shelter from winter winds. Rights-of-way and main power lines already exist so that infilling of the vacant land within the city boundaries will be energy efficient. The semi-rural density proposed will not demand the installation or large new lines and substations.

The city's solar access ordinance (December 1984) provide protection for solar access. The regulations provide for the protection of solar access in subdivisions and PUDs. In addition, the regulations establish procedures for granting solar access permits.

d. Transportation. Residential development is scattered randomly around Dunes City with the northwest area and the Westlake area somewhat separated from the rest of the city. Any public transit system in the future would most reasonably begin in Florence. Reliance has been and most probably will continue to be solely on the road and street system.

Highway 101 was authorized in 1919 and was a gravel road until paved in 1933. Canary Road served the farm communities east and south of our area and on into Gardiner. Clear Lake Road from Canary Road ended at Erhart Road until the 1930s. The north section was paved about 1963, and the southern section to Highway 101 was repaved in 1985. The bridges over the three arms of Woahink Lake were replaced in 1974. The Westlake Bridge over the Siltcoos outlet was replaced in 1975.

Most of the secondary roads were either private or easements or put in when regulations were either lax or nonexistent and became badly rutted and pot-holed in the winter months. Local groups attempted to keep their own sections in repair.

When Dunes City qualified as providing essential city services, funds became available for road maintenance from the state. A program of graveling, grading, and oiling was instituted and the funds divided on a per capita basis. Great improvements were made in the public roads by this program.

Since the major roads and highways serving Dunes City are a U.S. highway and state and county roads, it is necessary to coordinate improvements through the State. Needs identified and addressed were a left turn refuge and a speed limit on Canary Road, road signs designating Clear Lake Road, and a left turn refuge at Clear Lake Road. A left turn refuge at Pacific Avenue has been recently constructed.

The city will work with ODOT to develop a protective barrier where highway 101 runs parallel to Woahink Lake . ODOT needs to protect the lake from spills of oil, diesel, and road runoff.

Overall, roads in Dunes City are in good condition.

3. Land Use and Urbanization

a. Present land use

(i) Residential. (See Chapter 3, Housing Inventory)

(ii) Commercial. All commercial properties in Dunes City have existed since before the city was incorporated. Some are 40 years older than the city. On an historical basis, the present commercial areas should be maintained. When commercial expansion is shown to be desired through public hearings of zone change requests, the Planning Commission and the City Council shall determine zone changes for expansion or creation of commercial zones.

Screening, shoreland setbacks, and access regulations will be provided so that the quality of the land and water resources and scenic values may be considered. Since soil quality and ownership of adjoining land will be determining factors, the overall tourist capacity should be considered rather than the individual sites.

(iii) Industrial. Dunes City has no industry (see Chapter II: Population and Economy).

(iv) Recreation and open space. Both recreation and open space in Dunes City are closely related to the natural resources of lakes and forest land. Public open areas are scattered. Of the 165-acre Boy Scout camp, 35 acres are in Dunes City. The 6.3 acres Tyee Campground at Pacific Boulevard and Highway 101 is operated under the jurisdiction of the Oregon Dunes National Recreation Area and is within Dunes City. It has about 15 camping spaces and a boat landing on the Siltcoos River. The 522 acres of Honeyman State Park are adjacent to Dunes City. The park has two boat landings on Woahink Lake and one on Cleawox Lake. There are also sand bottom swimming areas with roped-in areas for youngsters. There are many picnic tables in the East and West Woahink areas of Honeyman Park, as well as a group camp to accommodate 150 people. The Cleawox and sand dunes areas of the park also have day-use picnic areas. There are 383 individual overnight camp sites in Honeyman State Park on the west side of Highway 101. Honeyman State Park occupies 4.12 miles of the 13.6 miles of Woahink shoreline. The City owns a small parcel of land adjacent to the Westlake Boat Landing. This property is intended to eventually be cleared and prepared as a picnic area.

There is a joint county-state boat landing on Siltcoos near Westlake, with parking for 40 cars with boat trailers. Actually, both Woahink and Siltcoos Lakes are public recreation areas. Both lakes are stocked regularly with trout, and most residents have boats. Some of the subdivisions have lake access strips set aside, but they are mostly so undefined and unimproved that

they are practically unusable. Residents should be encouraged to develop and use private access to alleviate pressure on public facilities. The Oregon Dunes National Recreation Area allows for overnight camping on the west shore of Siltcoos Lake, south of Westlake. The facility can be reached by boat or by a two-mile hiking trail that begins near milepost 198 on Highway 101.

There are several commercial resorts on Siltcoos Lake at Westlake and North Beach and the Siltcoos River. There are also lodges and mobile home parks in the west side of Woahink Lake. All these resorts have access to the lakes.

The Community Center is large enough for civic gatherings and is available at a small fee to other groups. A small outdoor basketball court exists on the grounds. Hilltop Drive Petersdorf Park, Byrd Memorial Park, along with two unnamed parks are city parks, are maintained by community volunteers.

The Oregon Statewide Comprehensive Outdoor Recreation Plan provides for a Coast Bicycle Trail and Scenic Highway along Highway 101 and a recreation trail through the coastal area.

(v) Dunes City land analysis. The following analysis is from the Lane County Assessor's Office printout dated March 12, 1996.

Land with improvements:

0 - 1.99 acres =	380.312 acres
2 or more acres =	286.520 acres

Vacant Land

0 - 1.99 acres =	224.352 acres
2 or more acres =	612.190 acres

Lots greater than 2 acres can be further divided into one (1) acre parcels. The 286.529 acres consists of 58 owners. One can assume that 286.529 less the 58 one acre parcels leaves 228.529 acres potentially available for development. The above 58 acres with improvements now need to be added to the 380.312 acres with improvements. (380.312 + 58 = 438.312 acres with improvements).

The data shows vacant parcels of lots less than 2 acres totals 224.352 acres. Lots less than 1 acre are included as many are approved for development and other smaller lots are being combined so that they qualify as buildable lots. The printout of lots greater than 2 acres shows that there are 612.190 acres in this category.

Total land within Dunes City's UGB

Category		Acres
Land with improvements	=	438.312
Land with improvements that can be subdivided	=	228.529
0-1.99 acres vacant land	=	224.352
2 + acres vacant land	=	612.19
Private/public roads	=	131.49
Total Acreage in Dunes City		1634.874 acres

Assuming that 30% of the vacant land is unusable due to constraints such as slopes, wetlands, and other constraints, one can determine that available land for building within the UGB is = 745.6 acres (1065.071 acres x .7) . As was discussed in the housing inventory section, during the period 1970 - 1995 the city averaged about 11 new residential units per year (8.3 stick-built and 2.65 mobile/mfg. homes per year). A 20 year inventory of one acre lots would equal 220 acres needed for future housing.

Conclusions:

- Sufficient land is available within the UGB to accommodate the growth that this plan projects for the next 20 years.

CHAPTER V
THE PLAN DIAGRAMS

The comprehensive plan, once adopted, serves as an official public policy statement to be used for guidance in making decisions which affect the future of the community. Its primary thrust is physical, but it also incorporates social, economic, and fiscal concerns. The plan diagrams, sometimes called comprehensive plan maps, are major outputs of the comprehensive planning study and are, more concerned with physical development than with other issues, although they are related. The plan diagrams are an integral part of the comprehensive plan.

A. Proposed Land Use

The first plan diagram, "Dunes City Comprehensive Land Use Diagram," in conjunction with the preceding goals, planning inventory, policies, and recommendations, serves as a combined major policy statement that interrelates all functional and natural systems and activities concerning the use of land in Dunes City. (See, Appendix M) As the plan is designed to promote the public health, safety, and general welfare, so is the plan diagram. This diagram does not illustrate specific detailed locations of land use or regulations which might govern that.

1. Residential: Intended to provide a variety of opportunities to meet housing needs.

- Single family units on one acre lots or larger
- PUDS, including a variety of housing types and neighborhood commercial
- Land already subdivided with lots smaller than one acre
- Two- to- four-family units, mobile homes and manufactured housing

2. Public: Public and quasi-public land, including part of the Boy Scout camp, state and county parks, and city facilities.

- Publicly-owned land

3. Commercial: Intended to provide convenience goods, personal services, and commercial goods needed to support the local economy and provide tourist commercial services.

- Accessible to Dunes City residents
- Located on major street
- Should not be scattered
- Not located on land with severe development constraints
- Avoid strip commercial situation on Highway 101

4. Open Space Lands - those lands not suited for development because of natural

development constraints or publicly owned lands designated as open space will be as open space.

- Areas undevelopable because of landslide, flooding, or erosion
- Wetlands, riparian areas and shorelands
- Areas otherwise unsuitable for development due to natural constraints
- Publicly owned areas designated as open space
- Areas to be preserved for their intrinsic natural value

B. Relation to Zoning

The Land Use Diagram, while a guide for zoning actions following Plan adoption, is not a zoning map. Zoning ordinances and maps are specific, detailed pieces of legislation which are intended to implement the proposals of the Comprehensive Plan and its Plan diagram. A zoning ordinance is basically a public law which, in detail, regulates the use of land and is in the public's interest. It deals with three major areas: 1) the use of land, water, and structures; 2) the height, size, shape, and placement of structures; and 3) the density of population in given areas. Requirements concerning these matters are written into law and are enforced as law.

The Comprehensive Plan and Plan Diagram serve as sources of information for the application of zoning. (See, Appendix M)

C. Boundaries

The Plan Diagram establishes two levels of influence and control for Dunes City in the region. These are represented by the city limits and the urban growth boundary. (See, Appendix L)

1. City Limits

The city limits define the incorporated area of Dunes City. The area immediately outside the city limits is under either Lane County or Douglas County jurisdiction. To be included within the city limits, land now in the county would have to go through an annexation procedure which is subject to review by either Lane County and its Local Government Boundary Commission or Douglas County (Douglas County does not have a Local Government Boundary Commission).

2. Urban Growth Boundary

The urban growth boundary defines those lands which are necessary and suitable for future urban uses, can be served by urban services and facilities, and are needed for the expansion of the urban area.

3. Area of Influence

This is an area within which Dunes City has a legitimate interest in the decisions of other agencies and jurisdictions which may affect the city now or in the future. Portions of this area may never be included in the city and, therefore, extend beyond any projected Dunes City urban growth boundary. (See, Appendix N)

The area of influence (or interest) establishes a specific area within which it is recognized that decisions of other agencies may significantly affect the city.

Proposals for action by the county within Dunes City's area of influence should be referred to the city for review and comment. Where significant issues affect the city, a process such as joint public hearings could be used.

Of particular interest to Dunes City are any proposed developments adjacent to the Dunes City limits:

a) The land near Westlake, which lies outside the city limits and east of Highway 101, is not included within the urban growth boundary because sufficient land is already in the city to accommodate future growth. However, this land has a strategic location with respect to Dunes City.

1) Circulation should be planned to relate to Dunes City's streets. The land is a potential link between Westlake and North Beach. These two areas are now connected only by Highway 101. Development of this area should include a connector between Pacific Avenue and North Beach Road. Development of this area should not relate to Highway 101 in terms of strip development; this would cause additional traffic hazards.

2) This area has a development suitability rating of four and is largely unsuitable for development. Consisting of stabilized dune and marshlands, it is subject to erosion if the protective vegetation is not protected.

b) An area northeast of Dunes City along Clear Lake and Canary Roads has some development and has been designated RR5 and F2 by the county.

1) The County's zoning for this area should be compared with Dunes City's residential zone. Uses which are more intensive than those permitted in Dunes City should not be permitted just outside the city limits.

2) Provision of basic services, such as roads and fire protection, should be coordinated with Dunes City.

3) DOGAMI Bulletin 85 identifies some of this area as a landslide hazard area.

c) New commercial development in both Dunes City and Lane County along Highway 101 south of Honeyman Park should be discouraged. Any demand for new commercial uses should be channeled toward the Highway 101 Glenada area, so designated in the Subarea Plan, to prevent unnecessary congestion and degradation of scenic values.

d) An area one mile south at the Lane County-Douglas County line, from the ocean east to Five Mile Road, in sections 5 and 8 of Township 19S, Range 11W. This area includes the southern tip of Booth Island and the southern portion of Siltcoos Lake. Uses in this area which might affect the water quality of Siltcoos Lake are of particular interest. Any development on Booth Island should be coordinated with Dunes City.

CHAPTER VI
HISTORY

A. History of the Dunes City Area

The 5000 foot thick bedrock below Dunes City consists of layers of Siltstone and Sandstone and extends from Heceta head to Coos Bay. This Flournoy formation was laid down fifty million years ago. The Eocene epoch had a subtropical climate supporting palms, figs and crocodiles. Rhinos, camels, mastodons, and sabre tooth cats roamed Oregon later.

The Dunes in western Dunes City have stabilized by acquiring a soil and vegetative covering over hundreds of years. The five foot thick soil cover on the eastern half, now heavily vegetated, was derived from eroded beckrock and deposited over thousands of years.

Siltcoos Lake was created when rising seas drowned the river mouth outlet. The outlet for Woahink Lake originally joined the Siltcoos Outlet near its mouth. About 1890 shifting dunes rerouted the flow into Siltcoos Lake between Westlake and North Beach. Over many years this created a 40 acre delta. When summer water levels fell below 5 foot above mean sea level this flat level area was used for picnics and baseball games by the early residents.

Recent excavations indicate Indians called the Kalawatset lived in this area 3200 years ago. The territory of the tribe now known as the Lower Umpqua extended from the Umpqua River to the Siltcoos River. The Siuslaw tribe north of the Siltcoos spoke a dialect similar to that of the Lower Umpqua. Both tribes built lodges by excavating three-foot-deep pits and then erecting a pole framework in and above the pit. Long wide planks were split out of cedar logs with bone and wood wedges and were used to cover the walls and roofs.

Prior to European occupation the natives lived well on the bounty of the lands and waters. The tribal members did not own individual parcels of land. The communal style ownership helped build strong spiritual ties to all of the homelands. The tribes that lived in the Dunes City area are now part of the Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians.

In the 1770s Russian, Spanish, British and American explorers started laying claim to the Oregon territory by "The Rights of Discovery." The Russians and Spanish gave up their claims early. The trappers of the British owned Hudsons Bay Co. controlled the area until the opening of the 2000 mile long Oregon trail brought floods of immigrants. The British gave up their claims in 1846. A new overland trail to the upper Umpqua valley led to its rapid settlement.

In 1848 Congress created the Oregon Territory and proclaimed that none of the lands would be taken without the Indians' consent. In 1850 Congress passed the Donation Claims Act which allowed any settler over age 18 to claim 320 acres of land.

A reservation from the lower Umpqua to the Tillamook and extending 32 kilometers inland was off limits to settlement. Under pressure from the Willamette valley businesses a 40 by 32 Kilometer section near the Alsea River was opened in 1865. In 1875 the remaining reservation was eliminated.

In the 50 years preceding 1875 about 75% of the native population in western Oregon had been wiped out by white man's diseases, the rest were now homeless. In 1938 the courts ruled that since the coast tribes had no written language their testimony of occupancy was hearsay and they had no valid claim for compensation. In effect the U.S. Government said that coast tribes did not exist.

Overland immigrants reached Scottsburg and then traveled down river to Gardiner. Others came by sea from San Francisco to Gardiner. The Barrett Brothers Stage Line carried many of them up the beach to the Siuslaw and a ferry to Florence. Those with claims around the lakes reached Woahink Lake by Wagon. A boat trip to the south end of Woahink Lake was met by a settler with a bull team and sled that hauled their goods to the Kiechle arm of Siltcoos Lake. From here most homesteads were accessible by boat. The Christensen brothers had a boat for hire on Woahink, one on Tahkenitch and four on Siltcoos.

The town of Glenada incorporated in 1912 with a sawmill, store, post office, hotel and 200 residents. It disincorporated in 1922.

In 1913 a narrow gauge railway was built from the Siuslaw to Robinsons landing on Woahink to supply materials for the Southern Pacific railway construction. A steam donkey and cable pulled the cars up Glenada hill. A locomotive was then attached and the cars were hauled to Robinsons landing on Woahink Lake and loaded on a 20 by 60 foot side wheeler scow with tracks on it. The material was floated to the south end of Woahink. It was then transported a short way overland and reloaded on a scow on Siltcoos for the trip to the east side railway construction camps. Scuba divers regularly dive down to the remnants of two of the railroad cars left in Woahink Lake by the premature unloading of one of the sidewheelers. The locomotive was recovered from the lake bottom soon after the accident.

The many settlers coming up from the Umpqua originally referred to Tahkenitch Lake as Five Mile because of its distance north of the Umpqua river. Siltcoos which was five miles further had the title Ten Mile until "Tsiltcoos" was chosen. This was an adaptation of the

name of the Lower Umpqua Chief and village called Tsaikhaus. Woahink was originally referred to as Clear Lake because of its clarity.

One of the early settlers claimed that he was paid to haul 15 burlap sacks of the aquatic weed called Brazilweed (Elodea) and spread it by boat into Tahkenitch Lake. The object was to increase the duck population on the lake by supplying more feed. The weed spread over Tahkenitch and was piggy backed into Siltcoos by logs dragged overland. The weed interferes with navigation but provides great cover for young fish of the warm water species in the lake.

The first development in the Dunes City area was a sawmill at Westlake. Jesse Darling had a resort at North Beach with cottages, store, cafe and boats to rent including the first "kicker" on the lake.

In 1917 H.P. Dutton bought the mill and a new resort hotel next to it. The hotel was a two-story building with twenty rooms. The motel portion was converted to a lumber camp for the loggers and mill hands.

The railway had been completed in 1915 with a spur to Ada Station near Fiddle creek. Lumber from the mill was barged across the lake to be routed all over the United States. In the first World War the mill cut spruce for airplanes and plagued by labor troubles with the Industrial Workers of the World. Westlake had 90 inhabitants and 15 buildings. Westlake was the site of a school.

About 1933 Tillamook Spruce Veneer Co. ran a large box mill in the Booth arm of Siltcoos next to the rail line. A company town consisting of 35 family houses, workers, bunkhouses, a post office, store, hotel and recreation hall served some 300 residents. The workers were paid $1.00 per day plus room and board. The town and mill were dismantled completely about 1944.

The coast highway usually referred to as Hwy 101 was started in the 1920's as a defense road but remained a clay wagon road until the 1930's. Woahink Outlet at this time flowed through the lilly pond on the west side of Hwy 101 and then turned back east into Siltcoos Lake. The outlet was diverted into a channel east of the highway to save building two bridges. In 1936 the bridges over the Siltcoos River and the Siuslaw completed the Highway 101 route to Florence and brought all the benefits of the automobile into the community.

In 1931 a group of residents convinced the County Commissioners to build a road from the defense road (Hwy 101) to the Westlake bridge. Electric lines were strung and large areas of timber felled. A CCC Camp was built on the south end of Woahink Lake in the early 1930's which became an Army camp for three years during WWII. The library and two

officers' quarters served as rentals in the 1960's and 1970's. Residents often combed the old dumps searching for vintage bottles and memorabilia.

In 1959 U.S. Senator Richard Neuberger presented a Dunes bill to Congress to save and protect the spectacular lake country from the Siuslaw River to Coos Bay and 12 miles east of the ocean by having it set aside as a national park. This area included three post offices and was 60 percent in private ownership with homes. The bill provided that the property could only be sold to the government as funds became available. Homeowners would be allowed to lease back their residences from the Park Service for their expected life spans and live under park rules and restrictions. There would be no provision for "in lieu of taxes" to six different taxing districts that would be affected by taking this land off the tax roles, thus throwing a greater burden on the remaining taxpayers. Residents of western Lane County opposed this bill bitterly. The bill was defeated and one result of the defense tactics was the establishment of Dunes City. Through lot splits and divisions of the old farms in a random fashion the area grew.

B. History of Dunes City

Dunes City was incorporated in 1963 with a population of 676. Philip Himmel was elected Mayor at the first council meeting on August 19, 1963. Elmore Petersen was appointed Chief of Police, a job Bob Jackson took over in July 1964 at $25 a month. Early meetings were held at the Christensen, Riesenhuber and other residences since the City had neither money nor meeting hall.

Since the new City had no ordinances it was decided that all land divisions and building permits would have to meet state codes and receive council approval. The building permit fee was one dollar. Individuals later contributed funds to the city treasury.

International Paper Company of Gardiner dammed the Siltcoos Outlet in 1964, raising the mean low water by two feet. There was no controversy about this as very few in the general public knew about it.

An ordinance to allow hunting passed in 1964 as did Franchise taxes on telephones and electric service. A zoning ordinance was approved in 1965.

The Council's meeting place moved at different times to the Clearwater Cafe, the Old Inn and Diers Resort. The Station 2 Fire Hall of the Siuslaw Rural Fire Dept. was completed in the summer of 1967 and meetings were held there until the Western Lane Sportsman Association invited the City in 1973 to hold meetings at their clubhouse. An agreement allowed the City to take over the Sportsman Club building in July 1973 and make some necessary improvements. The club retained certain rights including allowance for five

meetings a month. A complete remodeling and alteration of the building was completed in 1994.

Between 1964 and 1969 seven annexations totaling 150 acres were approved. These took in part of Booth Island, Erhardt acres, Alderwood Estates and some smaller parcels. The 40 acre Erhardt Acres was 500 feet from the City limits and was deannexed in 1976. An eighth annexation of 230 acres started in February 1966 was not completed. In 1967 Dunes City called for a December election to annex 1500 acres of Glenada. The voters rejected the annexation. In 1972 the Oregon Dunes National Recreation Area was designated by congressional act.

The Boundary Commission denied a request for disincorporation in 1973. In 1976 a 172 signature petition for disincorporation was accepted. The Council favored allowing a vote and the commission approved disincorporation mainly to allow a vote. The voters rejected disincorporation.

In 1974 the Council and the Boundary Commission approved an 80 acre annexation for Venture Out and Gulf Oil Co. This would be joined to 70 acres in the City and create a 600 unit "Greentrees" type of development with a 500 slip marina in Westlake and a shopping center at Clear Lake and Hwy. 101. Opposition by a citizen group brought court reversal on grounds that the Boundary Commission did not provide findings based on facts.

A petition to withdraw Westlake from the City was turned down by the Boundary Commission in August 1988.

When bass fishing became very popular it overwhelmed the parking and launching facilities at the end of Laurel Blvd. In 1971 to make room for their paying customers the owners of Westlake Resort, Gene and Dorothy Premer, convinced the County Commissioners and the State Marine Board to help Fish and Wildlife build a public boat dock. In an amazing feat of cooperation, Fish and Wildlife bought the adjoining land, the State Marine Board provided $10,000, Lane County Parks and Recreation used the money to grade the land and build the docks, ramp and restrooms. The Westlake boat landing was thereby created with a very ample parking area.

APPENDIX A
(Page 1 of 2)
KNOWN SPECIES COMPOSITION OF COASTAL LAKES

	Siltcoos Lake	Woahink Lake
Anadromous, Require River and Ocean Access		
Coho Salmon	X	X
Cutthroat Trout	X	X
Lamprey	X	
Rainbow Trout	X	X
Shad	X	
Smelt	X	
Steelhead	X	
Striped Bass	X	
Sturgeon	X	
Sockeye Salmon	X	X
Require River Access		
Sucker	X	X
Require Ocean Access		
Starry Flounder	X	
Sculpin (some Species II, others III)	X	X
Pacific Lamprey	X	
Three-Spine Stickleback	X	X
Complete Life Cycle in Lake		
Black Crappie	X	X
Bluegill	X	X
Brown Bullhead	X	X

APPENDIX A
(Page 2 of 2)

	Siltcoos Lake	Woahink Lake
Channel Catfish	X	
Kokanee		X
Largemouth Bass	X	X
Redside Shiner	X	X
Squawfish	X	
White Crappie	X	
Yellow Perch	X	X

References: Smith and Lauman, 1972; Hutchison, 1965; Bond, 1951; Pinto et al., 1972; Larson, 1974

APPENDIX B
REPLACE W/NEW LIST

APPENDIX C
(Page 1 of 3)
LIST OF PLANTS COLLECTED AT SILTCOOS LAKE LANE COUNTY, OREGON, 1954

PTERIDOPHYTES

Equisetachaea
- Equisetum limosum Linn (Swamp Horsetail)

MONOCOTYLEDONS

Sparganiaceae
- Sparganium minimum Fries (Small Bur-reed)
- Sparganium simplex Huds (Simple-stemmed Bur-reed)

Potamogetonaceae
- Potamogeton epihydrus Raf (Nuttall's Pondweed)
- Potamogeton epihydrus Raf (Nuttall's Pondweed) Submerged leaves lacking
- Potamogeton natans Linn (Common Floating Pondweed)
- Potamogeton pusillus Linn (Small Pondweed)
- Potamogeton richardsonii (A. Benn.) Rydb. (Richardson's Pondweed)

Alismaceae
- Sagittaria latifolia Willd (Broad-leaved Arrowhead)

Hydrocharitaceae
- Anacharis canadensis (Michx.) Rich. (Waterweed)

Gramineae
- Agrostis tenuis Sibth. (Colonial Bent-grass)
- Clyceria pauciflora Presl. (Few-flowered Manna-grass) Two specimens
- Panicum occidentale Scribn. (Western Panicum)
- Phalaris arundinacea Linn. (Reed Canary Grass) Three specimens

APPENDIX C
(Page 2 of 3)

Cyperaceae
- Carex obnupta Bailey (Slough Sedge)
- Carex viridula Michx. (Green Sedge)
- Carex sp. (Immature)
- Eleocharis palustris (l.) R. & S. (Creeping Spikerush)
- Eleocharis palustris (l.) R. & S. var. major Sender
- Scirpus heterochaetus Chase? (Pale Great Bulrush)

Lemnaceae
- Lemna minor Linn. (Lesser Duckweed)
- Spirodela polyrhiza (L.) Schleid. (Greater Duckweed)

Juncaceae
- Juncus covillei Piper (Coville's Rush)
- Like Juncus ensifolius Wiks., but with six stamens
- Juncus lescurii Bolander (Salt Rush)
- Probably Juncus lescurii Bolander (Salt Rush) Mature fruis and basal part needed
- Appears like Juncus nevadensis S. Wats. (Sierra Rush)

Orchidaceae
- Probably Spiranthes romanzolliana C. & S. (Twisted Orchid)

DICOTYLEDONS

Salicaceae
- Salix hookeriana Barratt (Coast Willow)
- Probably Salix mackenziana (Hook. Barr. (Mackenzie's Willow)

Polygonaceae
- Polygonum amphibium Linn. (Water Smartweed)
- Polygonum hydropiperoides Michx. (Mild Water Pepper)
- Rumex crispus Linn. (Curley-leaved Dock)

Nymphaeceae
- Brasenia schreberi Gmel. (Water Shield)

APPENDIX C
(Page 3 of 3)

Ceratophyllaceae
- Ceratophyllym demersum Linn. (Hornwort) Two specimens

Rannunculaceae
- Ranunculus flammula Linn. var. ovalis (Bigel.) L. Benson (Smaller Creeping Buttercup)

Rosaceae
- Potentilla anserina Linn. (Silver-weed) Two specimens
- Spiraea douglasii Hook. (Hardhack)

Onagraceae
- Ludwigia palustris Ell. (Water Purslane)

Haloragidaceae
- Hippuris vulgaris Linn. (Mares-tail)
- Myriophyllum verticillatum Linn. (Whorled Water Milfoil)
- Myriophyllum sp. (Flowers or fruit needed)

Umbelliferae
- Cicuta douglasii (DC.) C. & R. (Western Water Hemlock)

Labiatae
- Mentha arvensis Linn. (Wild Mint)

Scrophylariaceae
- Veronica scutellata Linn. (Narrow-leaved Speedwell)

Lentibulariaceae
- Utricularia, probably vulgaris Linn. (Bladderwort) Flowers needed)

Caprifoliaceae
- Lonicera involucrata Banks (Black Twinberry)

Compositae
- Aster Douglasii Lindl. ex. DC. (Douglas' Aster)
- Gnaphalium palustre Nutt. (Lowland Cudweed)

(Anacharis densa was not included in the collection.)

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Source: Bond, 1955

APPENDIX D

Woahink Lake's clarity has been monitored on a continued bases since 1989, and data prior to that goes back to the 1960s. Woahink is classified as oligotrophic and was tending toward mesotrophic up to early 1993. The trend has since reversed beginning 6-1-93. The summer of 1993 and early 1994 have the highest secchi (water clarity) readings ever recorded for Woahink. The reason for this improvement at this time is not known. The past year we had more siltation flowing into Woahink, which may give lower readings this year (1996).

Data from Woahink also includes water temperature and dissolved oxygen taken at depths of 5, 30 and 55 feet. Acidity readings are also recorded and show Woahink to range from slightly acidic to neutral. Phytoplankton samples are also gathered and sent to Portland State for evaluation monthly. The data is available in a DEQ data base at Portland State University.

WOAHINK DATA						
		5" 30" 55"			5" 30" 55"	
Date	Air Temp	Water temp	Seechi-ft	PH	Dis. Oxygen	time
5-11-90	13 C	16 C	12' 2"	6.5		8:30 AM
5-19-90	14 C	17 C	12' 8"	6.5		8:30 AM
6- 7-90	15 C	18 C	13' 5"	6.8		9:00 AM
6-26-90	18 C	20 C	12' 2"	6.5		9:00 AM
7-10-90	19 C	21 C	12' 4"	7		10:15 AM
7-22-90	20 C	24 C	15' 5"	6.5		9:30 AM
8- 8-90	21 C	24 C	16' 6"	6.5		10:00 AM
8-21-90	21 C	24 C	18' 8"	6.7		10:20 AM
11-14-90	15 C	17 C	18' 10"	6.8		9:30
12-11-90	12 C	12 C	15'	6.5		10:00 AM
1-23-91	10 C	8 C	16'	6.5		10:00 AM
2-21-91	9 C	9 C	17'	6.5		9.30 AM
3-18-91	13 C	12 C	20' 10"	6.5		9:30 AM
4-11-91	12 C	15 C	16' 10"	6.5		10:00 AM
5-13-91	17 C	17 C	13' 1"	6.5		8:00 AM
5-27-91	13 C	17 C	13'	6.3		8:00 AM
6-10 91	15 C	20 C	12' 8"	6.5		8:00 AM
6-24-91	15 C	21 C	13' 8"	6.5		8:30 AM
7- 8-91	20 C	21 C	13' 8"	6.5		8;30 AM
7-30-91	24 C	24 C	15' 6"	6.7		10:30 AM
8-14-91	26 C	24 C	16'10"	6.7		12:30 PM
9- 3-91	25 C	24 C	16' 1"	6.7		12:30 PM
9-17-91	22 C	23 C	16'10"	6.7		11:15 AM
10- 7 91	18 C	21 C	15' 1"	6.3		11:00 AM
11-11-91	15 C	16 C	17' 2"	6.5		11:30
12-19-91	12C	13 C	20' 4"	6.8		2:00 PM
2-24-92	18C	14C	20' 6"	6.7		12:30 PM
3-20-92	17C	17C	19"	6.5		10:30 AM
4-10-92	17C	17C	16"	6.5		11:00 AM
5-13-92	19C	21C	16 6"	7		11:00 AM
5-26 92	24C	21C	25' 5"	7.3	DO mg/L	9:00 AM
6-17-92	20C	22C	18' 2"	7	9.1 8.9 7.8	9:00 AM
7-14-92	27C	25C 24C 18C	17'	7	7.3 7.2 4.3	9:00 AM
8-16-92	21C	24C 24C 21C	16'	6.7	9.0 8.1 6.0	2:00 PM
9-12-92	18C	22C 22C 22C	16' 10"	6	7.8 7.8 7.6	10:30 AM
10-14-92	15C	19C 19C 19C	16' 10"	6.1	8.9 9.0 9.1	10:00 AM
11-20-92	19C	16C	16' 10"	6.1		11:00 AM
1-30-93	12C	10C	23' 10"	6.2		10:45 AM
2-26-93	13C	10C	16'	6.1		10:00 AM
4-12-93	12c	15C	15'	6.1		10:00 AM
5-17-93	19C	18C	16' 10"	6.2		10:30 AM
6- 7-93	27C	20C 19C 17C	21' 3"	6.5	9.8 9.8 9.1	10:30 AM
6-23-93	21C	21C 21C 15C	31' 10"	7.2	8.6 8.6 6.8	10:00 AM
7- 7-93	20C	23C 23C 15C	29' 5"	6.7	9.1 9.1 6.0	9:00 AM
8-2-93	26C	23C 22C 16C	28' 1"	6.5	8.0 7.9 3.8	10:30 AM
8-23-93	25C	22C 22C 19C	25' 1"	6.7	8.8 8.0 6.4	10:30 AM
9- 9-93	25C	22C 22C 18C	28' 4"	6.7	8.8 8.6 3.1	10:00 AM
9-23-93	28C	20C 20C 19C	26' 11"	7	8.3 8.3 6.4	10:00 AM
10-17-93	16C	19C 19C 19	26' 2"	6.7	8.7 8.7 8.7	11:30 AM
12- 4-93	9C	12C	22' 4"	7		10:30

1-25-94	10C	10C	28' 11"	7.2				10:30 AM
2-7-94	10C	10C	30' 3"	6.5				10.30 AM
3-8-94	19C	11C	24' 3"					10:00 AM
5-12-94	19C	19C 16C 14C	19' 6"	7	9.9	9.7	9.3	9:00 AM
6- 2-94	20C	17C 17C 13C	20' 11"	7.5	9.6	9.5	8.1	8:45 AM
6-30-94	26C	20C 20C 15C	26' 2"	6.5	9.1	9.1	8.0	10:30 AM
7-14-94	25C	21C 21C 17C	28' 3"	6.5	9.1	9.1	8.0	9:30 AM
8-23-94	26C	24C 24C 21C	20' 11"	6.5	9.2	9.2	7.8	8:30 AM
9- 5-94	28C	22C 22C 21C	20' 3"	6.5	9.2	9.2	8.3	9:00 AM
9-26-94	25c	22c 21c 21c	19' 8"	6.1	9.2	9.2	7.8	10:10 AM
10-11-94	14c	19c 19c 19c	17' 3"	6.1	9.0	8.9	8.7	10:-00 AM
10-23-94	20C	18C 18C 18C	15' 6"	6	9.2	9.2	9.2	10:10 AM
11-2-94	10C	16C 16C 16C	15' 2"	6	9.8	9.8	9.8	9;00 AM
1-17-95	10C	10C	16' 6"	6.5				10:00 AM
2-22-95	14C	12C	19' 2'	6.3				10:00 AM
4-26-95	14C	16C	26' 1'	6.2				9:00 AM
5-21-95	16C	18C 16C 14C	23' 4"	6.8	9.8	9.8	8.8	8:00 AM
6-19-95	17C	18C 17C 14C	23' 8"	6.7	9.7	9.2	7.7	8:00 AM
6-27-95	30C	21C 20C 15C	26' 4"		9.1	9.0	6.7	8:00 AM
7-10-95	20C	23C 20C 15C	23' 6"	6.5	9.0	9.0	6.6	7:30 AM
7-27-95	20C	23C 23C 17C	25' 6"	6.7	9.0	8.8	7.0	8:00 AM
8-8-95	20C	22C 22C 17C	22' 3"	6.5	8.4	8.4	6.0	8:00 AM
turbity test by Heceta Water Dist. - Ave at 5 loc. - .4								
9-8-95	27C	22C 22C 18C	20' 8"	7	9.6	9.6	6.2	8:30 AM
9-8-95	22C	22C 22C 16C	20' 6"	6.5	9.2	9.2	4.8	8:30 AM
10-9-95	26C	20C 20C 17C	21' 7"	6.5	8.8	8.8	3.4	8:00 AM
10-19-95	24C	19C 19C 19c	18' 10"	6.5	9.0	9.0	8.8	3:00 PM
10-29-95	20C	17C 17C 17C	21' 2"		8.9	8.9	8.9	10:00 AM
turbity test by Heceta Water Dist. - Ave. at 5 loc. - .6								
12-6-95	16C	14C 14C 14C	22' 2"		10.0	10.0	10.0	11:00 AM
2-10-96	18C	10C	11' 6" (rec'd 10.3 " rain in 4 days)					
4-14-96	17C	15C	17' 2"	6.5				12:10 PM
5-5-96	19C	15C 15C 14C	18' 6"		10.0	9.8	9.8	11:00 AM
5-12-96	23C	17C 15C 14C	18' 4"		10.0	9.8	9.2	10:00 AM
5-25-96	18C	18C 16C 14C	17' 4"	6.5	9.8	9.8	9.0	9:00 AM
6-8-96	22C	20C 18C 15C	16' 3"		9.6	9.4	8.5	9:15 AM
6-25-96	22C	19C 19C 17C	16' 2"		9.8	9.8	8.3	9:00 AM
7-10-96	18C	18C 18C 16C	21' 3"	6.7	9.6	9.6	7.0	7:00 AM
7-28-96	24C	22C 22C 18C	25' 10"	6.7	9.2	9.0	6.7	9:00 AM
8-9-96	23C	22C 22C 18C	27'	7	9.0	9.0	5.4	10:00 AM
8-22-96	24C	22C 22C 18C	26'	7	8.6	8.2	4.0	9:00 AM
9-6-96	24c	22c 22c 19c	30' 1"	7	8.8	8.8	6.0	10:00 AM
9-22-96	20c	20c 20c 20c	26' 6"	7	8.4	8.4	8:0	10:00 AM
10-6-96	24 c	20c 20c 20c	25' 4"	7	8.6	8.6	8.6	10:00 AM
11-2-96	20c	16c 16c 16c	26'	7	9.6	9.6	9.6	10:00 AM
11-15-96	14c	15c 15c 15c	28' 8"	6.8	9.2	9.2	9.2	

APPENDIX D - (Woahink Water Data)

(Page 3 of 5)

Woahink Lake 1989-1993

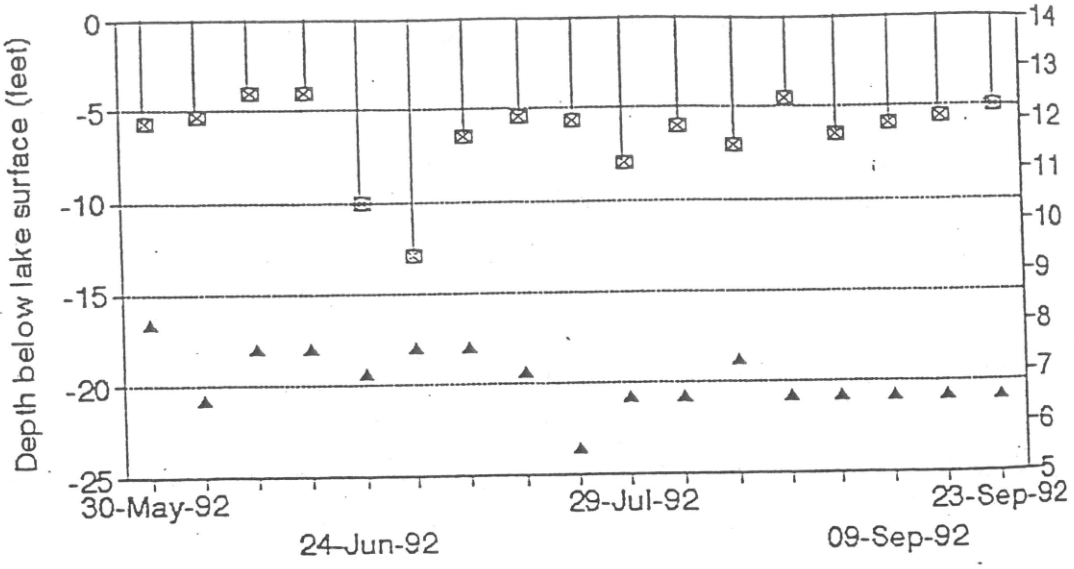
Citizen Lake Watch Secchi and pH Data

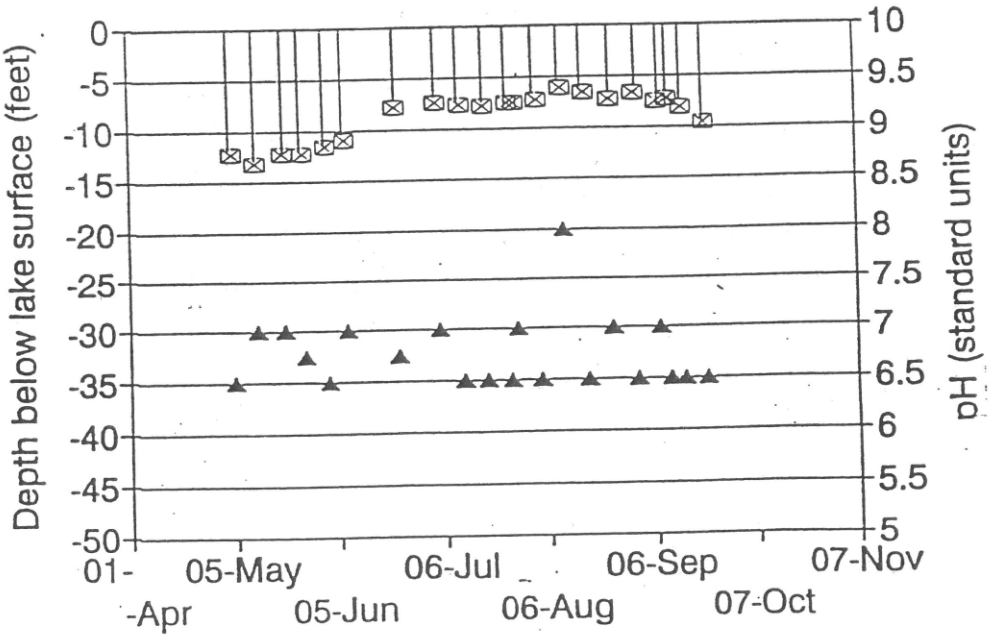
APPENDIX D - (Woahink Water Data)

(Page 4 of 5)

Silicous Lake

Secchi Depths and pH Over Time



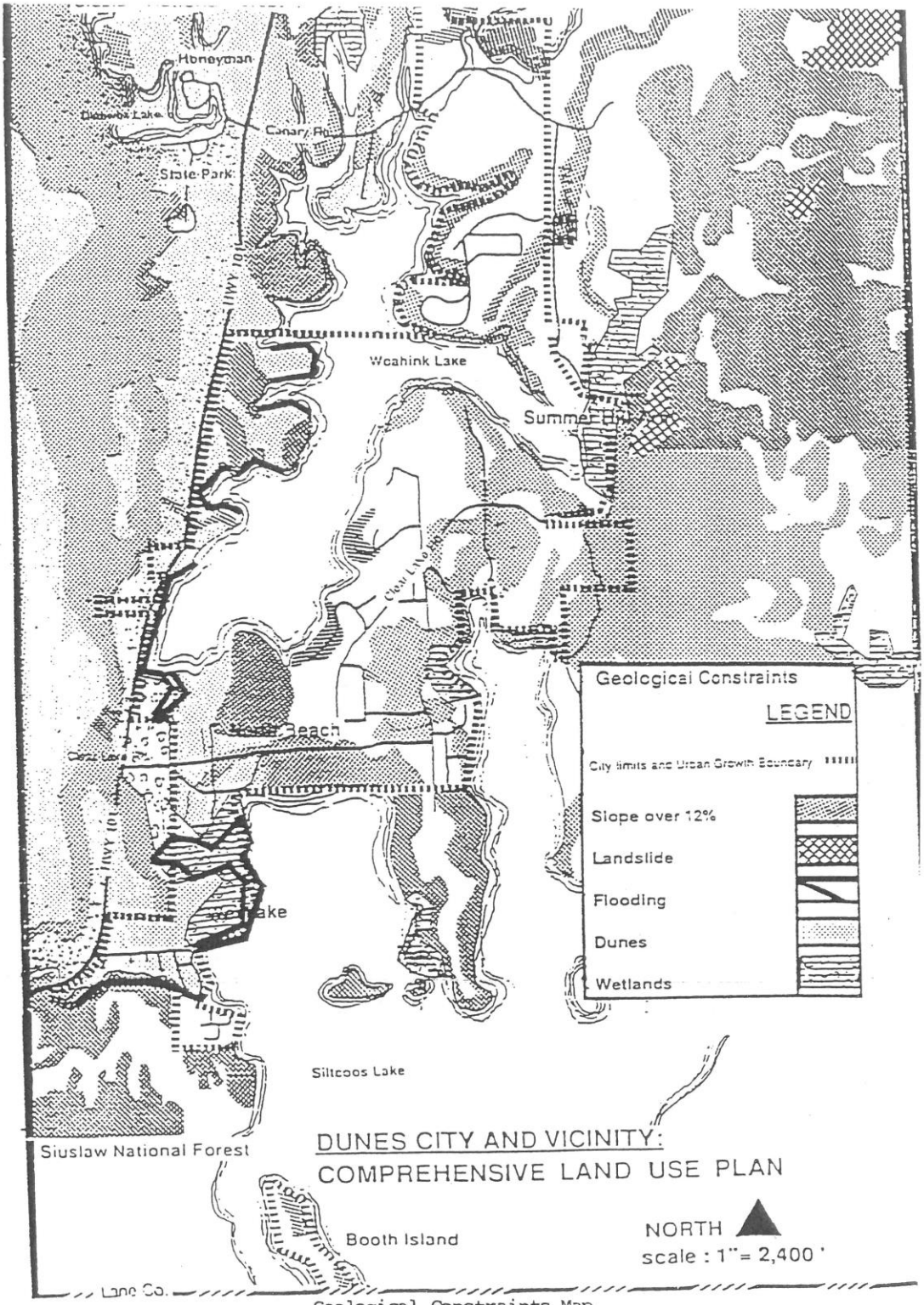


1993 Citizen Lake Watch Data

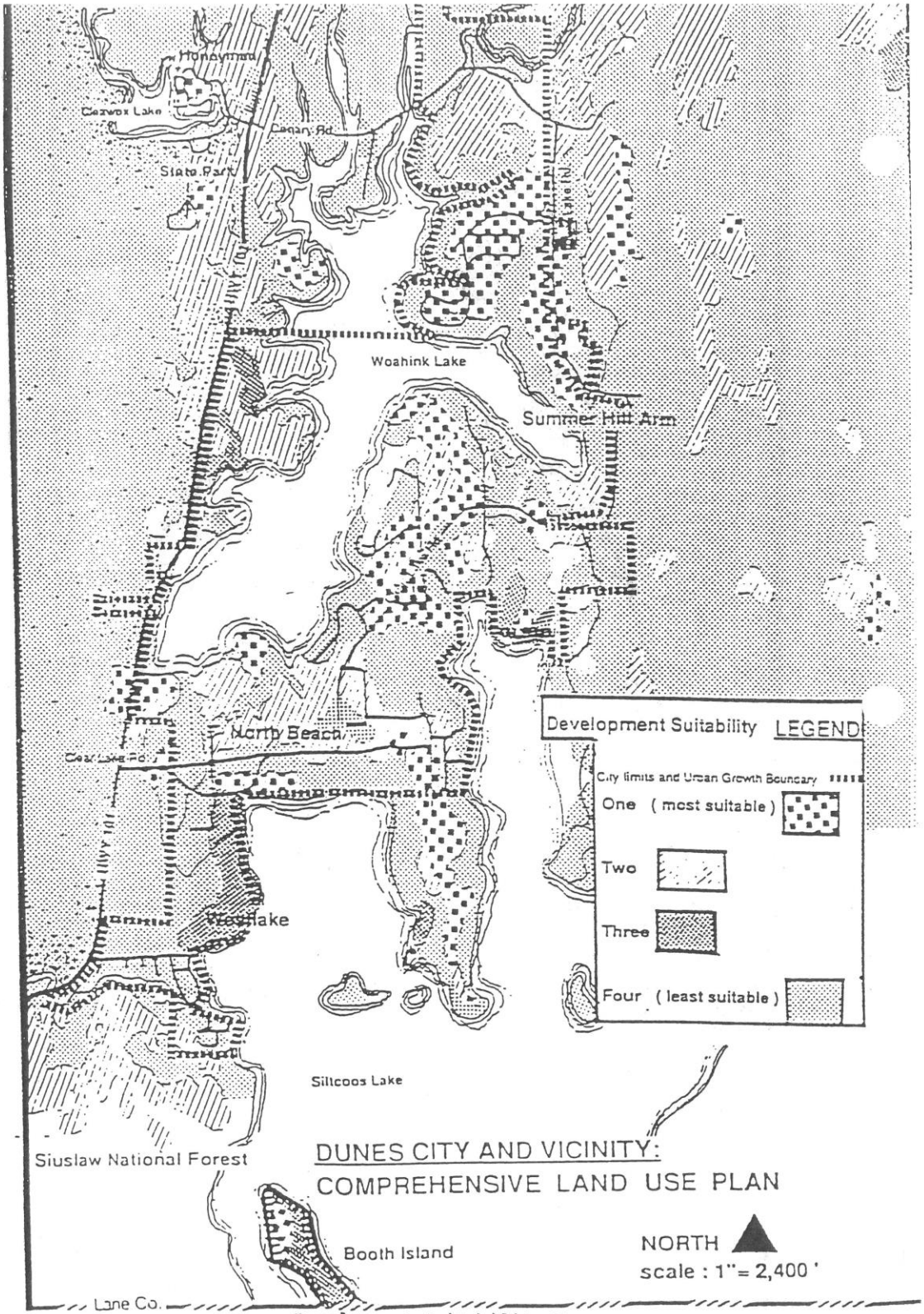
APPENDIX D - (Woahink Water Data) (Page 5 of 5)

⊠ Secchi Depth ▲ pH

APPENDIX D (Page 5 of 5)



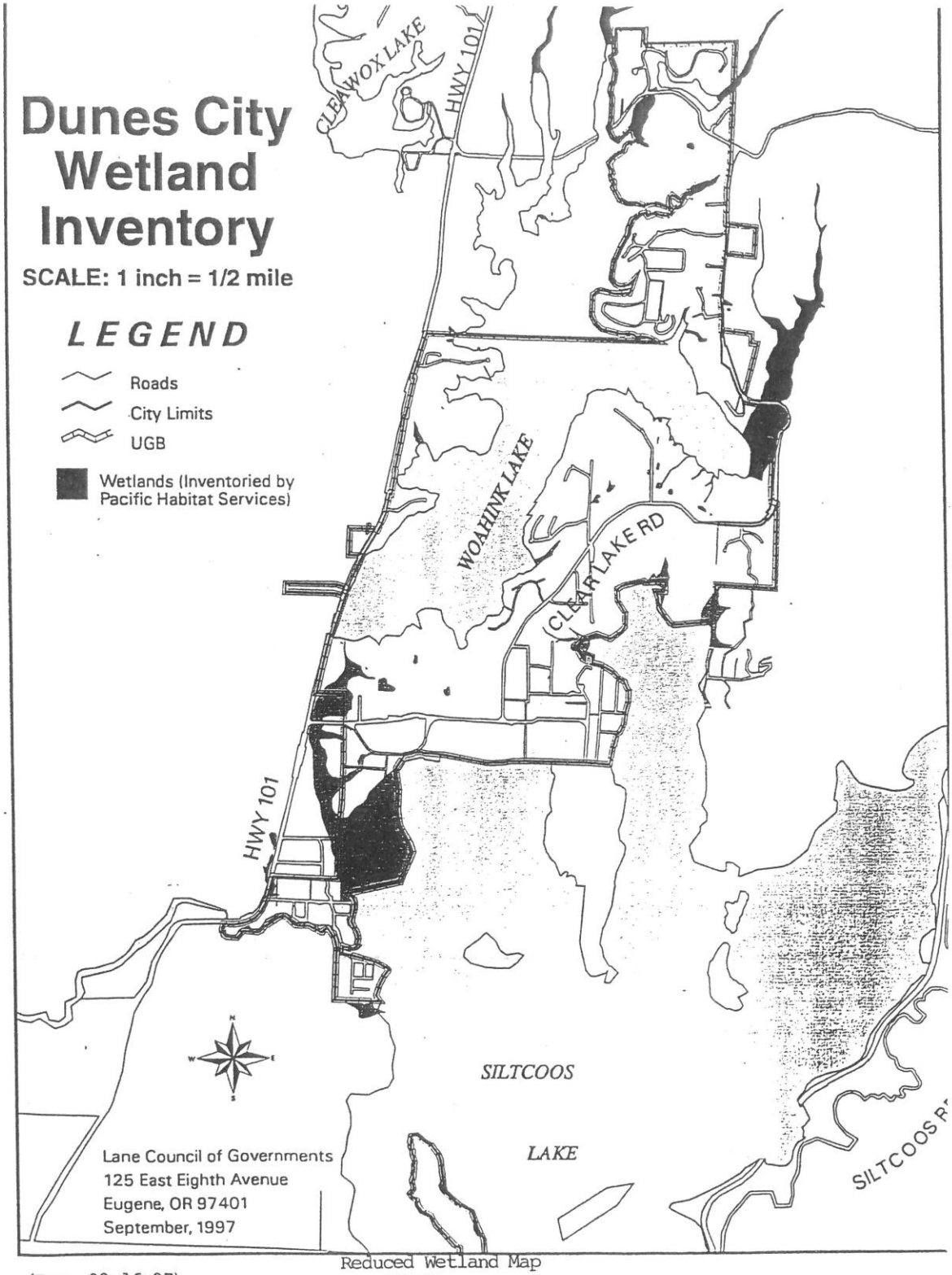
Geological Constraints Map
APPENDIX E



Development Suitability Map

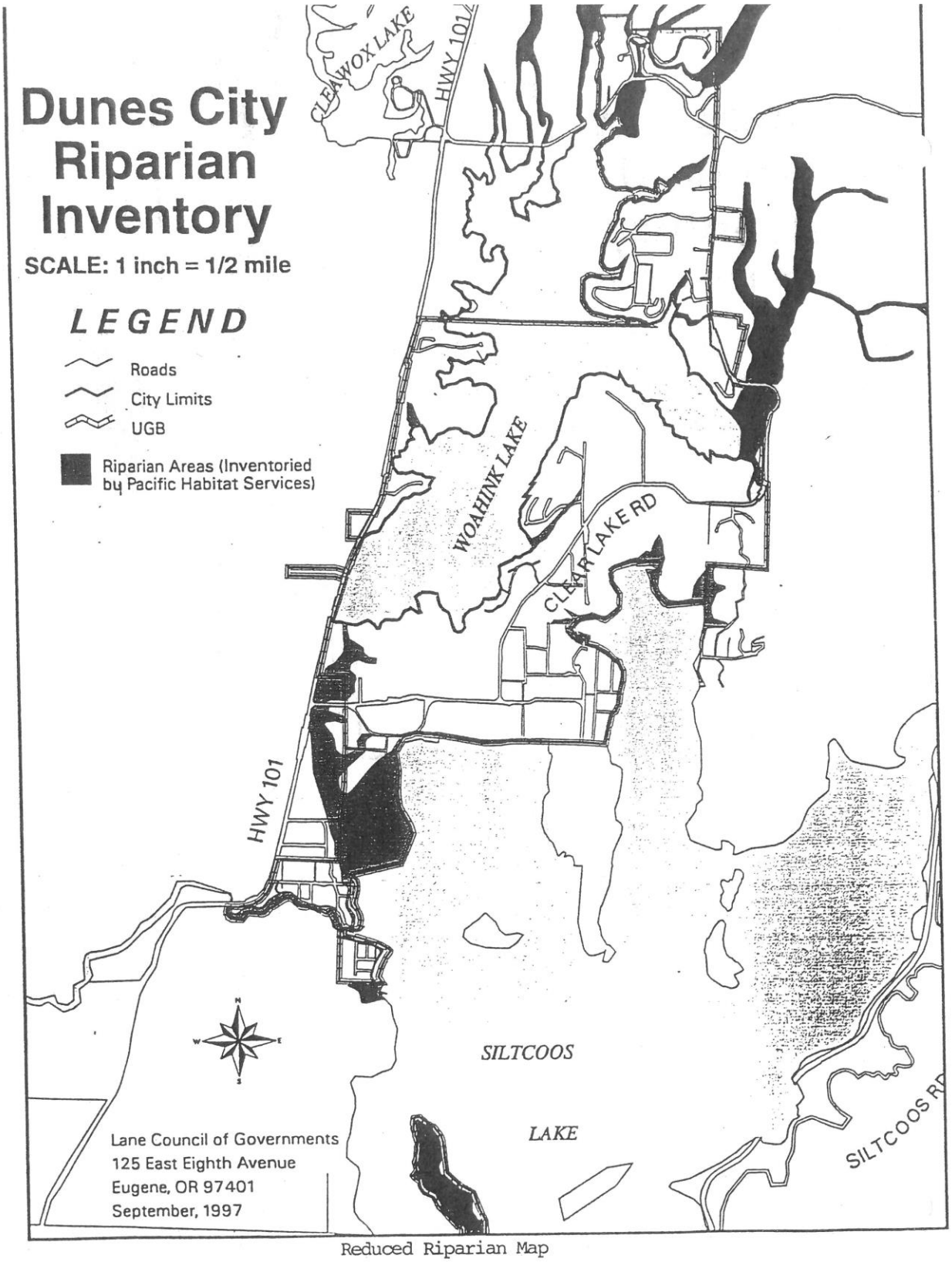
(Rev. 09-16-97)

APPENDIX F



(Rev. 09-16-97)

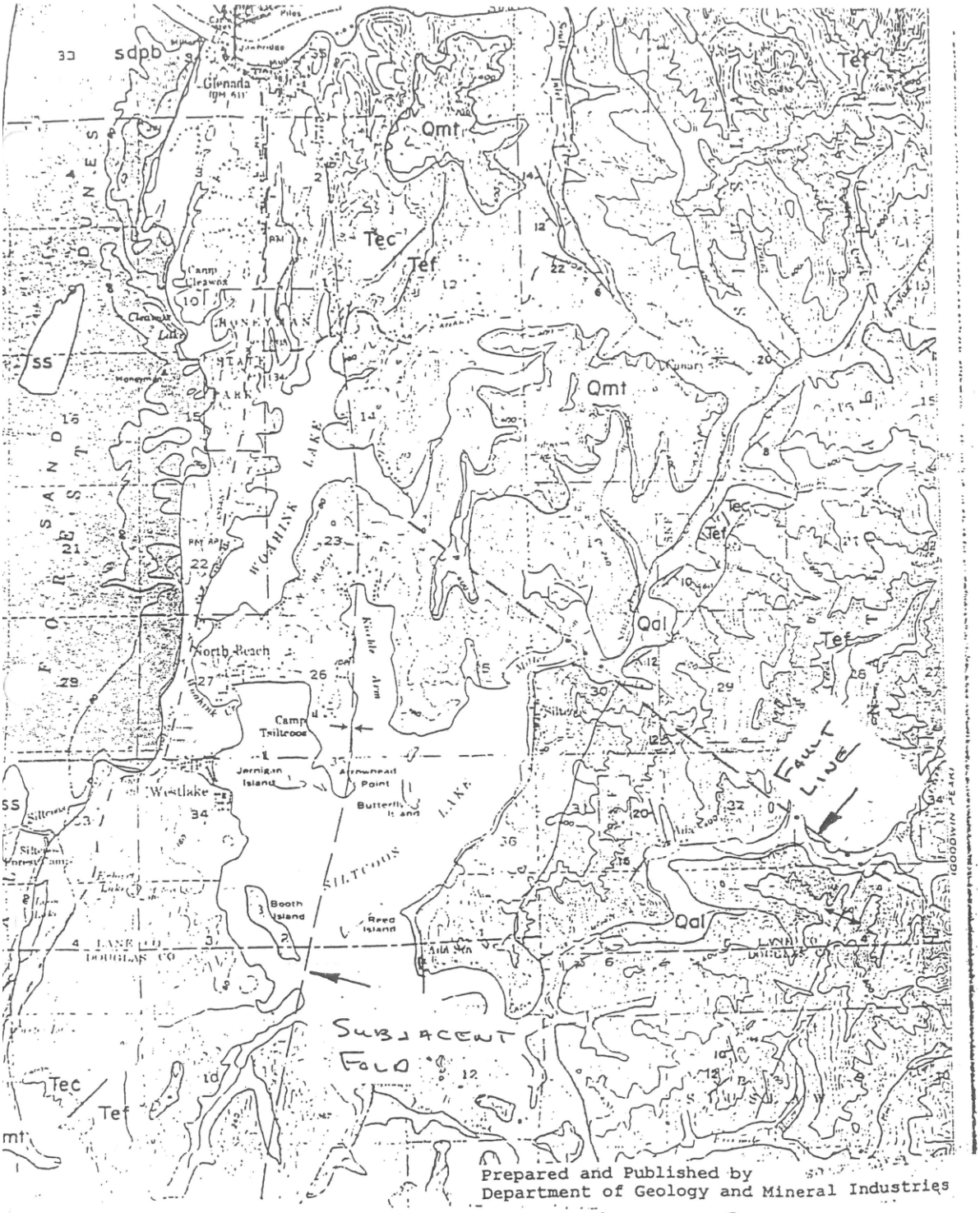
Reduced Wetland Map
APPENDIX G



Reduced Riparian Map

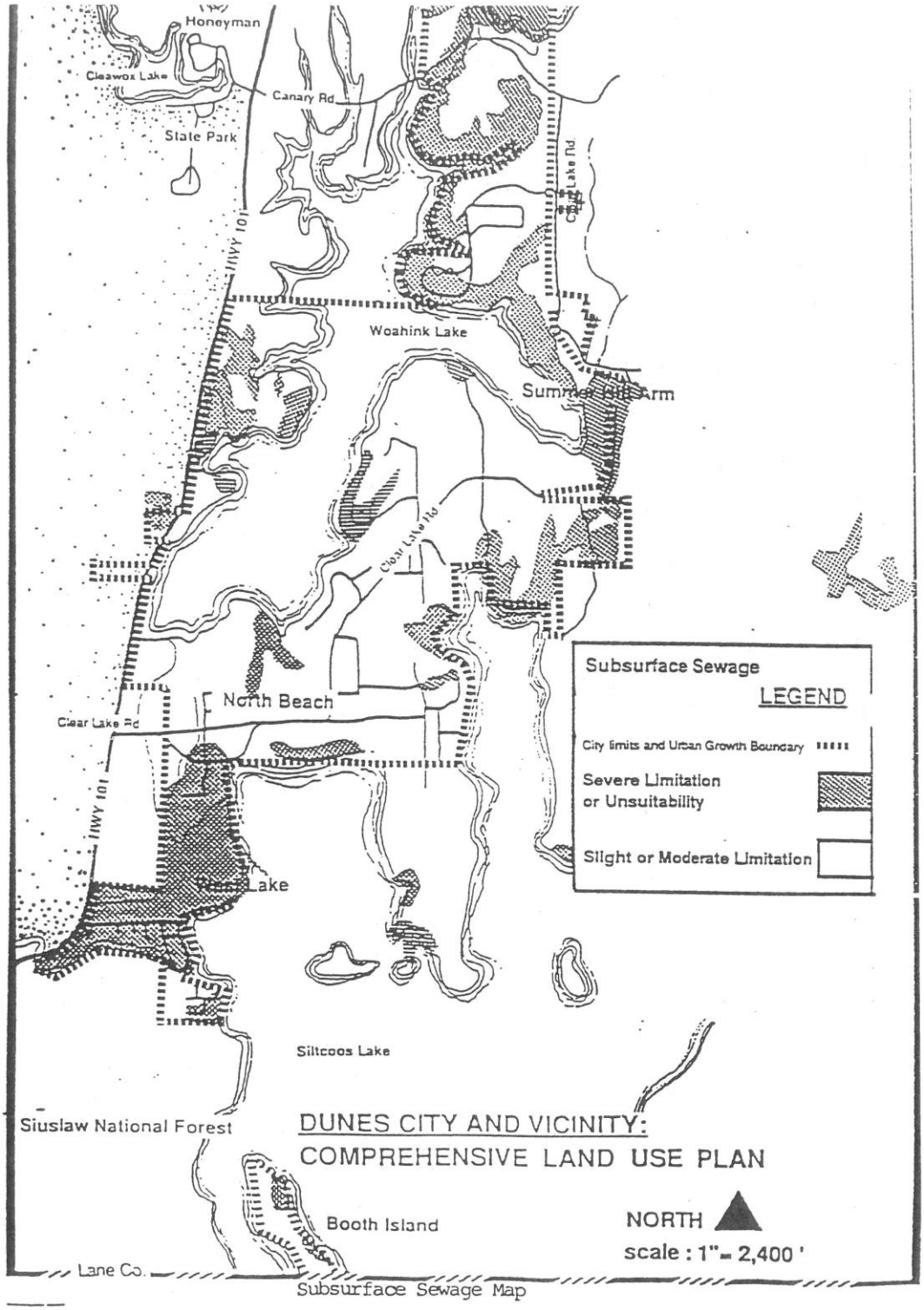
(Rev. 09-16-97)

APPENDIX H



APPENDIX J - (Earthquake Faults)

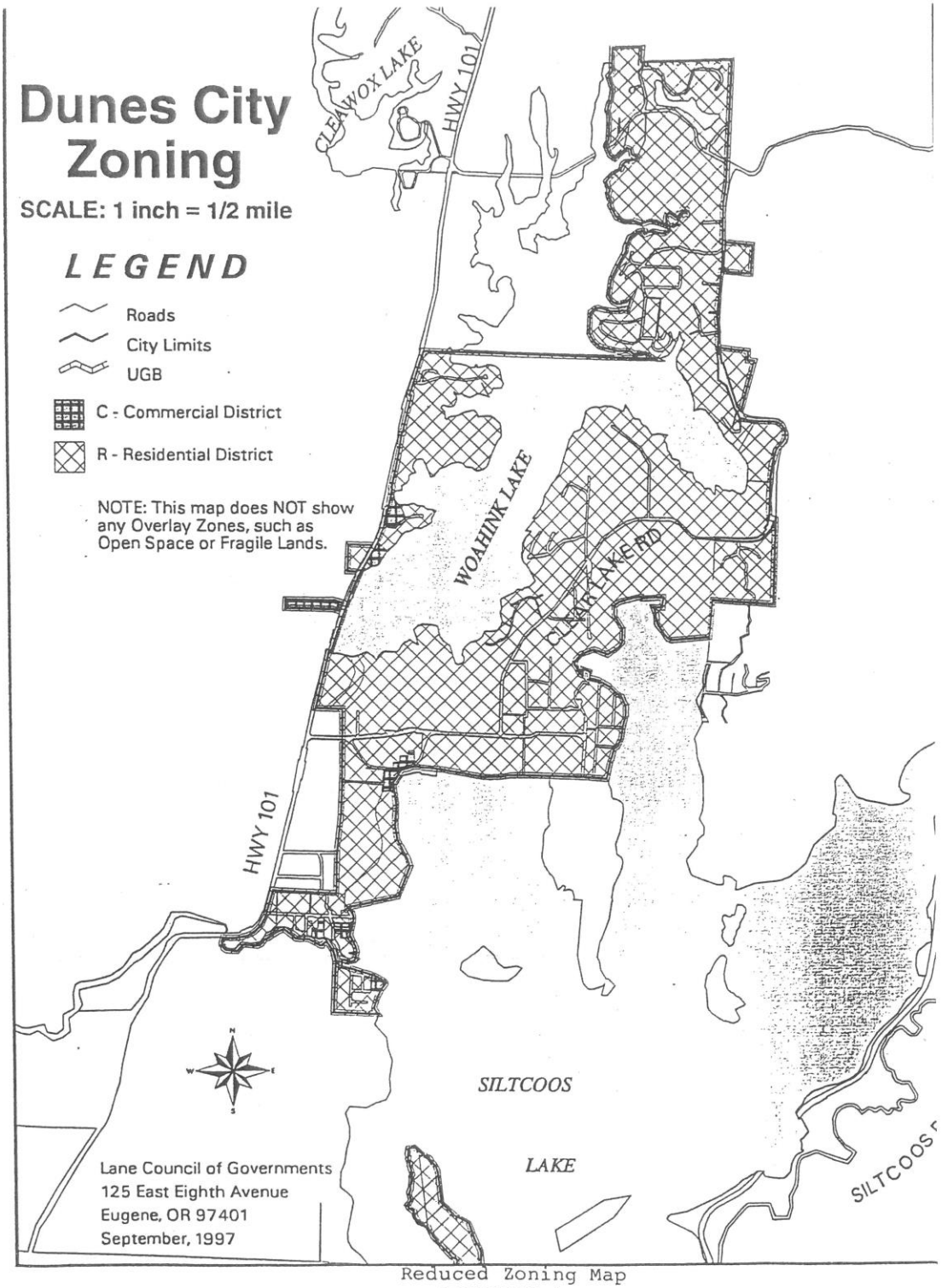
(Rev. 09-16-97)



Subsurface Sewage Map

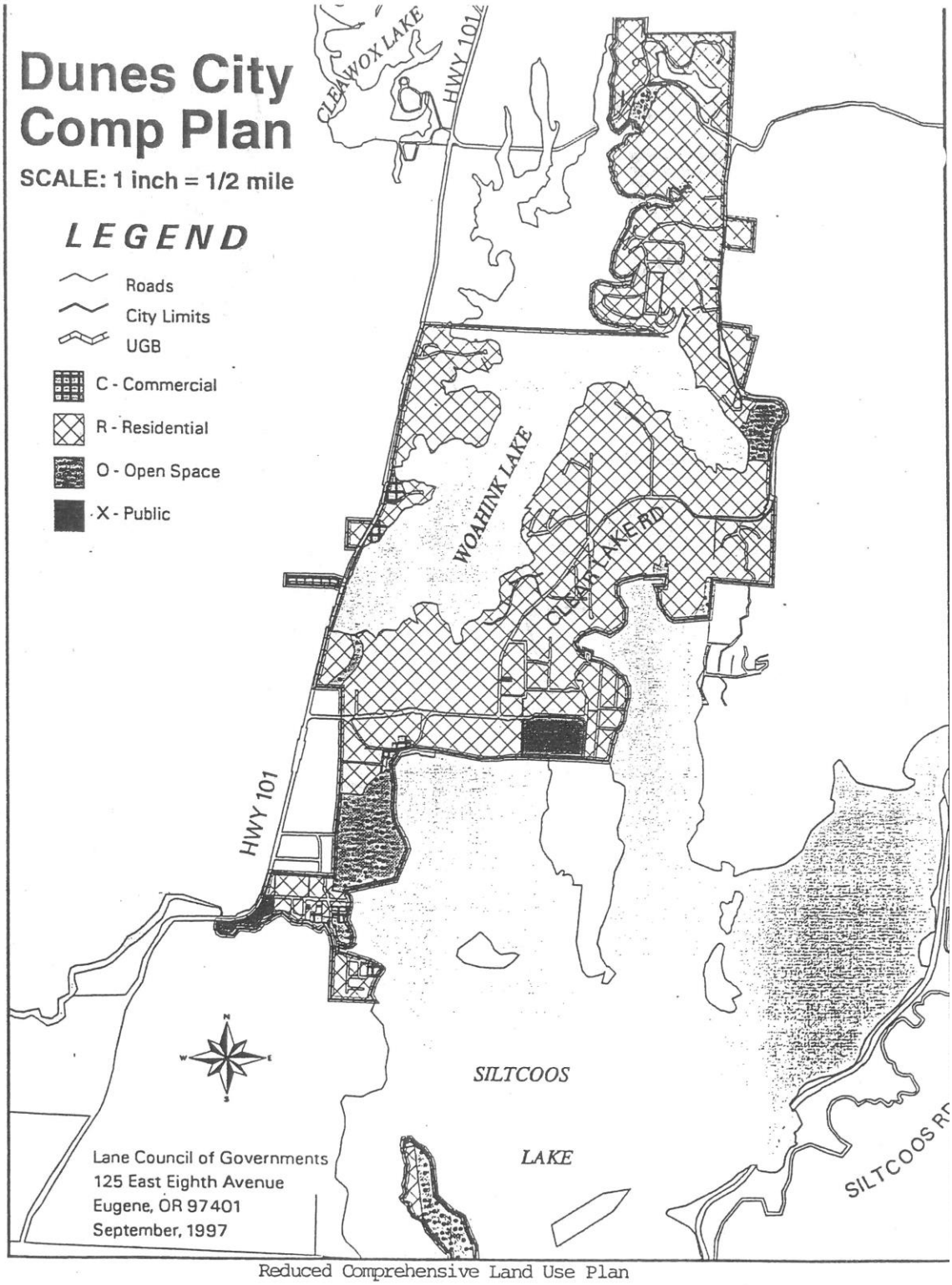
APPENDIX K

(Rev. 09-16-97)



Reduced Zoning Map
APPENDIX L

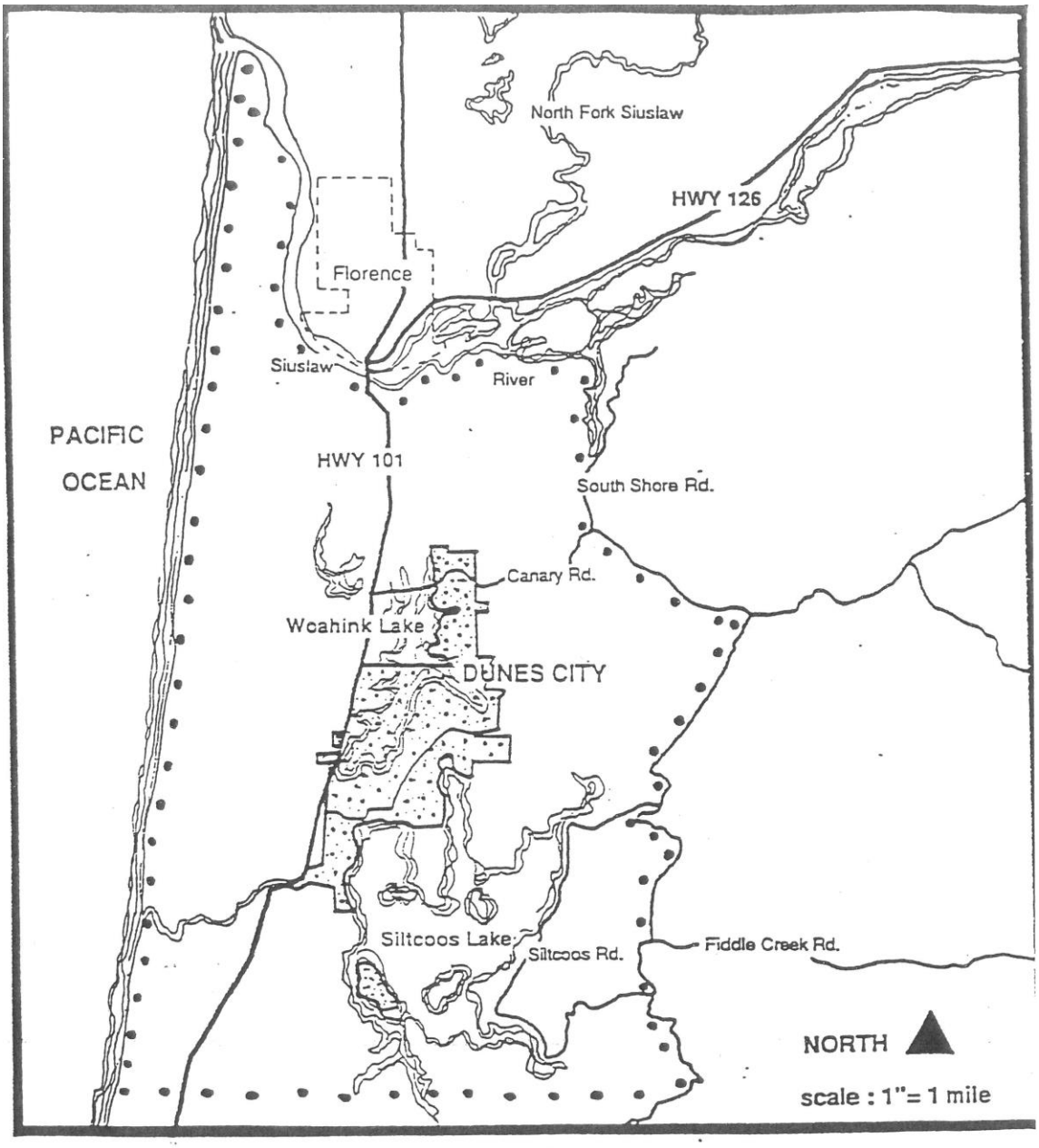
(Rev. 09-16-97)



Reduced Comprehensive Land Use Plan

APPENDIX M

(Rev. 09-16-97)



Area of Influence Map

DUNES CITY

VICINITY MAP

CITY LIMITS/URBAN GROWTH BOUNDARY

AREA OF INFLUENCE

APPENDIX N

(Rev. 09-16-97)

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