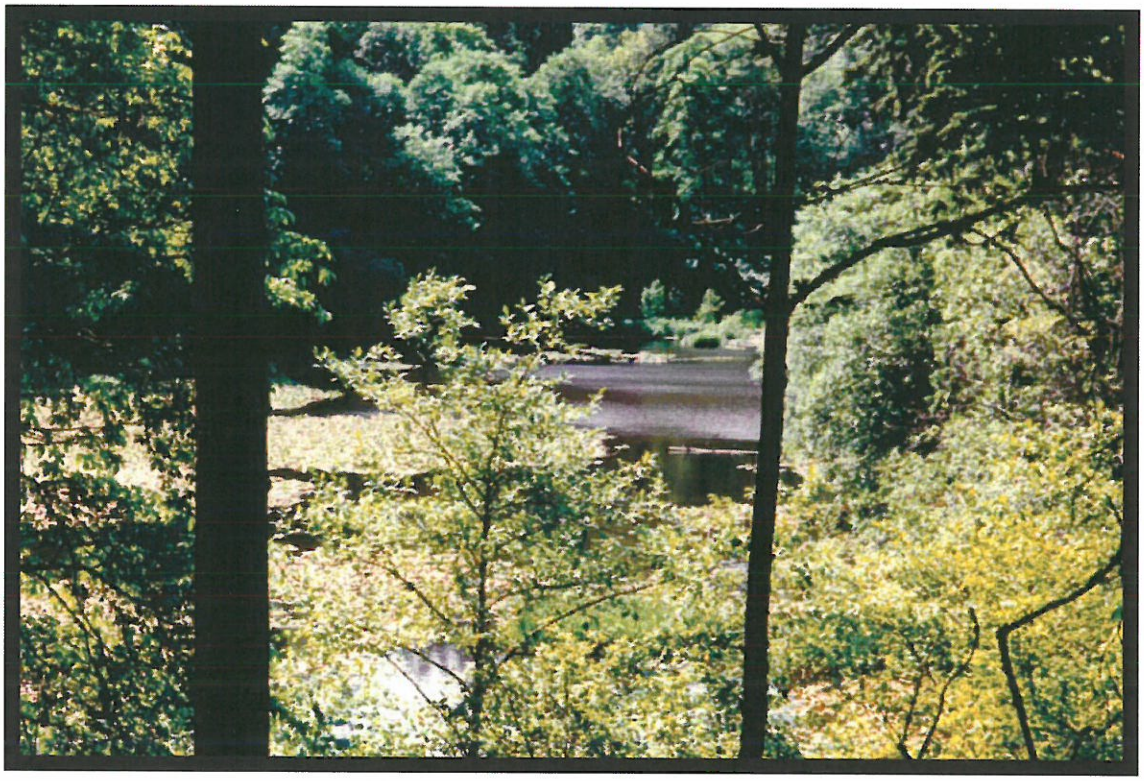
Goal 5: Open Spaces, Historic & Natural Areas

❑ Section 1, Fish and Wildlife Habitat

Lily Bay (Frog Pond)



Lake Oswego shall preserve and restore environments which provide fish and wildlife habitat.

❑ Section 1, Fish and Wildlife Habitat

BACKGROUND

Statewide Planning Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources

"To conserve open space and protect natural and scenic resources."

Statewide Planning Goal 5 requires communities to provide programs that will 1) ensure open space; 2) protect scenic and historic areas and natural resources for future generations; and 3) promote healthy and visually attractive environments in harmony with the natural landscape character. Goal 5 also requires communities to inventory Goal 5 resources, including fish and wildlife areas and habitats. The inventory is required to include a description of the location, quality and quantity of these resources, and an identification of conflicting uses. Where no conflicting uses have been identified, resources shall be managed so as to preserve their original character. Where conflicting uses have been identified, the economic, social, environmental and energy (ESEE) consequences shall be determined and programs developed to achieve the goal.

A variety of environments exist in Lake Oswego which provide fish and wildlife habitat. These areas include remnants of native woodlands, open fields, wetlands and waterbodies such as Oswego Lake, the Willamette River and numerous year-round and intermittent streams. Mature landscapes and trees within developed areas are also valuable to several wildlife species. Furthermore, properly managed private property, including residential lots, can provide valuable nesting, food and cover.

Two natural resource inventories for the Lake Oswego planning area have been conducted over the past 18 years. The 1975 LOPRI (Lake Oswego Physical Resources Inventory) was conducted by community volunteers. It provided much of the information needed to develop the natural resource element of the 1978 Comprehensive Plan. In 1992 a new natural resources inventory was developed by an environmental consulting firm. It consisted of more location-specific data than the 1975 inventory, and specifically; rates the quality of water resources such as wetlands, streams and lakes according to their wildlife habitat values.

The following summarizes the major findings and recommendations of the 1992 Natural Resources Inventory:

- Water is critical to all wildlife species, and should be the basis of establishing a comprehensive network of open spaces to host wildlife. Water must be of good quality and be accessible.

- The habitat immediately adjacent to water resources should be protected to provide food, cover, and shelter for wildlife.

❑ Section 1, Fish and Wildlife Habitat

- Linkages between various habitats to ensure safe passage to food, water, nesting, and cover is critical for wildlife survival.

- There has been a decline in certain wildlife habitat types within the Lake Oswego planning area. Areas of oak/ash wetlands, open agricultural fields which assist migratory birds, and forested slopes, have been lost due to development.

- Improper management of public and private lands, such as removal of native vegetation, planting of invasive flora, and use of herbicides and pesticides have contributed to the decline of wildlife populations.

- Urban open spaces do not maintain their quality without active management. There has been a serious invasion of nuisance plants which have degraded the quality of wildlife habitat in many open spaces within the City. Blackberries and English ivy have eliminated native ground cover over large areas of stream corridors in the planning area, and purple loosestrife is a problem in wetlands.

- Most streams have been degraded by erosion, tree cutting and removal of undergrowth vegetation and course changes resulting from construction, especially sanitary sewers. Illegal dumping in wetlands and along streams has also degraded these resources. Stormwater-borne chemicals used in landscape maintenance and agriculture, and petroleum residues from streets and parking lots also have negative impacts on Lake Oswego's stream corridors.

The following four major recommendations were made by the 1992 Lake Oswego Natural Resources Inventory.

1. Wetlands and water resources should be protected and enhanced by using buffers, removing invasive plants, planting native vegetation and providing stream corridor setbacks that leave steep, forested banks intact.

2. Trees and tree groves should be preserved. The remaining large forested stands should be protected from fragmentation, and forested areas on steep slopes should remain undeveloped as they are one of the last refuges for wildlife.

3. Linkages between uplands and wetland/water resources should be created and protected where already existing to provide wildlife travel corridors. Urban deer populations and other wildlife species, require safe passages to access food, water, and cover.

4. New City policies, ordinances and zoning and development standards are required to protect natural resources.

❑ Section 1, Fish and Wildlife Habitat

Summary of Major Issues

The following are some of the issues and changed circumstances and conditions which were considered in the update of this element of the Comprehensive Plan.

- A new location-specific natural resources inventory was conducted in 1992.
- A decline in wildlife habitat has occurred since the Comprehensive Plan was first adopted as a result of urban development; lack of proper management of urban open spaces; restriction of access to a variety of habitats; tree cutting and fragmentation of forested areas; and, degradation of stream corridors.

GOALS, POLICIES, AND RECOMMENDED ACTION MEASURES

GOAL

Lake Oswego shall preserve and restore environments which provide fish and wildlife habitat.

POLICIES

1. Preserve and restore natural resources and lands which are important to fish and wildlife habitat including:

   a. Wetlands, water bodies, stream corridors and associated vegetation;
   b. The Willamette Greenway and the Urban Service Boundary's (USB) floodplains and floodways;
   c. Surfacewater and groundwater quality;
   d. Tree cover and understory vegetation, including downed trees and nesting snags; and,
   e. Upland areas, especially forested hillsides.

2. Protect rare, threatened, and endangered fish and wildlife species and their associated habitats.

3. Preserve and restore fish and wildlife habitat through:

❑ Section 1, Fish and Wildlife Habitat

a. Land and habitat management practices on public and private lands; and,
b. Providing linkages to various habitats for access and safe passage of wildlife to food, water, nesting and cover.

4. Require developers to preserve and restore inventoried and identified fish and wildlife habitat through:

a. Site design and development standards and construction methods;
b. Preservation of habitat associated with floodways and floodplains and their meandering channels;
c. Protection, restoration and buffering of wetlands, stream corridors, water bodies; and,
d. Protection and restoration of upland habitat, especially forested hillsides.

5. Require the preservation or establishment and ongoing maintenance of vegetated buffer areas when development occurs on property adjacent to stream corridors and wetlands.

6. Preserve and restore native plant communities to provide wildlife food, cover and nesting opportunities.

7. Provide public education to promote preservation and enhancement of fish and wildlife habitat.

8. Utilize a systems-wide management approach to preserve, restore and manage fish and wildlife habitat.

9. Ensure linkage among wildlife habitat areas as a key component of the Lake Oswego parks, open space and surface water management systems.

10. The City shall emphasize protection rather than mitigation of fish and wildlife habitat functions and values.

RECOMMENDED ACTION MEASURES

i. Provide for a combination of incentives and regulatory measures to influence development to preserve and restore fish and wildlife habitat.

ii. Provide for fish and wildlife habitat through measures such as:

❑ Section 1, Fish and Wildlife Habitat

a. Preservation and reestablishment of wetlands and waterbodies and native plant communities; and,
b. Maintenance practices and landscaping to provide food, nesting and cover.

iii. Participate with state and federal agencies and private groups to protect rare and endangered species identified within the Urban Services Boundary.

iv. Develop a connected open space network within the Lake Oswego Urban Services Boundary which:

a. Provides fish and wildlife habitat in conjunction with passive recreation opportunities, and;
b. Connects to open space lands in surrounding jurisdictions.

v. Preserve sensitive and critical wildlife habitat through methods such as special development regulations, land acquisition, purchase of development rights, land trades, transfer of development rights, etc.

vi. Implement a systems-wide management approach to protect, restore and manage fish and wildlife habitat which:

a. Monitors the health of the area's fish and wildlife habitat through periodic surveys and inventories;
b. Determines those responsible for public and private open space maintenance and restoration activities;
c. Sustains a program to remove invasive plant species;
d. Coordinates with conservation groups, other agencies, and jurisdictions; and,
e. Provides public education and awareness of habitat issues.

vii. Encourage fences to be designed and built so as not to restrict wildlife access to habitat and waterbodies.

viii. Cooperate with the Oregon State Parks Division, conservation groups and other jurisdictions and agencies to enhance the unique fish and wildlife habitat values of the Willamette River Greenway.

ix. Encourage Metro and Clackamas County to identify and protect fish and wildlife habitat in areas outside the Urban Growth Boundary and adjacent to Lake Oswego, especially in the Stafford Area.

❑ Section 1, Fish and Wildlife Habitat

x. Provide ongoing funding to implement fish and wildlife habitat and open space acquisition and management programs.

xi. Establish environmental overlay zones to protect significant wildlife habitat areas.

xii. Encourage schools and local organizations to provide public education opportunities regarding preservation and improvement of wildlife habitat within northwest ecosystems.

Goal 5: Open Spaces, Historic & Natural Areas

❑ Section 2, Vegetation

View From Iron Mountain Cliffs

The City shall protect and restore the community's wooded character and vegetation resources.

❑ Section 2, Vegetation

BACKGROUND

Statewide Planning Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources

"To conserve open space and protect natural and scenic resources."

Statewide Planning Goal 5 requires communities to provide programs that will: 1) ensure open space; 2) protect scenic and historic areas and natural resources for future generations; and 3) promote healthy and visually attractive environments in harmony with the natural landscape character. Goal 5 requires communities to inventory Goal 5 resources, including ecologically significant natural areas, of which vegetation is an important element. The inventory is required to include a description of the location, quality and quantity of these resources, and an identification of conflicting uses. Where no conflicting uses have been identified, resources must be managed so as to preserve their original character. Where conflicting uses have been identified, the economic, social, environmental and energy (ESEE)* consequences shall be determined and programs developed to achieve the goal.

Vegetation is an integral part of Lake Oswego's environment. It is valuable for its aesthetic qualities and contribution to air and water quality, wildlife habitat, shade, and erosion control. Vegetation resources also support recreational opportunities and contribute substantially to Lake Oswego's distinctive character.

Much of the native vegetation in Lake Oswego's Urban Services Boundary (USB) has been displaced, first by agriculture and logging, and more recently, by urban development. Also, competition from introduced species such as English ivy, reed canary grass, and blackberries has made it difficult for native plant communities to reestablish themselves. However, many areas of environmentally significant vegetation still remain within the USB. These natural resource sites include vegetation in and around Oswego Lake, the Willamette River, wetlands, stream corridors and native tree groves. In addition, Lake Oswego has many outstanding non-native trees and ornamental plant materials.

Some of Lake Oswego's vegetation resources have been inventoried by two studies: the 1975 Lake Oswego Physical Resources Inventory (LOPRI), and the Lake Oswego Natural Resources Inventory, completed in 1992. The 1992 study described and evaluated tree groves, and the natural values and functions of vegetation within wetlands and stream corridors as follows:

- Tree Groves: Tree groves within Lake Oswego's Urban Services Boundary include coniferous, and mixed deciduous/coniferous stands of trees. The area's remaining forested areas and tree groves are located mostly on steep hillsides, dry rocky bluffs, in or near wetlands and along

❑ Section 2, Vegetation

streams. Tree groves are valuable wildlife habitat, recreation and aesthetic resources. In addition, forested areas improve air quality, provide wildlife habitat, shade and stabilize steep slopes.

- Wetlands: The Lake Oswego area has both emergent wetlands, where grasses are the dominant plant community, and forested wetlands, which are dominated by trees and woody vegetation. Vegetation is essential for wetlands to perform the important natural functions of storm water storage, improvement of water quality, erosion control, ground water recharge and the provision of fish and wildlife habitat.

- Stream Corridors: Stream corridors are located throughout the Lake Oswego Area. Vegetation within stream corridors lessens downstream flooding and benefits water quality by slowing runoff and preventing erosion. Also, stream corridors provide vegetated corridors necessary for wildlife habitat and travel.

The Lake Oswego Tree Cutting Ordinance (LOC 55) regulates the removal of trees. In addition, the City's land use regulations also provide some protection for individual trees and tree groves and vegetation within stream corridors, wetlands, floodplains, hillsides and the Willamette Greenway. Further, conditions of approval can be applied through the development review process to preserve significant vegetation. Lake Oswego's regulations also require the preservation of certain rare plant species.

Landscaping and tree plantings on private and public property enhance the aesthetic character of Lake Oswego and also provide other benefits such as shade, wildlife habitat and buffering and screening among different types of land uses. Landscaping is required by the City's development standards for all major development. Also, the City's erosion control and hillside protection standards require the use of vegetation as a means to control soil erosion.

Summary of Major Issues

The following are some of the issues, changed circumstances and conditions which were considered in the update of this element of the Comprehensive Plan.

- The 1975 Lake Oswego Physical Resources Inventory (LOPRI) was updated in 1992 by the Lake Oswego Natural Resources Inventory.

- There has been an overall loss of native vegetation in Lake Oswego since the 1975 LOPRI.

- Lake Oswego's development regulations provide for varying levels of protection for vegetation. Landscaping is required to be installed as part of all major development.

❑ Section 2, Vegetation

GOALS, POLICIES AND RECOMMENDED ACTION MEASURES

GOAL

The City shall protect and restore the community's wooded character and vegetation resources.

POLICIES

1. Protect, restore and maintain existing vegetation which has environmental, wildlife habitat and aesthetic qualities, including tree groves and forested hillsides and vegetation associated with wetlands, stream corridors and riparian areas.

2. Protect, restore and maintain native plant communities, including identified threatened plant species.

3. Require developers to maximize the preservation of trees and to maintain and enhance the cohesive quality of tree groves through:

   a. Site design and construction methods; and,
   b. Open space dedication of areas which contain these resources.

4. Require the protection of significant or historic individual trees pursuant to a heritage tree protection program.

5. Ensure vegetation is maintained, protected and restored through:

   a. Regulation of tree removal;
   b. Conditions of development approval;
   c. Monitoring of development to ensure compliance with the City's regulations and conditions of development approval; and,
   d. Enforcement of regulations.

6. Require landscaping for all development other than individual single family dwellings and duplexes to:

   a. Visually enhance development projects;

❑ Section 2, Vegetation

b. Provide buffering and screening between differing land uses;
c. Reduce surface water runoff, improve water quality and maintain soil stability;
d. Provide wildlife habitat; and,
e. Reduce energy use by using vegetation for shade and windbreaks.

7. Require the establishment and maintenance of landscaped areas in all new parking lots and expansion of existing lots, to provide shade and visual amenity. Parking lot landscaping shall emphasize:

   a. The planting of broad spreading trees for shade and to mitigate the negative visual and environmental impacts of parking lots; and,
   b. Effective screening and buffering between parking lots and adjacent uses.

8. Require tree planting for all development other than individual single family homes and duplexes, unless landscape standards are met by existing vegetation. When required, trees shall be planted along the street and throughout the development site.

9. Allow innovative site and building design including the clustering of buildings to preserve trees and other vegetation.

10. Ensure the continued maintenance of vegetation required pursuant to development approval, within landscaped and common areas.

11. Design and construct public works projects to preserve existing vegetation to the extent practical.

12. Protect and enhance vegetation resources within rights-of-way and other public lands through measures such as:

    a. Regulations to protect public trees;
    b. The provision of adequate right-of-way to ensure sufficient space for tree planting; and,
    c. An ongoing planting and maintenance program for trees and other vegetation in public rights-of-way, open spaces and parks.

13. Preserve natural resource sites, through public acquisition and other methods such as conservation easements, to permanently limit development.

14. The City shall emphasize protection rather than mitigation of the functions and values of vegetation.

❑ Section 2, Vegetation

RECOMMENDED ACTION MEASURES

i. Maintain a database of overall tree cover, threatened plant species, tree groves and significant individual trees within Lake Oswego's Urban Services Boundary.

ii. Support neighborhood and community efforts to reestablish native plant communities, especially on hillsides, and in wetlands and stream corridors.

iii. Provide information to the general public and developers regarding:

a. Tree maintenance and preservation;
b. Landscape design and the appropriate use of plant materials;
c. Protection of trees and other vegetation during construction;
d. Native plant materials that are low maintenance, drought tolerant and which enhance wildlife habitat; and,
e. The value that vegetation resources lend to both private property and the community.

iv. Encourage Clackamas County to protect tree groves and other significant vegetation within the unincorporated portion of the USB, and to require landscaping and tree planting for all development other than individual single-family homes and duplexes within the area.

v. Promote landscapes on public lands which are low-maintenance, drought-tolerant, require minimal chemical application and which support wildlife habitat.

vi. Encourage neighborhood associations, schools and service clubs to participate in community improvement activities such as tree planting and natural area rehabilitation projects.

vii. Encourage private property owners to protect and restore vegetation resources through measures such as:

a. Improvement and maintenance of existing landscapes, including replanting when vegetation is removed;
b. Tree planting on the grounds of institutions such as schools and churches; and,
c. A voluntary protection program, such as a "Heritage Tree Program" for significant trees.

viii. Encourage the use of native plant materials on both public and private property.

ix. Establish regulations which prevent the use of destructive and nuisance plant materials such as English ivy as part of required landscaping.

❑ Section 2, Vegetation

- Notes -

Goal 5: Open Spaces, Historic & Natural Areas

❑ Section 3, Wetlands

Bryant Woods Nature Park

The City shall protect, maintain, enhance and restore wetlands.

❑ Section 3, Wetlands

BACKGROUND

Statewide Planning Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources

"To conserve open space and protect natural and scenic resources."

Wetlands* are an important part of Lake Oswego's environment. They are valuable for many reasons including storm water storage, erosion control, water quality enhancement, ground water recharge and fish and wildlife habitat. Also, wetlands contribute to the community's aesthetic quality and provide opportunities for recreation and education.

Many of the wetlands within Lake Oswego's Urban Services Boundary (USB) have been lost or significantly degraded by development. In the past, development activities have filled and drained wetlands, removed vegetation and interrupted or diverted water flows. However, wetlands still exist within the City's USB.

Lake Oswego's wetlands have been inventoried by two studies: the 1975 Lake Oswego Physical Resources Inventory (LOPRI) and the Lake Oswego Natural Resources Inventory, completed in 1992. The 1992 study described three different types of wetland sites within the USB as follows:

- Emergent Wetlands: The dominant plant communities in these wetlands are rushes, sedges and grasses. Although many of these wetlands often appear to be dry grassy meadows in the summer, they are wet in the winter and early spring. They often serve as significant habitat for migrating and wintering waterfowl. They often function as temporary storage areas for runoff and traps for sediment, nutrients and pollution carried by storm water.

- Forested Wetlands: These wetlands are seasonally flooded and located in low lying areas, near springs or seeps or adjacent to stream corridors. The typical plant community consists of a multi-layered canopy of cottonwoods, oaks, ashes, willow and a complex understory shrub community. This multi-layered canopy provides cover, food, nesting and perching sites for wildlife. Forested wetlands also provide flood storage and water quality enhancement by filtering sediment and nutrients from storm water.

- Ponds: These resources consist of natural ponds, abandoned quarries, and ponds created for storm water detention and agricultural uses. Ponds provide a year-round water source for wildlife including waterfowl. Their value as wildlife habitat increases when they are located

❑ Section 3, Wetlands

adjacent to upland wildlife habitat. When ponds are adjacent or within stream corridors they may slow storm water runoff and alleviate flooding in downstream areas. Also ponds can serve to enhance water quality by trapping and filtering sediment, nutrients and pollutants.

Wetlands are regulated at the federal, state and local levels under the 1977 Clean Water Act (CWA), which is administered by the Environmental Protection Agency in conjunction with the U.S. Army Corps of Engineers (COE). The objective of the CWA is to restore and maintain the physical and biological integrity of the nation's waters, including wetlands. Filling and dredging of jurisdictional wetlands is prohibited without a permit from the COE. "Jurisdictional" wetlands occur in any instance where the three indicators of wetlands are present, including hydric soils that exhibit distinct characteristics of soils that have been fully inundated, vegetation typically adapted for life in saturated soils (hydrophytic vegetation), and saturation by surface water or ground water at a sufficient duration to support hydrophytic vegetation.

In Oregon, the Division of State Lands (DSL) regulates wetlands and issues permits in conjunction with the COE. However, regulatory authority of these agencies pertains only to dredging and filling, with only limited oversight over other activities such as draining and clearing vegetation. In Oregon, the Oregon Revised Statutes, ORS 837, the Wetland Protection Act, requires cities to notify DSL of development activities for wetlands on National Wetland Inventory maps. ORS 196 regulates removal and fill activities in waters of the state, including all natural waterways, rivers, lakes, ponds and wetlands. Only activities that propose removal, filling or alteration of more than 50 cubic yards of material from a wetland require a permit from the state.

Oregon Administrative Rules for Oregon Statewide Planning Goal 5 allow jurisdictions to develop wetland protection programs specific to their communities. Local jurisdictions may provide expanded protection to wetlands beyond what state agencies have authority over. For instance, a jurisdiction may control vegetation clearing and draining and may require buffer areas when a wetland is developed.

Oregon Statewide Planning Goal 5 requires communities to inventory Goal 5 resources, including ecologically significant natural areas, of which wetlands are an important element. The inventory is required to include a description of the location, quality and quantity of these resources and an identification of conflicting uses. Where no conflicting uses have been identified, resources must be managed so as to preserve their original character. Where conflicting uses have been identified, the economic, social, environmental and energy (ESEE)* consequences shall be determined and programs developed to provide an appropriate level of protection.

Wetlands are protected pursuant to the City's Sensitive Lands Program.

❑ Section 3, Wetlands

Summary of Major Issues

The following are some of the issues, changed circumstances and conditions which were considered in the update of this element of the Comprehensive Plan.

- The 1975 Lake Oswego Physical Resources Inventory (LOPRI) was updated in 1992 by the Lake Oswego Natural Resources Inventory. An ESEE analysis of wetlands identified in the Natural Resources Inventory was conducted in 1994.

- Many of the wetlands within Lake Oswego's USB have been lost or significantly degraded by development.

- Development activities which could impact wetlands are regulated at the federal, state, and local levels. Statewide Planning Goal 5 allows jurisdictions to protect additional wetlands and apply more stringent regulations subject to the (ESEE) process.

GOALS, POLICIES AND RECOMMENDED ACTION MEASURES

GOAL

The City shall protect, maintain, enhance and restore wetlands.

POLICIES

1. Protect, maintain, enhance, and restore the natural functions and values* of wetlands including enhancement of water quality, flood protection, fish and wildlife habitat, open space and natural areas.

2. Designate wetlands within a Resource Protection District overlay zone on the Comprehensive Plan Land Use Map.

3. Enact and enforce standards and ordinances which regulate development, including filling and grading, within delineated wetlands, wetland buffer* areas and buffer edges. These regulations shall require:

❑ Section 3, Wetlands

a. Preservation of the natural functions and values of wetlands;
b. No net loss of the total inventoried area of wetlands within Lake Oswego;
c. That wetlands which are designated as "distinctive natural areas," are forested or which contain rare or endangered plant or animal species, shall have the highest level of protection; and,
d. Preservation of wetlands, wetland buffer areas and buffer edges through dedication, deed restrictions, covenants and other means as a condition of development on properties containing such features.

4. Require activities which use wetlands to be compatible with the preservation of wetland functions and values. These activities include uses such as public and private recreation, surface water management and flood control.

5. Require the review of any development proposal that could impact a wetland with the appropriate local, state and federal agencies.

6. Require all public and private development, including fill, removal and grading, proposed within or adjacent to wetlands to:

a. Incorporate and maintain wetland features, functions and values in the project design, such as ponds, streams, marshes, wetland vegetation, and fish and wildlife habitat;
b. Preserve non-invasive vegetation and provide and maintain buffer areas around wetlands; and,
c. Prevent the placement of contaminants or discharge of water pollutants into wetlands or buffer areas.

7. Allow development density on parcels containing wetlands to be transferred to other portions of the development site when wetlands and the required buffer areas are permanently dedicated as open space.

8. Allow innovative site and building design, including the clustering of buildings to preserve wetlands.

9. The City shall emphasize protection rather than mitigation of the functions and values of wetlands.

❑ Section 3, Wetlands

RECOMMENDED ACTION MEASURES

i. Utilize wetlands as part of the City's Surface Water Management Program to enhance water quality, recharge groundwater and retain surface runoff.

ii. Encourage Clackamas County to protect wetlands within the unincorporated portion of the Lake Oswego Urban Services Boundary (USB).

iii. Develop and maintain an inventory of wetlands and their respective natural resource functions and values within Lake Oswego's Urban Services Boundary.

iv. Support community efforts to restore and maintain wetlands.

v. Preserve wetlands and other natural resource sites through public acquisition, conservation easements and other methods which permanently limit development.

vi. Provide information to the general public and developers regarding the importance of wetlands to the community and ways in which they can be protected and restored.

vii. Discourage activities and uses within the Urban Services Boundary which could harm wetlands, such as those whose effects could result in:

   a. Interruption or diversion of water flows;
   b. Discharge of water pollutants or contaminants, including sediment, into wetlands or buffer areas; and,
   c. Negative impacts on adjacent natural systems such as forested areas, wildlife habitat and stream corridors.

❑ Section 3, Wetlands

- Notes -

Goal 5: Open Spaces, Historic & Natural Areas

❑ Section 4, Stream Corridors

Ball Creek

The City shall protect, restore, and maintain stream corridors to maintain water quality and to provide open space and wildlife habitat.

❑ Section 4, Stream Corridors

BACKGROUND

Statewide Planning Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources

"To conserve open space and protect natural and scenic resources."

Statewide Planning Goal 5 requires communities to provide programs that will: 1) ensure open space; 2) protect scenic and historic areas and natural resources for future generations; and 3) promote healthy and visually attractive environments in harmony with the natural landscape character. Goal 5 requires communities to inventory natural resources, including streams. The inventory is required to include a description of the location, quality and quantity of these resources, and an identification of conflicting uses. Where no conflicting uses have been identified, resources must be managed so as to preserve their original character. Where conflicting uses have been identified, the economic, social, environmental and energy (ESEE)* consequences shall be determined and programs developed to achieve the goal.

Lake Oswego has a complex geography with many steep, wooded hillsides and streams that flow from the higher areas into the Tualatin River, Oswego Lake and the Willamette River. The community has grown around its streams, which course through residential and commercial areas. In the older areas of the community, most streams have been placed in pipes and culverts below the surface. In more recent developments, most streams are in open channels and are often within protected open space areas. Current planning practices discourage channelization because streams left in an open, natural state can be utilized for effective, economical water conveyance and water quality management.

A stream corridor is the stream channel and adjacent stream banks formed by erosion and water flow over time. Streams were initially identified and described in the 1975 Lake Oswego Physical Resources Inventory (LOPRI) and selected streams were also included in the 1992 Natural Resources Inventory. There are 28 major stream corridor drainage basins within Lake Oswego's Urban Services Boundary (USB), according to the 1992 Surface Water Management Plan. Streams can be seasonal or year-round, and sometimes run below the surface or into canals that feed Oswego Lake. Stream corridors provide many valuable functions in the community. They are essential components of Lake Oswego's surface water management system because they convey and store storm water and help control flooding. Streams also provide habitat and travel corridors for wildlife, and are valued by residents for their open space and aesthetic aspects. They are often found in conjunction with other natural areas such as wetlands and tree groves.

Stream corridors and their associated riparian* vegetation are especially sensitive natural areas that are susceptible to environmental degradation. Many stream corridors in Lake Oswego are naturally unstable and prone to erosion due to steep banks, the inherent characteristics of soils which occur in these areas

❑ Section 4, Stream Corridors

and the constant action of the water. Erosion and loss of water quality can be exacerbated by removal of vegetation, polluted storm runoff and development practices such as diversions of streams from their natural banks and water impoundment. These practices are discouraged by the Oregon Department of Fish and Wildlife (ODFW) and the Division of State Lands (DSL).

A combination of methods is used by the City to prevent and remedy stream degradation problems, including building setbacks, application of development standards and enforcement of regulations. Physical improvements are also made to deteriorated streams through the Surface Water Management Program. The City's Resource Protection District overlay zone and Development Standards recognize the importance of stream corridors and establish measures to control erosion hazards, preserve natural features, protect water quality and limit adjacent land uses. There are Development Standards for Erosion Control, Major and Minor Drainage, and Hillside Protection. The Steam Corridor standards most directly address stream protection, and require a 25 foot buffer zone and a building setback. [ZC 1-95-1204 Revised; 5/20/97]

Streams in Lake Oswego are also subject to water quality regulations under the federal Clean Water Act (CWA), administered by the Oregon Department of Environmental Quality (DEQ). In 1990, the DEQ found that the Tualatin river basin did not meet Federal and State water quality standards, and determined it to be "water quality limited." (See also Goal 6, Water Quality). As a result, the City adopted the Lake Oswego Surface Water Management Plan (SWMP) and new Erosion Control Standards in 1992. The SWMP guides efforts to improve water quality, including stream corridor protection, enhancement and rehabilitation as essential components of surface water management.

Summary of Major Issues

The following are some of the issues, changed circumstances and conditions which were considered in the update of this element of the Comprehensive Plan.

- The Tualatin River drainage basin and Oswego Lake have been designated as "water quality limited" by the Oregon Department of Environmental Quality (DEQ).
- Degradation of stream corridors is caused by erosion, polluted storm runoff, removal of native vegetation and other problems related to urbanization.
- The Lake Oswego Surface Water Management Plan has been adopted.
- State and federal agencies discourage diversion and impoundment of streams as unsound environmental practices.

❑ Section 4, Stream Corridors

- Placement of public utilities, such as water and sewer lines, in stream corridors can result in infiltration and environmental disruption.

- The City has adopted Zoning and Development Standards for Erosion Control, Hillside Protection, Drainage and Sensitive Lands. [ZC 1-95-1204 Revised; 5/20/97]

GOALS, POLICIES AND RECOMMENDED ACTION MEASURES

GOAL

The City shall protect, restore and maintain stream corridors to maintain water quality and to provide open space and wildlife habitat.

POLICIES

1. Protect, maintain, enhance and restore the functions and values of stream corridors, including maintenance of water quality, storm and flood water conveyance, fish and wildlife habitat, open space and aesthetic values.

2. Identify stream corridors within the USB and designate stream corridors with Resource Protection overlay zones on the Comprehensive Plan Land Use Map. [ZC 1-95-1204 Revised; 5/20/97]

3. The City shall emphasize protection rather than mitigation of stream corridor functions and values.

4. Enact and enforce standards and ordinances which regulate development, including filling and grading, within delineated stream corridors, stream corridor buffer* areas, and buffer edges*. These regulations shall require:

   a. Preservation of the functions and values of stream corridors;
   b. No net loss of the total inventoried area of stream corridors within Lake Oswego;
   c. That stream corridors which are designated as "distinctive natural areas," or which contain rare or endangered plant or animal species shall have the highest level of protection; and,

❑ Section 4, Stream Corridors

d. Preservation of stream corridors, stream corridor buffer areas and buffer edges through dedication, deed restrictions, covenants and other means as a condition of development approval for properties containing such features.

5. Require activities which use stream corridors to be compatible with the preservation of stream corridor functions and values. These activities include uses such as private development, public and private recreation, surface water management and flood control.

6. Require the review of any development proposal that could impact stream corridors with the appropriate local, state and federal agencies.

7. Require all development proposed within or adjacent to stream corridors to:

   a. Incorporate and maintain stream corridor features, functions and values in the project design such as stream banks, riparian* vegetation, and fish and wildlife habitat; and,
   b. Dedicate land or easements to preserve stream corridors and adjacent riparian areas.

8. Allow development density on parcels containing stream corridors to be transferred to other portions of the development site when stream corridors and the required buffer areas are permanently dedicated as open space.

9. Allow innovative site and building design, including the clustering of buildings to preserve stream corridors.

10. Prohibit diversion or impoundment of streams from their natural channels, except where:

    a. Diversion would return a stream to its original location; or,
    b. A stream channel occupies all or most of a legally created lot; or,
    c. An impoundment is designed to reduce flooding or improve water quality.

11. Restore and enhance the environmental quality of streams.

12. Design and construct public works projects to preserve existing stream banks and adjacent riparian vegetation.

13. The City shall emphasize protection rather than mitigation of the functions and values of stream corridors.

❑ Section 4, Stream Corridors

RECOMMENDED ACTION MEASURES

i. Use streams as part of the City's Surface Water Management Program to enhance water quality and control.

ii. Develop and maintain a database of stream corridors and their respective functions and values within Lake Oswego's Urban Services Boundary, and periodically update, through the Goal 5 ESEE* inventory process.

iii. Preserve environmentally sensitive stream corridor sites through public acquisition, dedication, conservation easements and other methods which permanently limit development.

iv. Prohibit activities and uses within stream corridors, buffer areas and buffer edges, which could harm stream corridors, such as those whose effects could result in:

a. Interruption or diversion of water flows;
b. Discharge of pollutants or contaminants, including sediment, into stream corridors or buffer areas; and,
c. Negative impacts on adjacent natural systems such as forested areas, wildlife habitat and wetlands.

v. Prohibit development in stream corridors, except:

a. For public storm drainage, water and sanitary sewer facilities; and,
b. Where site size and configuration prohibits all reasonable and economic use of the property.

The above public facilities may only be permitted within stream corridors when other locations have been evaluated, and it is shown that no other practical alternative exists. Stream corridor crossings by public or private utilities or roads may be permitted where disruption is minimized and mitigation measures are taken to compensate for any reductions in stream corridor functions and values resulting from the crossing.

vi. Prevent the placement of contaminants or discharge of pollutants into stream corridors or buffer areas.

vii. Minimize negative impacts from development on the functions and values of stream corridors.

❑ Section 4, Stream Corridors

viii. Avoid negative impacts such as flooding and siltation on stream corridor areas both upstream and downstream of development sites. If negative impacts are found, require the responsible party to mitigate for any damage found.

ix. Limit fences and other obstacles that would impede wildlife travel along stream corridors, and cause localized flooding due to debris accumulation.

x. Regulate excavation, stockpiling of soil, grading, cutting and earthwork construction within the vicinity of stream corridors.

xi. Require Erosion Control Plans as a condition of development approval to prevent increases in surface water runoff, erosion and siltation that can damage stream corridors.

xii. Establish clearly defined Development Standards which require a buffer area and an additional building setback adjacent to stream banks.

xiii. Monitor development adjacent to stream corridors to ensure compliance with the City's regulations and conditions of development approval.

xiv. Support community efforts to restore, maintain and enhance stream corridors.

xv. Restore and enhance the environmental quality of streams currently beneath pavement or in culverts by returning them to their natural, above-ground state where appropriate.

xvi. Provide information to the general public and developers regarding the location and importance of stream corridors and ways in which they can be protected and restored.

xvii. Encourage appropriate jurisdictions to protect stream corridors and adjacent riparian corridors within the unincorporated portion of the Lake Oswego Urban Services Boundary (USB).

xviii. Coordinate with state and federal agencies and private organizations in stream restoration and water quality improvement efforts.

Goal 5: Open Spaces, Historic & Natural Areas

❑ Section 5, Sensitive Lands

Forested Wetlands Near Carman Drive

The City shall protect, enhance, and maintain the wooded character and natural features of Lake Oswego that are sensitive lands prized by residents.

❑ Section 5, Sensitive Lands

BACKGROUND

Statewide Planning Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources

"To conserve open space and protect natural and scenic resources."

Statewide Planning Goal 5 requires communities to provide programs that will 1) ensure open space; 2) protect scenic and historic areas and natural resources for future generations; and 3) promote healthy and visually attractive environments in harmony with the natural landscape character. Goal 5 requires communities to inventory these natural resources. The inventory is required to include a description of the location, quality and quantity of these resources, and an identification of conflicting uses. Where no conflicting uses have been identified, resources must be managed so as to preserve their original character. Where conflicting uses have been identified, the economic, social, environmental and energy (ESEE)* consequences shall be determined and programs developed to achieve the goal. [ZC 1-95-1204 Revised; 5/20/97]

The Comprehensive Plan originally identified 85 Distinctive Natural Areas*. DNA's included a broad range of resource types from tree groves and streams to individual trees and plant specimens.

Distinctive Natural areas were originally identified in the 1975 Lake Oswego Physical Resources Inventory (LOPRI). All of the LOPRI-nominated sites were designated as Distinctive Natural Areas on the resulting DNA Comprehensive Plan map. The inventory was part of a broader effort to adopt the City's first Comprehensive Plan under Goal 5 of the Statewide Land Use Goals. [ZC 1-95-1204 Revised; 5/20/97]

In the years following 1976, the LOPRI data was used to create policies and development standards to protect open spaces and natural resources. The inventory was also used to identify initial priority sites for public acquisition as open space. Five DNA sites identified for public acquisition in the Comprehensive Plan have been purchased by the City or otherwise protected, including land on Iron Mountain, the "Frog Pond" at Village on the Lake (private) the Hallinan Woods, the South Shore Natural Area, and a large section of Kruse Oaks in the Westlake area. [ZC 1-95-1204 Revised; 5/20/97]

Under Goal 5, local jurisdictions are required to inventory and provide protection programs for a variety of natural resources, including:

- Land needed or desirable for open space;
- Fish and wildlife areas and habitats;
- Ecologically and scientifically significant natural areas;

❑ Section 5, Sensitive Lands

- Outstanding scenic views and sites; and,
- Water areas, wetlands, watersheds and groundwater resources.

All of the above-listed resources must be evaluated and mapped on a site-specific basis through the Goal 5 Environmental, Social, Energy and Economic (ESEE) analysis and a conflicting use analysis. If no conflicting uses are identified, the resource must be managed to preserve its original character. If conflicting uses are found, programs must be developed to resolve the conflicts and one of three alternatives applied:

a. Preserve the resource site;
b. Fully allow the conflicting use [the use(s) allowed by the zone]; or,
c. Specifically limit the conflicting use [the use(s) allowed by the zone].

The ESEE and conflicting use analysis was begun in 1991/92 by an environmental consulting firm with an inventory update of wetlands, stream corridors and tree groves. The ESEE analysis of the sites that were inventoried was begun by a planning consultant in 1994. The results were used to assist the City in determining the boundaries and relative values of DNA sites inventoried in 1975 and to develop appropriate regulations and protection programs for listed DNA's and new significant resources discovered through the inventory.

In 1996 and 1997, this new information was used to develop a new "sensitive lands program". This new program replaces the Distinctive Natural Area/Protection Open Space protection program with a more clear and objective protection program, to better identify, describe and rank significant natural areas, and to more clearly resolve the conflicts between preservation and development on a site containing significant natural resources. It is designed to improve protection for wetlands, stream corridors and tree groves, by designating such resources with Resource Protection (RP) District and Resource Conservation (RC) District overlay zones. [ZC 1-95-1204 Revised; 5/20/97]

Summary of Major Issues

The following are some of the issues, changed circumstances and conditions which were considered in the update of this element of the Comprehensive Plan:

- Statewide land use Goal 5 requires site specific mapping and an ESEE analysis for distinctive natural areas. The Goal 5 process must be used to protect new sites as additional distinctive features are brought to the City's attention and as endangered species are identified. [ZC 1-95-1204 Revised; 5/20/97]

❑ Section 5, Sensitive Lands

- The Endangered Species Act requires protection of sensitive, threatened and endangered species. Some species of plants and animals in the USB may fall within these categories.

- Under Goal 5, the highest valued natural resources within Lake Oswego's USB, such as wetlands and stream corridors, may merit full preservation when there are no conflicting uses identified. Other natural areas such as tree groves may merit a more limited level of protection. [ZC 1-95-1204 Revised; 5/20/97]

GOALS, POLICIES, AND RECOMMENDED ACTION MEASURES

GOAL

The City shall protect, enhance and maintain the wooded character and natural features of Lake Oswego that are prized by residents. [ZC 1-95-1204 Revised; 5/20/97]

POLICIES

1. Protect, enhance, maintain and restore the functions and values* of existing and future wetlands, stream corridors, tree groves and other sensitive nature areas, such as:

   a. Water and air quality enhancement;
   b. Fish and wildlife habitat;
   c. Community identity benefits*;
   d. Open space, passive recreation, and visual enjoyment; and,
   e. Public protection from natural hazards, such as areas subject to flooding, geological instability, or high erosion potential.

2. Designate the specific locations of significant Goal 5 resources through development of a Sensitive Lands Atlas and special overlay zone designations.

3. Supplement the Sensitive Lands Atlas, pursuant to Statewide Planning Goal 5, as additional distinctive features are brought to the City's attention and as sensitive, threatened or endangered species are identified.

❑ Section 5, Sensitive Lands

4. The City shall emphasize protection rather than mitigation of the functions and values of sensitive lands areas.

5. Enact and maintain regulations and standards which require:

   a. Preservation of the functions and values of sensitive lands;
   b. No net loss* in the quantity or volume of wetland or stream corridor functions or values when development is allowed within such resource, buffer or edge. Such development shall only be allowed after an alternatives analysis and a finding that a development cannot practicably be placed entirely outside of the resource and its buffer and edge areas;
   c. Preservation of the most significant resources (i.e. no loss of area, functions, or values);
   d. Protection of sensitive lands designated as RC or RP;
   e. Establishment and maintenance of buffer and edge areas; and,
   f. Establishment of wider buffer areas around the most significant sensitive lands.

6. Allow development density on parcels containing sensitive lands overlay zones to be transferred to other portions of the development site.

7. Allow innovative site and building design, including the clustering of buildings to preserve sensitive lands.

8. Require activities within sensitive lands overlay zones to be compatible with the preservation of resource functions and values. These activities include uses such as public and private development, public and private recreation, surface water management and flood control.

9. Require all development proposed within or adjacent to sensitive lands to:

   a. Incorporate and maintain sensitive lands resource features, functions and values in the project design;
   b. Preserve vegetation and provide and maintain buffer areas;
   c. Prevent the placement of contaminants or discharge of water pollutants or sediments into sensitive lands and their buffer areas; and,
   d. Restore and enhance disturbed sensitive lands with restoration landscaping to match the plant community of the resource.

❑ Section 5, Sensitive Lands

RECOMMENDED ACTION MEASURES

i. Identify and protect sensitive lands through imposition of overlay zones designed to protect the functions and values of such lands. Provide a process for protecting new or newly discovered sensitive lands.

ii. Preserve sensitive lands that are found to have the highest levels of significance through a variety of means, including: fee simple acquisition, gifts, long-term leases, life estates, purchase of development rights, scenic or conservation easements and other similar methods.

iii. Create development standards that provide specific protection measures for sensitive lands. Such standards should allow appropriate variances, density transfers and/or clustering of structures to protect valued features.

iv. Provide information to the general public and developers regarding the importance of sensitive lands to the community and ways in which they can be protected and restored.

v. Make public the location of sensitive lands in order to call attention to the need for public stewardship and protection.

vi. Support the efforts of community groups to enhance and maintain public and private sensitive lands, and to encourage volunteer participation and stewardship of such lands within the USB.

vii. Use a natural resources advisory body* to prioritize sensitive lands sites, and to assist Council in protecting such lands by acquisition, easements and management.

viii. Coordinate with the Oregon Department of Parks and Recreation and other responsible jurisdictions, agencies and groups to preserve and enhance sensitive lands which benefit Lake Oswego citizens, such as Tryon Creek State Park and the Willamette Greenway.

ix. Utilize the methodology established in the April 4, 1997, Resource Areas Report and ESEE Analysis for determining the significance of particular sensitive lands.

❑ Section 5, Sensitive Lands

- Notes -

Goal 5: Open Spaces, Historic & Natural Areas

❑ Section 6, Open Space

Cooks Butte

The City shall protect, enhance, maintain, and expand a network of open space areas and scenic resources within and adjacent to the Urban Service Boundary.

❑ Section 6, Open Space

BACKGROUND

Statewide Planning Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources

"To conserve open space and protect natural and scenic resources."

Lake Oswego's character and identity are closely tied to its natural assets and scenic resources. Such resources include Oswego Lake, the Willamette and Tualatin Rivers, streams, steep wooded slopes, and areas of undisturbed natural vegetation and associated wildlife habitat. Open space includes diverse elements such as wildlife preserves, scenic views, parks, wetlands, stream corridors, ball fields and golf courses. Open space serves several important functions:

Protection of wildlife areas, such as stream corridors, tree groves and wetlands.

Aesthetic character for the urban environment, including natural features such as rows of trees, wooded hillsides and scenic views.

Land for active recreational use, such as ball fields and play grounds. Land for passive recreational use*, such as wildlife viewing and nature walks.

Public welfare and safety , such as flood protection, erosion control and filtering of surface water.

Economic benefits, such as enhanced property values due to the presence of large trees, views, or other natural features.

Lake Oswego's open space is comprised of parks, natural areas* and private lands. Open space may be grouped into two broad categories: 1) natural open space*; and, 2) developed open space* as follows:

Natural Open Space*

Natural open space consists of natural areas* that may be publicly or privately owned as follows. Natural open space typically includes such areas as stream corridors, wetlands, tree groves and steep slopes.

A. **Public Open Space*:** Public open space is property that is publicly owned and designated as "Open Space" on the Comprehensive Plan Map; or, property that has been dedicated to the public, designated as a public open space tract or protected through a conservation easement or similar mechanism.

❑ Section 6, Open Space

Public open space is land that is to remain in a natural condition for the purpose of providing a scenic, aesthetic appearance, protecting natural systems, providing passive recreational uses or maintaining natural vegetation.

B. **Private open space (natural areas):** Privately owned open space also contributes to the community's identity or sense of openness where natural or formally landscaped open areas are visible to the public, even though access is limited to members or land owners. The Oswego Country Club, Oswego Lake, and the Hunt Club are examples of private open spaces. Private open space may also be protected within residential and commercial developments through legal instruments such as private open space tracts and conservation easements.

Developed Open Space

Developed open space includes both public parks and private open space that is formally landscaped. It includes such areas as ball fields, play grounds, neighborhood pocket parks, tot lots, picnic facilities, accessory buildings, paved areas, lawns and similar uses.

A. **Parks:** A park is a publicly owned area that is intended primarily for recreational uses or park purposes, and is designated as "Park" on the Comprehensive Plan Map. Specific parks policies are found in the Parks and Recreation policies of the Comprehensive Plan.

B. **Private landscaped areas:** Privately-owned open space includes areas such as golf courses and cemeteries. It also includes private open space tracts and common areas within subdivisions. Private open space is intended to be used by members or residents only within a private development or subdivision.

Both natural and developed open space are integral components of the community's open space system.

Open space and natural areas are important to Lake Oswego residents, as evidenced since the mid-1970s. In 1975, numerous community volunteers participated in the first natural resources inventory, called the Lake Oswego Physical Resources Inventory (LOPRI). The inventory data was used to create policies and development standards to protect open spaces and natural resources.

Open space has also been designated and purchased by the City over time. In 1978 the Springbrook Park Charter Amendment was passed, setting aside a large tract of land as public open space. Since the original Comprehensive Plan was approved in 1978, five of six areas identified for public acquisition have been purchased by the City or otherwise protected, including land on Iron Mountain, the "Frog Pond" at Village on the Lake (private), the Hallinan Woods, the South Shore Natural Area and a large section of Kruse Oaks in the Westlake area. Other areas within Lake Oswego's open space system in-

❑ Section 6, Open Space

clude a wetland area south of Childs Road, the River Run Park site on the Tualatin River and the Beth Ryan Nature Preserve (owned by the Lake Oswego Land Trust). Many of the City's public parks also contain natural open space, such as the wetlands in Waluga Park and the Willamette River Greenway in George Rogers Park and Roehr Park. [ZC 1-95-1204 Revised; 5/20/97]

As Lake Oswego's population has increased, housing has replaced many previously undeveloped lands. The need for preserving more open spaces has become an ever increasing concern for residents. This was demonstrated by voter approval of a $12 million bond issue in 1990 to fund the purchase of park and open space lands and to develop pathways. Most of the open space bond fund was depleted by 1994. It is expected that a high demand will continue for undeveloped residential lots, many of which contain natural areas, as Lake Oswego approaches a fully developed state. While substantial progress has been made toward acquiring open spaces, a need still exists for additional land.

Larger open space lands (20+ acres) abut the City limits to the south of Lake Oswego. These areas represent an opportunity for the City, neighboring jurisdictions, and responsible agencies to preserve open space and to provide open space buffers as a transition between neighborhoods and communities far in advance of development pressure.

Summary of Major Issues

The following are some of the issues, changed circumstances and conditions which were considered in the update of this element of the Comprehensive Plan:

- Open space serves many important functions in Lake Oswego

- Both developed and natural open spaces are integral components of the community's open space system.

- Much of Lake Oswego has been developed, but opportunities still exist to preserve and acquire sensitive natural areas as open spaces. Undeveloped lands abutting the City Limits present an opportunity to preserve and acquire future open space and buffer areas.

❑ Section 6, Open Space

GOALS, POLICIES AND RECOMMENDED ACTION MEASURES

GOAL

The City shall protect, enhance, maintain and expand a network of open space* areas and scenic resources within and adjacent to the Urban Services Boundary.

POLICIES

1. Establish an open space network within and adjacent to the Urban Services Boundary (USB) which:

   a. Preserves natural areas* in an intact or relatively undisturbed state;
   b. Provides for maintenance of scenic resources and distinctive aesthetic qualities such as views of Mount Hood, Oswego Lake, the Willamette River, the Tualatin Valley and forested ridge lines;
   c. Preserves areas valued for community identity benefits* such as stands of trees and rock outcroppings;
   d. Protects the public from natural hazards, such as areas subject to flooding, geological instability or high erosion potential;
   e. Provides buffers between incompatible uses;
   f. Preserves fish and wildlife habitat; and,
   g. Provides land which meets the open space and recreation needs of the community.

2. Preserve open space through dedication, deed restrictions, covenants, or other methods as conditions of development approval which, when possible, shall be consistent with the City's parks, open space and pathways plans.

3. Promote an open space network that:

   a. Maintains the existing tree canopy;
   b. Provides aesthetic and visual relief from urban development;
   c. Provides opportunities for pedestrian and bicycle linkage; and,
   d. Preserves essential natural systems*.

4. The City shall emphasize protection rather than mitigation of open space functions and values.

❑ Section 6, Open Space

5. Manage publicly-owned, natural open space areas to control access and to maintain a balance of protected natural areas and areas open to the public.

6. Provide regulations such as the Sensitive Lands program and the Open Space Development Standard to preserve natural resources, including essential natural systems, lands containing natural hazards and unique natural areas valued for scientific, educational, recreational, scenic resource and community identity benefits*. Development will be allowed when compatible with natural systems that are present. [ZC 1-95-1204 Revised; 5/20/97]

7. Require a higher level of protection where all or a portion of a resource is designated within an RP or RC Zone (see Sensitive Lands Policies). [ZC 1-95-1204 Revised; 5/20/97]

8. Establish community open space buffers and protected view corridors between Lake Oswego and adjacent communities, for the purpose of defining the edge of the urban area and preserving the open, rural character of lands outside of the city.

9. Consider the following resources eligible for protection: [ZC 1-95-1204 Revised; 5/20/97]

   a. Stream corridors and natural drainage ways;
   b. Flood plains;
   c. Willamette River Greenway;
   d. The Tualatin River corridor;
   e. Wetlands;
   f. Oswego Lake, its bays and its canals;
   g. Tree groves;
   h. Forested ridge lines;
   i. View points;
   j. Steep slopes;
   k. Weak foundation soils;
   l. High ground water areas;
   m. Areas of geologic hazard (unstable soils); and,
   n. Scenic resources.

RECOMMENDED ACTION MEASURES

i. Develop a comprehensive open space plan, in coordination with the Metropolitan Greenspaces Plan, to inventory and protect open space and to provide a connected open space network. The open space plan should utilize the City's open space, parks and pathways to provide linkages among open spaces.

❑ Section 6, Open Space

ii. Develop an open space management program for public and private open space areas to include:

a. An inventory and evaluation of maintenance needs;
b. Monitoring to ensure continued environmental health and benefit; and,
c. Enforcement of conditions of development approvals.

iii. Preserve open space through measures such as acquisition of land, purchase of development rights and conservation easements to preserve open spaces, buffer areas and views within the unincorporated Urban Services Boundary and on adjacent County lands outside of the Urban Growth Boundary.

iv. Use a variety of means for a continuing program of open space protection within the City, including fee simple acquisition, gifts, long-term leases, life estates, scenic or conservation easements and other similar methods.

v. Use a natural resources advisory body* to advise Council on methods of open space acquisition, open space acquisition priorities and the designation and management of Public Open Space.

vi. Support the efforts of community groups to enhance and maintain public and private open spaces and to encourage volunteer participation and stewardship of open space land within the City.

vii. Coordinate with the development of a regional greenspaces system in the Portland Metropolitan area, including an open space buffer for Lake Oswego and adjacent communities in lands just outside the Urban Growth Boundary.

viii. Coordinate with appropriate jurisdictions to manage development to preserve the open space and rural qualities of the Stafford Area.

ix. Coordinate with the efforts of the Oregon Department of Parks and Recreation and other responsible jurisdictions, agencies and groups to enhance adjacent public open spaces, such as Tryon Creek State Park and the Willamette Greenway, which benefit Lake Oswego citizens.

x. Coordinate with appropriate jurisdictions and citizen groups to preserve open space lands within and adjacent to the USB.

xi. Develop ordinances and standards to protect view corridors within the Urban Services Boundary for scenic resources, including views of Mount Hood, Oswego Lake, the Willamette River, the Tualatin Valley and other views valued by the community.

Goal 5: Open Spaces, Historic & Natural Areas

❑ Section 7, Oswego Lake

Oswego Lake

The City shall protect the natural resource, energy, aesthetic, and recreation values of Oswego Lake.

❑ Section 7, Oswego Lake

BACKGROUND

Statewide Planning Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources

"To conserve open space and protect natural and scenic resources."

Oswego Lake is the City's largest natural feature and its geographic center. The main portion of the Lake covers 385 acres (USGS), with an additional 7 acres in West Bay and 28 acres in Lakewood Bay. The Lake is 3.5 miles long. The Lake, a reservoir, is privately owned and managed by Lake Oswego Corporation, commonly known as "The Lake Corporation." The Corporation has owned and maintained the Lake since 1942.

Rolling hills, steep hillsides and rocky bluffs surround Oswego Lake, with elevations ranging from 98 feet on the Lake to 970 feet on Mt. Sylvania to the north. The surrounding hills are bisected by many streams that direct surface water into Oswego Lake, the most notable of which is Springbrook Creek. The Tualatin River is a major source of water for the Lake, and enters through the Oswego Canal.

Before the pioneer settlement period in the 1860s, Oswego Lake was a natural, smaller body of water, fed by streams and springs. It was called Waluga Lake by the Clackamas Indians, meaning "wild swan." Early settlers called it "Sucker Lake" for a type of whitefish that may have dwelled in its warm waters. The Lake was renamed "Oswego Lake," after the turn of the century, by the owner of the Oregon Iron & Steel Company, to promote surrounding residential real estate development as a supplement to the Lake's primary use as a reservoir.

The Lake has commercial and industrial functions important to the culture of the community. The Oswego Canal was dug between the Lake and the Tualatin River to increase water flow and raise the reservoir's level. The Lake was used for a short time on a trial basis to transport people and goods between the Willamette and Tualatin Rivers, via ferry boat across the Lake and horse drawn railroad cars along the canal's bank. Lake waters that flow into Oswego Creek were used to operate the Durham sawmill when Oswego was first settled. Much more significantly, the increased flow was used to operate first iron and then steel foundries operated by Oregon Iron & Steel Company. A hydroelectric power generating plant was built on Oswego Creek in 1909, and the Corporation continues to operate this plant today, selling surplus power to PGE. A spillover dam was completed in 1921 that raised the Lake and greatly increased its size, creating Blue Heron Bay and West Bay on the west end and Lakewood Bay on the east end.

❑ Section 7, Oswego Lake

Oswego Lake was initially described in the 1975 Lake Oswego Physical Resources Inventory (LOPRI), and was also included in the 1992 Natural Resources Inventory. Its natural features have been highly modified, first by logging in the late 1800s and later by residential development, which cleared much of the original forest that surrounded the Lake. Today, homes with formal lawns stretching to the Lake's edge and waterfront seawalls and docks are interspersed among second growth and ornamental trees. Shoreline development, including seawalls, docks and boathouses, is strictly controlled by the Lake Corporation.

There are a few remaining undeveloped natural areas surrounding the Lake at the mouths of streams, and forested areas on steep slopes. A few natural riparian* areas and small pockets of wetlands remain along the streams which enter the Lake. These natural edges are important for wildlife nesting, food and shelter. The remaining forest is typically Douglas fir on the north-facing slopes and oak/madrone and fir on the south-facing rocky bluffs. These remaining forested areas provide perch sites for birds of prey such as osprey and heron. The Lake is also an important habitat for resident and migratory waterfowl including dabblers, diving ducks, Canada geese and great blue heron. Fish species in the Lake include bass, catfish, bluegill, carp, crappie and yellow ring tail perch. [ZC 1-95-1204 Revised; 5/20/97]

In addition to its natural resource values, Oswego Lake is a multiple-use facility that serves the community in a variety of roles. It is a hydroelectric reservoir at the center of a 7,400 acre drainage basin. The Lake receives the majority of its water from the Tualatin River via a canal and also surface water from tributary streams, storm drain outfalls and surface runoff. Also, there are several city sanitary sewer interceptors below the Lake's normal surface water elevation that have been constructed at an engineered grade to convey sewage to the Tryon Creek Sewage Treatment Plant.

The Lake offers shoreline recreation opportunities to specific residents at the Lake Grove Swim Park and the Lake Oswego Swim Park. A new City Park at Lakewood Bay offers visual access, but not physical access, to the Lake. Oswego Lake is heavily used for water-related recreation by lakeside residents and others with Lake easements* recognized by the Corporation. The Lake is also valued by residents for its open space and aesthetic aspects and for its historical and cultural importance. Residents consider the Lake to be a vital part of Lake Oswego's identity, and a natural resource valuable to the community.

The multiple roles of the Lake can cause conflict. Silt caused by erosion and nutrients from lawn fertilizers can diminish water quality, and construction by private owners on lakeside lots has eliminated most public view points. Improperly functioning septic systems immediately adjacent to the Lake or tributary streams adversely impact water quality. The reservoir's level is lowered from time to time by the Corporation to maintain its hydroelectric facilities. During these periods, the Corporation may dredge sediments, private landowners may maintain seawalls, boathouses and docks and the City has

❑ Section 7, Oswego Lake

scheduled maintenance of public sanitary sewer interceptors. Periodically, a lowering of the Lake to greater depths is requested by the City for major maintenance of public sanitary sewer interceptors. The lowering of the Lake temporarily affects small areas of fish and wildlife habitat.

The Corporation has ongoing programs to maintain and improve the Lake's water quality. It has an aquatic vegetation inspection and control program, a water quality management program and monitors activities on the Lake on a regular basis. The Corporation has commissioned studies of the Lake to address problems caused by high phosphate levels, macrophytes and sediments. It prepares a Water Quality Management Plan each year to preserve the beneficial uses of the Lake. The plan includes preventive actions, water treatments, sediment removal and continuous sampling. The Corporation is very attentive to the potential of invasion by non-native vegetation. In the opinion of the Corporation, the sedimentation of the Lake over time creates the greatest hazard to its use as a hydroelectric reservoir, its recreational uses and its fish and wildlife habitat. Removal of these sediments is required from time to time.

The City's Development Standards and procedures recognize the importance of the Corporation's efforts to maintain the Lake and establish measures to control erosion hazards, preserve natural features, protect water quality and regulate adjacent land uses. Relevant Development Standards include Stream Corridors, Erosion Control, Flood Plain, Drainage, Parks and Open Space, Tree Cutting and Hillside Protection. In addition, there are zoning regulations related to Oswego Lake, including the Cabana (WR) Zone and Supplementary Standards. The Cabana Zone is limited to the north side of Lakewood Bay. It permits single family residential or cluster developments on pilings. The Supplementary Standards of the Development Code require a 25 foot building setback from the shore of the Lake except seawalls, boathouses, docks and other improvements as approved by the Corporation.

In addition to City development regulations, Oswego Lake is subject to State and Federal regulations. The perimeter of the Lake is in the 100-year flood plain regulated by FEMA (Federal Emergency Management Agency). The State considers the waters of Oswego Lake to be "waters of the State," and subject to certain water quality regulations under the Federal Clean Water Act (CWA), administered by the Oregon Department of Environmental Quality (DEQ). In 1990, the DEQ found that the Tualatin River basin and Oswego Lake Basin did not meet Federal and State quality standards and determined them to be "water quality limited"* because of higher than allowable levels of phosphorus and other pollutants. The Lake's characterization arises from the condition of its tributaries and other sources of inflow. (See also Goal 6, Water Quality.) As a result, the City adopted the Lake Oswego Surface Water Management Plan (SWMP) and new Erosion Control Standards in 1992. The SWMP guides efforts to improve water quality, including rehabilitation of streams that drain into the Lake and public education programs.

❑ Section 7, Oswego Lake

Summary of Major Issues

The following are some of the issues, changed circumstances and conditions which were considered in the update of this element of the Comprehensive Plan.

- Oswego Lake has multiple uses and values, including electrical power generation, reservoir storage capacity, surface water storage, single family residences, water recreation, aesthetic values and scenic views, habitat for fish and wildlife and social values.
- The Lake Oswego Surface Water Management Plan has been adopted by the City, in cooperation with the Corporation's water quality management program.
- The City has adopted erosion control standards and other regulations which are intended to help protect the natural resource and scenic values of Oswego Lake.
- The Tualatin River drainage basin and Oswego Lake have been designated as "water quality limited" by the Oregon Department of Environmental Quality (DEQ). The Lake's condition follows from the condition of its tributaries and other sources of inflows.

GOALS, POLICIES AND RECOMMENDED ACTION MEASURES

GOAL

The City shall protect the natural resource, energy, aesthetic and recreation values of Oswego Lake.

POLICIES

1. Cooperate with the Lake Oswego Corporation to protect the natural resource, energy, aesthetic and recreation values of Oswego Lake.

2. Establish significant public viewpoints to assure that residents of the community can identify with and enjoy Oswego Lake.

❑ Section 7, Oswego Lake

3. Identify wetlands, mouths of streams and tree groves on the shores and hillsides surrounding Oswego Lake and protect them with a sensitive lands overlay on the Comprehensive Plan Land Use Map. Regulate development and other activities in ways which provide protection of these resources and ensure the smooth functioning of the reservoir and removal of silt. [ZC 1-95-1204 Revised; 5/20/97]

4. Provide and support programs that improve the water quality of Oswego Lake. This could include silt prevention and silt removal programs in streams and storm water inflows where sediment buildups have the potential to limit beneficial uses.

5. Require all development proposed within or adjacent to Oswego Lake to:

   a. Minimize negative impacts on upland vegetation, slopes, fish and wildlife habitat, wetlands, stream corridors and scenic views, while allowing reasonable recreational use by landowners;
   b. Incorporate and maintain natural features, functions and values in the project design such as tree groves, steep slopes, riparian* vegetation, scenic views and habitat for fish and wildlife;
   c. Prevent damage caused by upstream erosion and siltation; and,
   d. Prevent the placement of pollutants or contaminants, including sediments, into the Lake and its tributaries.

6. Allow development density on parcels containing natural resources associated with Oswego Lake to be transferred to other portions of the development site when steep slopes, tree groves, or wetlands are permanently protected as open space.

7. Allow innovative site and building design, including the clustering of buildings to preserve natural features associated with Oswego Lake.

8. Work with the Lake Oswego School District to preserve its rights to the existing swimming easement in the Lake Grove Area Swim Park.

9. Design, construct and operate public works projects to preserve natural features of the Lake and to preserve the water quality of the Lake.

10. Cooperate with the Corporation to safeguard the hydroelectric potential of the Lake as an energy source.

❑ Section 7, Oswego Lake

RECOMMENDED ACTION MEASURES

i. Coordinate with DEQ and other State and Federal Agencies, and cooperate with the Lake Corporation to enhance the water quality of the Lake through the City's Surface Water Management Program.

ii. Cooperate with DEQ and the Tualatin Basin Designated Management Agencies to enhance the water quality of the Tualatin River and other tributaries of Oswego Lake.

iii. Provide information to the general public and developers regarding the location and importance of resources associated with the Lake, and ways in which they can be protected and restored.

iv. Support efforts to prevent and remove sedimentation from Oswego Lake.

v. Explore alternatives for City-requested deep lake draining, such as the use of divers and video cameras to do inspections and conduct major maintenance of City sewer lines within the Lake.

vi. Consider adoption of regulations designed to protect Oswego Lake from damage caused by upstream erosion, siltation and other pollutants.

vii. Explore ways to remove sanitary sewer lines from Oswego Lake.

Goal 6: Air, Water & Land Resources Quality

❑ Section 1, Air Resources Quality

Reduce air pollution and improve air quality in Lake Oswego and the Portland Metropolitan Area.

❑ Section 1, Air Resources Quality

BACKGROUND

Statewide Planning Goal 6: Air, Water and Land Resources Quality

"To maintain and improve the quality of the air, water and land resources of the state."

Statewide Planning Goal 6 requires communities to develop plans and implementing measures so that waste and process discharges from existing and future development do not threaten to violate, nor violate, applicable state or federal environmental statutes, rules and standards. With respect to the air, water and land resources of the applicable air sheds and river basins described or included in state environmental quality statutes, rules, standards and implementation plans, such discharges shall not 1) exceed the carrying capacity of such resources, considering long range needs; 2) degrade such resources; or, 3) threaten the availability of such resources.

Air pollution is both a regional and local problem. Lake Oswego and the rest of the Portland Metropolitan Region are part of the Willamette Valley air-shed which is influenced by the topography and climate of the Willamette Valley basin and the concentration of human activities in the metro area which emit air contaminants. Air pollutants which affect Lake Oswego and the rest of the Metropolitan area originate from three broad categories: 1) point sources which emit large volumes of pollutants from specific locations such as industrial sites; 2) area sources which discharge small levels of pollutants from numerous sites, such as woodstoves, garden equipment, solvents and backyard burning; and;, 3) mobile sources, which are predominately automobiles.

Under the authority of the Federal Clean Air Act, the Environmental Protection Agency (EPA) has established national ambient air quality standards for six classes of pollutants: ozone, carbon monoxide, nitrogen oxides, sulfur dioxide, fine particulate matter and lead. The Oregon Department of Environmental Quality (DEQ) is responsible for monitoring and enforcing these standards and is also responsible for monitoring and regulating pollutants which are either known or probable human carcinogens. DEQ has a coordinated review system to enable local jurisdictions to review air discharge permits to determine compliance with local plans and ordinances.

The Willamette Valley is prone to prolonged periods of poor ventilation because physical and climatic conditions retard the dispersal of air pollutants. The Coast Range and Cascade Mountains confine air movement, and westerly winds are not generally strong enough to disperse pollution eastward. In the winter, surface cold air creates temperature inversions that reduce air mixing near ground level, resulting in high concentrations of carbon monoxide. Pollution problems also occur in the summer and early fall when winds are light and variable, coinciding with high concentrations of suspended particulates and ozone.

❑ Section 1, Air Resources Quality

The air-shed in the Portland Metropolitan Region is a finite resource. Air pollution is growing in the region due to increased vehicle use, growing industrial activity, and increases in the number of area sources associated with a growing population. The region was designated by DEQ in 1991 as not meeting Federal Clean Air Act standards for ground level ozone and carbon monoxide. These pollutants are produced primarily by automobile emissions. Unless increasing air pollution is brought under control within the next five to ten years, mandated control programs will be enforced by the Department of Environmental Quality. In addition to environmental well-being, uncontrolled air pollution would significantly impact the region's economy.

The region's existing and future anticipated air quality problems are being addressed in the following ways.

- Planning for the regional transportation system is required by DEQ to conform to air quality standards. Prior to the construction of new roads, the impacts that additional automobile travel will have on the regional air-shed's "emission's budget" must be evaluated. Mass transit alternative travel modes are being promoted to reduce congestion and dependency on the private automobile.

- Mandatory motor vehicle emission tests are required for all automobiles less than twenty years old.

- The Oregon Transportation Planning Rule (OAR 660-12) requires vehicle miles traveled (VMT) to be maintained to the year 2005 and reduced by 10% by 2015. Also, jurisdictions are obliged to amend land use regulations to encourage alternative transportation modes; such as bicycling, walking and transit by November, 1993.

- The 1992-93 Oregon Legislature adopted legislation which enacted ORS 468 A.363 which will implement the following:

  a. Emission standards for the sale of new gasoline powered lawn and garden equipment;
  b. Improvements in the Portland area vehicle inspection program including more extensive testing and expanded boundaries;
  c. Maximum parking space limits for new construction to result in a reduction of less vehicle trips;
  d. Elimination of the 20 year old vehicle rolling emissions exception;
  e. Bicycle, pedestrian and transit friendly land use patterns; and,
  f. A mandatory employer trip reduction program whereby employers with more than fifty employees would be required to submit plans for reducing commute trips.

❑ Section 1, Air Resources Quality

Summary of Major Issues

The following are some of the issues and changed circumstances and conditions which were considered in the update of this element of the Comprehensive Plan.

- The Portland Metropolitan Region was declared a non-attainment area for ground level ozone and carbon monoxide in 1991.
- Anticipated growth in population and traffic is expected to cause the region to exceed the ozone standard after the mid 1990's unless further measures are taken to reduce emissions.
- Air quality is a complex regional problem which must be addressed by the region's governments, business community and individual citizens.
- The Oregon Legislature adopted a number of specific measures to reduce air pollution in the region.

GOALS, POLICIES AND RECOMMENDED ACTION MEASURES

GOAL

Reduce air pollution and improve air quality in Lake Oswego and the Portland Metropolitan Area.

POLICIES

1. Cooperate with federal, state and regional agencies to meet the air quality standards of the Federal Clean Air Act.

2. Ensure commercial and industrial developments comply with all required state and federal air quality regulations and mitigate the impacts of air pollution through design and abatement measures.

3. Preserve and enhance the City's open space and natural resources to sustain their positive contribution to air quality.

❑ Section 1, Air Resources Quality

4. Increase the opportunity to use alternative transportation as a means to reduce air pollution by:

   a. Requiring safe and comfortable pedestrian and bicycle pathways as part of all new street construction projects, where feasible;
   b. Ensuring new street projects accommodate existing and future transit requirements;
   c. Requiring the design of new development to be supportive of pedestrian, transit and bicycle users;
   d. Requiring payment of a systems development charge to be applied to the City's pedestrian and bicycle path system;
   e. Providing appropriate pedestrian and bicycle facilities as part of new park projects; and,
   f. Maintaining an ongoing program to build and maintain pedestrian and bicycle paths.

5. Encourage land use patterns which, while reducing dependency on the automobile, are also compatible with existing neighborhoods.

6. Reduce air pollution associated with municipal operations.

7. Reduce congestion and delay on major streets to lessen localized pollution impacts of automobile travel through methods such as signal timing, access management, intersection improvements, etc.

RECOMMENDED ACTION MEASURES

i. Reduce the local effects of air pollution by requiring commercial and industrial development to undertake measures such as:

   a. Locating discharge sources where impacts can be minimized;
   b. Utilizing state of the art abatement equipment and processing technology; and,
   c. Planting trees and other plant materials on the development site.

ii. Ensure that industrial and commercial development with the potential for air pollution is reviewed by the Department of Environmental Quality to determine impacts on local and regional air quality.

iii. Implement measures to reduce air pollution associated with City operations, such as utilizing lesser or non-polluting fuels in city vehicles, replacing chlorinated fluorocarbons in air conditioners and limiting the application of chemicals as part of grounds maintenance activities.

❑ Section 1, Air Resources Quality

iv. Work with Metro and DEQ to provide information on regional air shed characteristics and air quality regulations to new and expanding industry.

v. Promote public education to communicate ways that individual action can reduce air pollution, such as limiting use of automobiles, wood burning stoves and fireplaces, outboard motors and gasoline powered lawn and garden equipment.

vi. Reduce air pollution by decreasing the need for vehicle trips through:

a. Promoting pedestrian, bike and transit friendly land uses, including high density mixed use developments that are compatible with existing neighborhoods;
b. Implementing the Oregon Transportation Planning Rule;
c. Establishing limits on the number of new parking spaces within commercial and industrial zones;
d. Providing opportunities to utilize alternative transportation modes; and,
e. Encouraging employers, including the City of Lake Oswego, to implement programs to reduce single occupant trips to and from work.

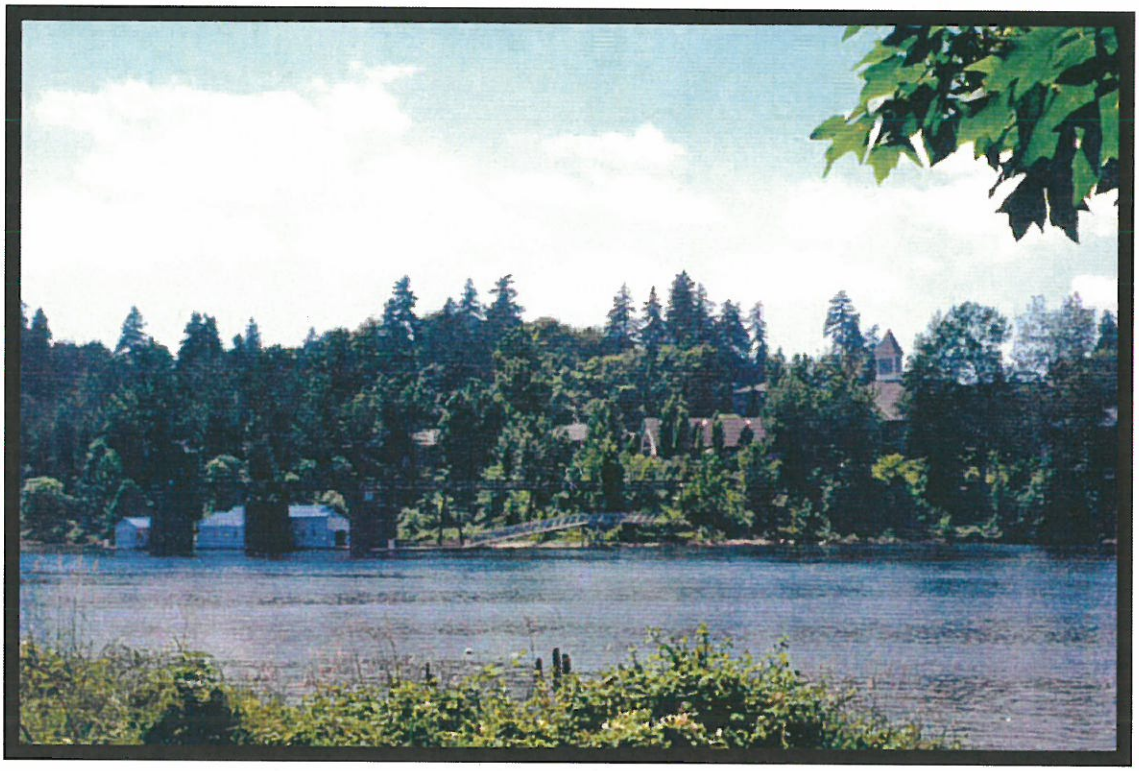
vii. Encourage the preservation and planting of trees to improve air quality.

❑ Section 1, Air Resources Quality

-Notes-

Goal 15: Willamette River Greenway

View of Lake Oswego Water Sports Center On The Willamette River



The City shall protect, conserve, enhance and maintain the natural, scenic, historic, economic, and recreational qualities of the Willamette River Greenway.

❑ Goal 15: Willamette River Greenway

BACKGROUND

Statewide Planning Goal 15: Willamette River Greenway

"To protect, conserve, enhance and maintain the natural, scenic, historical, agricultural, economic and recreational qualities of lands along the Willamette River as the Willamette River Greenway."

The Willamette River Greenway is a valuable natural asset of the City of Lake Oswego and the State of Oregon. The first suggestion that the Willamette River be somehow protected from becoming a heavily developed urban corridor, was broached in the late 1960's. Several bills relating to the protection of the River were enacted by the State Legislature. The Willamette River Greenway was finally created in 1973 with the enactment of House Bill 2497 (ORS 390.310-368). Statewide Planning Goal 15, Willamette River Greenway, sets forth the overall framework within which state and local governments carry out protection and enhancement of the Greenway, including its natural, scenic, historical, agricultural, economic and recreational qualities. The Greenway boundary includes all lands within 150' of ordinary low water.

The City received Land Conservation and Development approval of its Greenway goals and policies and Zoning Code Greenway Management Overlay in 1984. Goal 15 requires localities to adopt Greenway boundaries, specify uses permitted within those boundaries, indicate areas of potential acquisition along the Greenway and adopt provisions, by ordinance, requiring a compatibility review permit for any intensification, change of use or development within the Greenway boundaries. The City's Greenway Management Overlay provides design review procedures for any of these activities in the Greenway.

One of the features of the Greenway law, is that the Oregon Department of Transportation, State Parks Division, may determine sites appropriate for purchase. The State has identified a nine acre natural feature with scenic, natural, and recreational qualities for future acquisition at the confluence of the Willamette River and Tryon Creek. This property is currently within Clackamas County and within the City's Urban Service Boundary. Since this property is adjacent to Tryon Creek State Park, it has potential for connecting public land with a recreational trail that would reach the Willamette River.

On the Lake Oswego Comprehensive Plan Map, Greenway boundaries are 150 feet from ordinary low water (see Comprehensive Plan Map), except where they widen to include Roehr Park and George Rogers Park, which are City owned properties. In Lake Oswego, the largest portion of the Greenway contains residential uses. Commercial, recreation and public uses, such as the Tryon Creek Sewage Treatment Plant, are also present.

Beginning in 1993, the City participated in the Willamette River Corridor Coordination Plan. This project will result in a coordinated, regional vision and management plan for the River between the

❑ Goal 15: Willamette River Greenway

Multnomah/Clackamas County line and the Willamette Falls dam, and is scheduled for completion in 1994-95.

Summary Of Major Issues

The following are some of the issues, changed circumstances and conditions which were considered in the update of this chapter of the Comprehensive Plan:

- The City participated in the Willamette River Corridor Plan wherein several jurisdictions developed a coordinated, regional vision for the portion of the river lying within the Clackamas County urban area.

- Since the Willamette River Greenway was created in 1973, there has been a recognition that limiting water pollutants through surface water management is important for the health of the Willamette River and its tributaries. In 1991, the City adopted a Surface Water Management Plan to enhance water quality within the City's USB. This chapter recognizes this with the inclusion of surface water policies.

GOALS, POLICES AND RECOMMENDED ACTION MEASURES

GOAL

The City shall protect, conserve, enhance and maintain the natural, scenic, historic, economic, and recreational qualities of the Willamette River Greenway.

POLICIES

1. Designate the Willamette Greenway Boundary on the City's Comprehensive Plan Map, consistent with the location established by the Oregon Land Conservation and Development Commission.

2. Require non-water related and non-water dependent structures to be set back from the Willamette River.

❑ Goal 15: Willamette River Greenway

3. Manage lands within and adjacent to the Greenway to protect and restore natural vegetation.

4. Protect, enhance, and restore the fish and wildlife habitat values of the Willamette River and the Greenway.

5. Minimize the visual impact of development on the Willamette River and the Greenway through measures such as setbacks, height restrictions, building materials and color choices and landscape screening.

6. Protect the water quality of the Willamette River by:

   a. Regulating development to prevent pollutants and soil erosion from entering the River;
   b. Ensuring discharge practices conform to state and federal standards, and other requirements; and,
   c. Protecting and enhancing the natural functions and values of the ground and surface water systems which drain into the River.

7. Preserve significant view corridors to the Willamette River.

8. When appropriate, require dedication of public access easements within the Greenway and to the Willamette River, as part of the development review and approval process.

9. Designate the Willamette Greenway as Protection Open Space.

RECOMMENDED ACTION MEASURES

i. The Willamette River Greenway Boundary shall include the potential nine acre acquisition site identified by the Oregon State Parks and Recreation Department at the confluence of the Willamette River and Tryon Creek.

ii. Coordinate Greenway planning activities with Clackamas County, the Oregon State Parks and Recreation Department and other responsible jurisdictions and governmental agencies.

iii. Acquire land and easements to protect the Greenway's natural resources and provide for continuous public access along, and to, the River.

iv. Maintain public safety and protect public and private property from vandalism and trespass along the Greenway.

❑ Goal 15: Willamette River Greenway

v. Coordinate with other involved agencies and jurisdictions and users of the Willamette River to promote safe public use of the River and Willamette Greenway in compliance with local and state goals, policies and regulations.

vi. Protect, enhance and restore natural vegetation along the Willamette River.

vii. Identify significant view corridors to the Willamette River Greenway and develop standards to protect them.

❑ Definitions

100 Year Flood: (See Base Flood)

Adaptive Reuse: To change a landmark building from its original use to another use. For instance, a train station that is remodeled into a restaurant. This is commonly done to preserve the structure while allowing a contemporary use.

Advisory Body: A board, commission, standing or ad-hoc committee appointed by the City Council to advise it on issues pertaining to land use, natural and historic resources, parks and recreation, traffic, or other matters as prescribed by the Council.

Affected Governmental Units: Those local governments, state and federal agencies and special districts which have programs, land ownerships or responsibilities within the area included in the plan.

Alteration, Minor: An exterior alteration to a historic landmark which changes the appearance or material of the Landmark or contributing resource as it exists and which does not duplicate or restore the affected exterior features and materials as determined from historic photographs, historic period building plans or other evidence of original features or materials.

Alteration, Major: An exterior alteration to a historic landmark which is not a minor alteration.

Alternative Transportation: Transportation modes that provide alternatives to single occupant vehicles (SOV). Examples include mass transit, walking and bicycling.

Alternative Transportation Targets: Pedestrian, bicycle, transit and carpool trips as percentage of all person-trips for all models of transportation.

Archaeological Resource: An archaeological object or site of archaeological significance that is defined as follows:

a. Archaeological Object: An object that:

   i. Is at least 50 years old;
   ii. Comprises the physical record of an indigenous (and subsequent) or other culture found in the state or waters of the state; and
   iii. Is material remains of past human life or activity that are of archaeological significance including, but not limited to, monuments, symbols, tools, facilities, technological by-products and dietary by-products.

Definitions

b. Site of Archaeological Significance:

i. Any archaeological site on, or eligible for inclusion on, the National Register of Historic Places as determined in writing by the State Historic Preservation Officer; or,
ii. Any archaeological site that has been determined significant in writing by an Indian tribe; or,
iii. Any archaeological site on the Lake Oswego Landmarks list.

Archaeological Site: A geographic locality, including but not limited to submerged and submersible lands within the state's jurisdiction, that contains archaeological objects and the contextual associations of the archaeological objects with:

a. Each other; or,
b. Biotic or geological remains or deposits.

Automatic Aid Agreement: An agreement between Lake Oswego and other cities and fire districts whereby each agrees to respond automatically to certain fire alarms within each other's jurisdiction.

Average Daily Traffic (ADT): The average daily number of automobiles passing a given point on a given street or road.

Base Flood: The flood having a one percent chance of being equaled or exceeded in any given year. The base flood is also known as the 100 year flood.

Bicycle Lane: A bicycle lane is that portion of the roadway designated by a wide stripe (8 inches) and bicycle pavement markings, for the exclusive or preferential use of bicycles. Bike lanes along Boones Ferry, between Jean Road and Upper Drive are an example of this type of bicycle facility. Bike lanes can be marked between on-street parking and the auto travel lane or can be shoulder bikeways designated by a wide stripe.

Buffer Area: An undeveloped natural area adjacent to a wetland or stream corridor DNA or other resource area that helps to enhance the functions and values of the resource, and provides insulation from human disturbances and domestic animals.

Buffer Edge: An area adjacent to the buffer area within which development may occur but within which certain activities are regulated to prevent negative impacts on nearby wetlands or stream corridors.

Buildable Land: Residentially designated vacant and redevelopable land within the Urban Growth Boundary that is not severely constrained by natural hazards, or subject to natural resource protection measures. Publicly owned land is not considered available for residential use. Land with slopes of

❑ Definitions

25 percent or greater and land within the 100-year floodway is considered unbuildable for purposes of density calculations.

Campus Institutional: Land uses allowed in Campus Institutional areas are all Office Campus uses, including those for educational, religious, social services, governmental agencies, related residential uses and facilities for care of the handicapped or other special care needs, located in a campus setting which preserves a substantial amount of landscaping and open space and the character of existing institutions.

Campus Research and Development (CR&D): A land use designation intended to provide a mix of clean, employee-intensive industries, offices and high density housing with associated services retail commercial uses in locations supportive of mass transit and the regional transportation network.

Capital Improvement Program (CIP): A financial planning tool in which needed improvements to the City's facilities are identified, priced and prioritized. Funding from a variety of sources, including local property taxes and utility fees, is matched with the projects. The City approves the CIP on a periodic basis, and projects are implemented using the CIP as the guiding document.

Community Identity Benefits: Elements of the physical environment that characterize Lake Oswego and are valued for their aesthetic appearance, their environmental values, or their association with the character of a neighborhood or the community. Examples include stands of trees and forested ridgelines, views, rock outcroppings, water features, and individual tree and plant specimens.

Community Needs (for goods and services): These are needs which encompass the range of goods and services desired by the market area defined by Lake Oswego's Urban Services Boundary. These are needs met by the following:

a. Convenience goods and services. Merchandise that is consumed daily and purchased frequently, such as food and drugs.
b. Primary goods. Merchandise with a cost, rate of depletion, and frequency of purchase in-between that of convenience goods and secondary shopper's goods. Apparel, shoes and books are examples.
c. Durable goods. Those goods that are intended to last five years or more such as furniture, appliances, and automobiles. Because of their cost and long life these goods are purchased less frequently than primary goods intended to provide for frequently recurring needs. Consumers typically travel greater distances to shop for durable goods than for other types of goods. These goods are also referred to as secondary goods.

CHAS, Comprehensive Housing Affordability Study: Required by the Cranston-Gonzalez National Affordable Housing Act of 1990. The CHAS is a five-year outlook, including needs assessment, a

Definitions

description of market and inventory conditions, five-year strategies, a one-year plan for use of financial resources and a monitoring plan. In order for localities to receive or be eligible for direct HUD housing assistance and Community Development Block Grants, a CHAS must be completed. In 1991, Clackamas County completed its first CHAS for 1992-96 for the entire county area.

Comprehensive Plan: Comprehensive Plan is defined in ORS 195.015 as a generalized, coordinated land use map and policy statement of the governing body of a local government that interrelates all functional and natural systems and activities relating to the use of lands, including but not limited to sewer and water systems, transportation systems, educational facilities, recreational facilities, and natural resources and air and water quality management programs. "Comprehensive" means all-inclusive, both in terms of the geographic area covered and functional and natural activities and systems occurring in the area covered by the plan. "General nature" means a summary of policies and proposals in broad categories and does not necessarily indicate specific locations of any activity or use.

Conflicting Land Use: The development or redevelopment planned for a property which may result in demolition, alteration or moving of a Landmark. In the absence of a development proposal, the identified conflicting use is the most intensive use allowed in the zone.

Contaminant: Any physical, chemical, biological or radiological substance in water which makes it unfit for human consumption.

Coordinated: A plan is coordinated when the needs of all levels of governments, semi-public and private agencies and the citizens of Oregon have been considered and accommodated as well as possible.

County Housing Authority: The County agency responsible for administering affordable housing programs.

Cultural Resource: Evidence of an ethnic, religious or social group with distinctive traits, beliefs and social forms.

Dedication: A transfer of property or property rights as a condition of development approval to the City of Lake Oswego for public facilities such as streets, utilities, pathways, sidewalks, surface water management and street trees or for protection of Distinctive Natural Areas, wetlands, stream corridors or other natural features.

Demand Management: Actions designed to alter travel patterns to improve the efficiency of current transportation facilities and reduce the need for additional facilities. Examples include encouraging the use of alternative transportation systems and trip reduction ordinances.

❑ Definitions

Developed Open Space: Property that contains parks or other formal landscaped areas including ball fields, play grounds, neighborhood pocket parks, tot lots, picnic areas, accessory buildings, paved areas, lawns, formal landscaped areas and similar uses.

Development: Any man-made change to improved or unimproved property, including, but not limited to, construction, installation or alteration of a building or other structure, change of use, land division, establishment or termination of a right of access, storage on the land, grading, clearing, removal or placement of soil, paving, dredging, filling, excavation, drilling or removal of trees.

Dwelling Units per Acre on Vacant Buildable Land: The number of dwelling units allowed on a net buildable acre. A net buildable acre consists of 43,560 square feet of residentially designated, buildable land after excluding present and future rights-of-way, hazard areas, public open spaces and restricted resource protection areas.

Edge Area: An area adjacent to the buffer area within which development may occur but within which certain activities are regulated to prevent negative impacts on nearby resource areas.

Employment Area: An area containing various types of employment and some high density residential, with limited commercial uses. There is one designated employment area in Lake Oswego, which encompasses areas which are designated by the Comprehensive Plan as Highway Commercial, Campus Research and Development, Office Campus, R-0 and some R-3, within the Kruse Way Corridor (Figure28):

Enhanced 911 (E-911): A regional emergency communications system which utilizes the existing phone network linked to a computerized system to locate emergencies and coordinate response in the shortest possible time.

Equitable Allocation: The allocation of the costs of expanding the capacity of public facilities within the Urban Service Boundary proportionate to the demand placed on the public facility by new development and the demand required by existing development.

Erosion: Detachment and movement of soil, rock fragments, mulch, fill or sediment by water, wind, gravity, frost and ice or by development activities.

ESEE: The Economic, Social, Environmental and Energy Analysis required under Statewide Planning Goal 5. The purpose of the ESEE is to inventory natural resource sites and identify their relative resource value for the purpose of determining an appropriate level of protection through land use regulations.

❑ Definitions

Essential Natural Systems: Natural systems with functions that contribute to flood protection, erosion control or surface water quality, including floodplains, stream corridors, wetlands and other living systems.

FEMA: The Federal Emergency Management Agency is the federal agency that administers the National Flood Insurance Program.

Filling (Fill): A deposit of earth by artificial means.

Finished Water: Water which has been treated, is ready for use and can be safely consumed.

Flood or Flooding: A general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland waters or the unusual and rapid accumulation of runoff of surface waters from any source.

Floodway Fringe: The area of the floodplain lying outside the floodway. This is the area, in addition to the floodway, which is inundated by the 100 year or base flood. (See Figure 6)

Floodplain: The area bordering a watercourse subject to flooding. The floodplain includes both the floodway fringe and the floodway. The floodplain is further defined as being flooded by the 100 year flood, also referred to as the base flood. (See Figure 6)

Floodway: The area within the floodplain which includes the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot. (See Figure 6)

Floor Area Ratio (FAR): The ratio of the combined floor area of all stories of a building excluding vent shafts, courtyards, enclosed or covered parking areas, allowable projections, decks, patios, uncovered exit stairs and uncovered, above-grade driveways, to the net buildable area.

Frequent Bus: Frequent Bus provides high frequency local service along major transit routes with frequent stops. This service includes a high level of transit preferential treatments and passenger amenities along the route such as covered bus shelters, curb extensions, reserved bus lanes, lighting, median stations and/or signal preemption. The future line 78, between downtown Lake Oswego and the Tigard Transit Center, via Country Club, Boones Ferry and Meadows Road, and the segment of Line 35 south of downtown Lake Oswego are planned as Frequent Bus lines.

Frequently Recurring Needs (for goods and services): The continuous demand for goods and services that are used on a regular or daily basis such as food, drugs, dry cleaning. etc. These are often referred to as convenience goods and services.

❑ Definitions

Full Costs of Extending Urban Services: Means the costs of constructing all public improvements needed to serve the development of an urban reserve area including both those facilities that need to be constructed within the area as well as the expansion in capacity of any facilities outside the area that are required either to serve the urban reserve area or to maintain existing levels of service within the City's 1996 Urban Service Boundary. Full Costs also includes the costs of maintaining and operating facilities needed to serve the urban reserve area as well as the operational costs of providing police, fire, parks, library and general governmental services to the area.

Functional Street Classification: A description of a street by its size (in lanes), function and level of service.

Functions and Values: The beneficial characteristics of natural resources including but not limited to:

a. Water and air quality enhancement.
b. Fish and wildlife habitat.
c. Native vegetation preservation.
d. Community identity and aesthetic benefits.
e. Neighborhood character enhancement.
f. Wildlife corridors that provide linkages to other natural areas.
g. Ground water recharge and storage of flood and storm waters.
h. Open space and visual enjoyment.
i. Cultural, social, education and research potential.
j. Maintenance of scenic resources and distinctive aesthetic qualities such as views of Mount Hood and forested ridge lines.
k. Public protection from natural hazards, such as flooding, geological instability or high erosion potential.
l. Buffering from noise and incompatible uses, and;
m. Passive recreation and future recreational development opportunities.

General Commercial (GC): A land use designation intended to provide lands for commercial activities supplying a broad range of goods and services to a market area which includes the planning area identified in the Comprehensive Plan. This is the area within the Lake Oswego Urban Services Boundary.

Hazardous Substances: Any substance listed or described in ORS 453, "Hazardous Substances." Hazardous substances are toxic, corrosive, irritants, strong sensitizers, flammable, combustible, or generate pressure through decomposition, heat or other means. Hazardous substances or mixture of substances may cause substantial personal injury or illness during, or as a proximate result of any customary or reasonably foreseeable handling or use.

Definitions

Highway Commercial (HC): A land use designation intended to provide lands for commercial activities which meet the needs of the traveling public as well as other highway-oriented retail uses which require access to a market area larger than the general commercial zone. This district is not intended for regional shopping centers.

Home Occupation: A lawful occupation, profession, activity or use conducted in a dwelling unit that is clearly incidental and secondary to the use of the dwelling for dwelling purposes.

HUD: U.S. Department of Housing and Urban Development.

Hydrophytic Vegetation: Plant life growing in water or in soil that is at least periodically deficient in oxygen as a result of excessive water content.

Implementation Measures: These are the means used to carry out the plan. These are of two general types: 1) management implementation measures such as ordinances, regulations or project plans, and 2) site or area specific implementation measures such as permits and grants for construction, construction of public facilities or provision of services. The Lake Oswego Comprehensive Plan utilizes the term "Recommended Action Measures."

Infiltration/inflow (I/I): These are the extraneous components of wastewater flow. Infiltration occurs when groundwater leaks into the sanitary sewer through such defects as cracked or broken pipes, poor joints or dilapidated manholes. Inflow occurs when storm runoff flows directly into the sanitary sewer at storm sewer cross connections, roof and foundation drains, catchbasins and faulty or submerged manholes.

Inner Neighborhoods: Inner Neighborhoods are accessible to jobs and neighborhood businesses and typically average (citywide) six dwelling units per acre. All residential areas which do not lie within another Design Type area, in the Lake Oswego Urban Service Boundary, are considered Inner Neighborhoods.

Invasive Plants: Non-native vegetation that displaces or dominates native plant communities, such as Himalayan blackberry, English ivy, reed canary grass, morning glory and scotch broom.

Lake Easement: A conditional right to access Oswego Lake granted by Lake Oswego Corporation to certain designated properties. Lake easements were originally granted by the Oregon Iron and Steel Company, a previous owner of Oswego Lake, when it developed property in the Lake Oswego area.

Landmark: Any site, object or structure, and the property surrounding it, that is designated as a Landmark by the City according to OAR 660-16, as having historic, architectural or environmental significance.

❑ Definitions

Legislative Comprehensive Plan Amendment: A legislative amendment is a change to the text, including the goals, policies and recommended action measures of the Comprehensive Plan, or to the Plan map, which affects a large number of properties. A legislative amendment is oriented toward affecting land use policy and is broad in scope.

Level of Service (LOS): A level of comfort afforded to drivers as they travel. It is based on the amount of roadway capacity, average delay, and the volume/capacity ratio along an arterial. There are six levels of service: A through F. LOS "A" is the best rating, indicating a smooth flow of traffic. LOS "F" indicates a failure to the system.

Level of Service "D": This level is characterized by fairly substantial delays, such as waiting through two signal cycles to pass through an intersection after stopping. These queues will occasionally clear during the peak hour, but approximately 70% of green lights fail to deliver the waiting queues.

Locational Criteria for Land Uses: The guiding principles and standards for the placement of activities on land. They are derived from the values stated in the Plan goals and policies and are based on the need for compatible relationships between the urban and natural environment and the need for interaction among residents, businesses and institutions.

Low and Very Low Income: The definition of low and very low income is based on regional (Portland Metropolitan Statistical Area) income levels. Low income is defined as earning less than 80% of median income. Very low income is considered as earning less than 50% of regional median income.

Main Streets: Main Streets are business districts that contain areas of higher density land uses, with concentrations of shopping, services and entertainment or restaurants. Multi-famly residential is often located around the Main Street district and may exist on second or third stories above retail or offices. Main Streets are to have high quality transit service and a good pedestrian environment. In Lake Oswego there are two mapped Main Street Areas, Lake Grove (Boones Ferry Road, between Washington Court on the north side of Boones Ferry and the Southern Pacific Railroad right-of-way on the south side of Boones Ferry, and Kruse Way, as specified in Figure 26); and Lake Oswego (A Avenue between State Street and 6thStreet, B Avenue between State Street and 5th Street and 1s Street, between C Avenue and Evergreen Road as specified in Figure 27).

Major Development: A major development is one which requires a permit from the City involving the greatest level of review. "Greatest level of review means" any land use action that is required to go to a public hearing such as planned developments, zoned changes, comprehensive plan amendments, conditional use permits and major variances.

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Major Transit Corridors: Roads classified as arterials within the Lake Oswego City limits which are used as transit routes. Major transit corridors consist of Highway 43 (State Street), A Avenue, Country Club Road, Boones Ferry Road and Kruse Way.

Mass Casualty Incident: A mass casualty incident is a single incident resulting in the need for 10 or more patients to be treated by emergency responders. The primary objective is to manage the delivery of patients to the appropriate area hospitals.

Metropolitan Planning Organization (MPO): An organization located within the State of Oregon and designated by the Governor to coordinate transportation planning in an urbanized area. Lake Oswego lies within the MPO governed by Metro.

Minimum Stream Flow: A level of stream flow which is necessary to support aquatic life and to minimize pollution. Use of water under rights and permits with priority dates junior to the ruling date is curtailed when minimum stream flow conditions cannot be met. Use of water under rights and permits with seniority dates senior to the ruling are not affected.

Mitigation: To rectify, repair or compensate for adverse impacts to a natural resource which are caused by development.

Mixed Use Development: The development of a tract of land, building, or structure with a variety of complimentary and integrated uses, such as, but not limited to, residential, office, retail, public or entertainment land uses.

Multi-Use Pathway: A path that is separated from motorized vehicular traffic, is a minimum of 10 feet in width, where possible, and either within the street right-of-way or within an independent right-of-way, for use bicyclists, pedestrians, joggers or other means of non-motorized transportation.

Mutual Aid Agreement: An agreement between Lake Oswego and other cities and fire districts whereby fire fighting resources are dispatched to other jurisdictions upon their request.

National Flood Insurance Program: This program was established by the National Flood Insurance Act of 1968 and is further defined by the Flood Disaster Protection Act of 1973. The Flood Insurance Program established minimum floodplain management requirements which enables communities to receive federally subsidized flood insurance.

Native Plant Communities: Native vegetation adapted to a particular environment or ecosystem which does not displace or dominate other plant communities.

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Natural Area: An area of land and/or water that has a predominantly natural character. Natural areas may be pristine or may have been affected by human activity such as vegetation removal, agriculture, grading or drainage. However, these areas either retain significant natural characteristics, or have recovered to the extent that they contribute to the City's natural systems including hydrology, vegetation or wildlife habitat.

Natural Open Space: Property that is public or privately owned and is protected as a natural area by public ownership, legal instrument or regulation. Such areas typically include stream corridors, wetlands, tree groves and steep slopes. When privately owned, natural open space may be protected through legal instruments such as private open space tracts and conservation easements. In the absence of public or private protection, natural open space is protected through regulations as Protection Open Space (see below), and through individual development standards.

Neighborhood Commercial (NC): A land use designation intended to provide land near or within residential areas for commercial activities to provide for the frequently recurring needs of surrounding residential neighborhoods.

Neighborhood Plan: Neighborhood Plans are policy documents which provide specific guidance on matters such as land use, urban design and provision of public facilities for specific neighborhood areas. They are intended to become part of Lake Oswego's Comprehensive Plan. Neighborhood Plan goals, policies, recommended action measures and implementing land use regulations are required to be consistent with, and reinforce Lake Oswego's Comprehensive Plan and Statewide Planning Goals

Net Area Per Unit: The minimum lot area required per dwelling unit, calculated on gross site area, excluding existing and future rights-of-way.

Net Loss: A permanent loss in surface area of a DNA, wetland or other resource area, or a permanent loss in functions or values resulting from development action.

Non-Durable Goods: Goods which have a life of less than five years. Typically these are convenience and secondary goods.

ODOT: Oregon Department of Transportation.

Office Campus (OC): A land use designation intended to provide lands for major concentrations of regionally oriented offices and employment opportunities for a market area larger than the planning area.

Open Space: Natural and developed areas that are largely vacant (free of buildings and paved surfaces) with the potential of becoming a park or natural area. Open space refers to areas of public or

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privately owned land which are devoted to uses which provide relief from urban development. Open space includes diverse elements such as the natural landscape, wildlife preserves, bluffs, steep slopes, beaches, playgrounds, wetlands, stream corridors, flood plains, lakes, farm fields, tree groves, ball fields, gardens, formal landscaped areas, golf courses, cemeteries, or even a landscaped back yard.

Operation and Maintenance Costs: The annual costs for personnel, supplies, and equipment necessary to operate and maintain existing public facilities and to provide other governmental services such as police, fire, library, recreation, engineering, planning, finance, legal, and administrative.

Park: Property that is publicly owned and intended primarily for recreational human uses or park purposes. Some parks that are primarily intended for active recreational uses may also include natural areas. Natural areas within parks may be also be designated as Public Open Space on the Comprehensive Plan.

Parking Spaces: Parking and loading in areas planned for industrial, commercial, institutional, residential or public use.

Passive Recreation: Recreation not requiring developed facilities that can be accommodated without change to the area or resource (sometimes called low-intensity recreation).

Periodic Review: A requirement of ORS 197.640 which compels cities and counties to review their comprehensive plans and land use regulations periodically.

Plans: Plans are documents which guide land use decisions, including both comprehensive and single purpose plans of cities, counties, state and federal agencies and special districts.

Preservation (Stream Corridor): Action which ensures that stream corridors are maintained intact and unharmed, and otherwise protected from actions that might degrade their functions and values.

Preservation (Wetland): Ensuring that wetlands are maintained intact and unharmed, and otherwise protected from actions that might degrade their functions and values.

Primary Bus: Primary Bus service operates with maximum frequencies of 15 minutes with conventional stop spacing along the route. Transit preferential treatments and passenger amenities such as covered bus shelters, lighting, signal preemption and curb extensions are appropriate at high ridership locations. The future Line 41, between the Tualatin Park and Ride and the Barbur Transit Center, via Boones Ferry, McNary, Jefferson and Kerr, is planned as Primary Bus line.

Private Open Space: Property that is privately owned and used for open space purposes, such as golf courses and cemeteries. Private open space also includes areas such as such as private open space tracts

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and common areas within subdivisions or planned developments. Such areas are typically found within tree groves and stream corridors and often have pathways. Private open space may either be developed open space with formal lawns and landscaping or natural open space. Private open space is intended to be used by members or residents only within a private development or subdivision.

Private Streets: Roadway surface improvements whose primary purpose is to convey traffic and provide vehicle access to a tract of land retained in private ownership by an individual or individuals, an association, a corporation or other legal entity having fee title to that tract of land. Examples of private streets are the major vehicular thoroughfares in shopping malls and office campuses and dead end streets owned and maintained by homeowners associations in condominiums, apartment complexes and single family subdivisions.

Public Facilities Plan: A public facility plan is a support document or documents to a Comprehensive Plan. The public facility plan describes the water, sewer and transportation facilities which are necessary to support the land uses and densities designated in the Plan. Certain elements of the public facility plan shall be adopted as part of the Comprehensive Plan as specified in OAR 660-11-45.

Public Open Space: Property that is publicly owned and designated as "Open Space" on the Comprehensive Plan Map, or; property that has been dedicated to the public, designated as a public open space tract, or protected through a conservation easement or similar mechanism. Public open space is land that is to remain in a natural condition for the purpose of providing a scenic, aesthetic appearance, protecting natural systems, providing passive recreational uses or maintaining natural vegetation.

Public Services: Those services provided by the City of Lake Oswego, Lake Oswego School District, and West-Linn Wilsonville School District that would be needed by development within urban reserve areas including, but not limited to: water, sewer, storm drainage, transportation, parks and open space, library, fire and police protection, and schools.

Public Street: The surface improvements in a designated public right-of-way whose primary purpose is to convey traffic and provide access to abutting properties.

Quality of Life Indicators: Quantitative measurements of the elements of a community's quality of life. Collectively the Indicators measure the extent to which a community has achieved its goals for a livable city. Individually the Indicators can be used to evaluate the impact of future development on the City's quality of life.

Quasi-judicial Plan Amendment: A quasi-judicial Plan amendment applies to a small number of identified properties or is required to effect a particular development permit application.

Redevelopment (of Commercial and Industrial Areas): Development action which increases the value, vitality and aesthetic quality, and commercial and industrial areas.

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Regional Draw Businesses: These are businesses which draw customers from not only the Lake Oswego market area, but also from throughout the Portland Metropolitan Area. For the purposes of the Comprehensive Plan a regional draw business shall be any single tenant commercial establishment with a floor area of greater than 35,000 square feet.

Regional Rapid Bus: Regional Rapid Bus provides high frequency, high-speed service along major transit routes with limited stops. This service is a high-quality bus that emulates Light Rail Transit (LRT) service in speed, frequency and comfort. A high level of transit amenities is provided at major transit stops, including schedule information, ticket machines, lighting, benches, covered bus shelters and bicycle parking. The portion of existing Line 35, between Lake Oswego and Portland, is planned as a Regional Rapid Bus line.

Relative Earthquake Hazard Map: A map provided by DOGAMI (Oregon Department of Geology and Mineral Industries), illustrating the areas where earthquakes present the greatest hazard, on average, to least hazard.

Resource Conservation (RC) District: The Resource Conservation (RC) District is an overlay zone designed to protect significant tree groves. A tree grove may be placed within an RC District if the tree grove has:

a. A HAS ranking of at least 35 in the 1994/95 ESEE study; or
b. A "high" ranking for scenic values in the study; or
c. Is adjacent to a stream corridor or wetland that has an RP ranking.

Resource Protection (RP) District: The Resource Protection (RP) District is an overlay zone designed to protect environmentally significant stream corridors and wetlands. The following resources may be placed within the RP District:

a. Stream corridors and wetlands that have a HAS ranking of 50 or more (defined as "Class I stream corridors and wetlands).
b. Stream corridors and wetlands that have a HAS ranking of 35-49 or have a "high" ranking for scenic values (defined as "Class II" stream corridors and wetlands).

Riparian: Lands which are adjacent to rivers, streams, lakes, ponds, and other water bodies. They are transitional between aquatic and upland zones, and as such contain elements of both aquatic and terrestrial ecosystems. They have high water tables because of their close proximity to aquatic systems, soils are comprised largely of water-carried sediments, and contain some vegetation that requires free (unbound) water or conditions that are more moist than normal.

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Scenic Resources: Elements of the physical environment that are valued for their aesthetic appearance and characterize Lake Oswego, such as trees, steep hillsides, forested ridge lines, rock outcroppings, water features, and views of Mount Hood, Oswego Lake, the Willamette River, and the Tualatin Valley.

Secondary Bus: Secondary Bus service provides coverage and access to higher level transit services. Secondary bus service runs as often as every 30 minutes on weekday. Weekend service is provided as demand warrants.

Secondary (Accessory) Dwelling Unit: A dwelling unit that has been created within, by means of addition to, or as an accessory structure to, a single family dwelling; with separate parking, kitchen and bathing facilities.

Seismically Active Areas: An area which has had earthquakes in historic times.

Sensitive Lands: Lands containing natural resources that have environmental significance within the Lake Oswego planning area (Urban Service Boundary) including wetlands, stream corridors, and tree groves. Such lands are more sensitive or easily damaged by development impacts than non-resource lands.

Sensitive Lands (SL) Atlas: The bound volume of maps on file in the Planning Department showing the boundaries of RP and RC Overlay districts on individual property maps at a scale of 1:200. The SL Atlas is a component of the Comprehensive Plan and Zoning Maps and is created and modified pursuant to the standards and criteria contained in LOC Article 48.17 (Sensitive Lands). The districts shall also be shown on the City-wide Comprehensive Plan and Zoning Maps for convenience, but the more specific boundaries as shown in the Atlas shall control regulation pursuant to LOC Article 48.17.

Settlement and Annexation Agreement: A legal agreement among the City, Unified Sewerage Agency of Washington County (USA) and property owners in the Kruse Way portion of the Lake Oswego's Urban Service Boundary. The agreement area was the result of a court case brought by the property owners to develop Kruse Way in Clackamas County to the County's development standards and be provided water and sewer service by USA and the Lake Grove Water District. Upon occupancy, each development is to annexed to the City. The agreement was entered into in 1988.

Shared Roadway: On shared roadways, bicyclists and motorists share the same travel lanes. There are two variations: 1) a shared roadway is a wider than normal curbside travel lane, on streets with higher volumes and speeds, provided to give extra room for bicycle operation where there is insufficient space for a bicycle lane or shoulder bikeway. An example of a shared roadway is the 14-foot wide curb lanes on State Street. On neighborhood streets with low traffic volumes (3,000 ADT or less) and speeds (25mph or less), wide outside lanes are not necessary for safe conduct of bicycle traffic.

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Shopping Centers: For the purposes of the Comprehensive Plan, Shopping Centers are a group of commercial establishments, planned, constructed, and managed as a total entity, with customer parking provided on-site, provision for goods delivery, separated from customer access, aesthetic considerations and protection from the elements, and landscaping and signage in accordance with an approved plan.

Single Occupant Vehicle (SOV) Trip: An auto trip made by a driver with no passenger. Reducing SOV trips and auto trips in general is the goal of encouraging alternative transportation (bicycling, walking, transit) and car pooling programs.

Specialized Services and Unique Goods: Goods and services which cater to a specific or distinctive market and are specifically sought out by clientele within the community and throughout the region. Businesses in this category include establishments which provide uncommon merchandise, high quality eating, entertainment and cultural opportunities, arts and crafts, etc. Professional services, such as medicine, law, finance, etc, are considered to be specialized services and capable of attracting clients from beyond the community.

Stable City: A city which has constructed the basic public facilities needed to serve its present and projected population and which has limited land available for major expansion that would require major expansion of its public facilities to serve the additional growth.

Stream: A natural body of running water flowing continuously or intermittently in a channel on or below the surface of the ground.

Stream Corridor: A stream corridor is an area of land that includes a stream and a set of natural features generally associated with the stream. These natural features include, stream channels, flood plains, wetlands, riparian vegetation, associated vegetation, steep slopes, and habitat features. A stream corridor generally includes the following:

a. Hydrological Characteristics. Physical features that affect stream flow capacity, rates of channel erosion and patterns of sedimentation including but not limited to stream alignment, cross section and profile, roughness of channel and banks, and drainage patterns.

b. Plant Communities and Wildlife Habitat. The association of trees, shrubs, ground cover, and aquatic plants that affects the hydrological characteristics of a stream corridor, reduces runoff turbidity, provides shade which lessens thermal pollution, filters out nutrients carried by runoff, protects stream corridors soils and slopes from erosion, and provides habitat for fish, wildlife and aquatic organisms.

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c. Soils with Potential for Severe Erosion. Soils within stream corridors tend to be very erosion-prone by nature. This feature affects channel erosion rates, patterns of sedimentation downstream, and potential for hazards to property within and adjacent to the stream corridor.

d. Ravines and Steep Slopes. Lake Oswego stream corridors frequently include ravines and steep slopes.

e. Associated Aquatic Elements. Floodplains and wetlands may be adjacent to or associated with the stream.

Stream Corridor Functions and Values: The beneficial characteristics of stream corridors, including, but not limited to:

- Protection of wildlife habitat and travel corridors,
- Protection of riparian vegetation,
- Erosion control,
- Flood and storm water control,
- Water quality enhancement,
- Open space, passive recreation, and visual enjoyment, and;
- Cultural, social, education and research values.

Strip Commercial Development: Commercial or retail uses, usually one-story high and one store deep, that front on a major street and are oriented towards access by the automobile. Strip commercial development is typically characterized by street frontage parking lots serving individual stores or strips of stores. Strip commercial development differs from central business districts in at least two of the following: 1) there are no provisions for pedestrian access between individual uses; 2) the uses are only one store deep; 3) buildings are arranged linearly rather than clustered; and 4) there is no design integration among individual uses.

System Development Charges (SDC): An SDC is a reimbursement fee, an improvement fee, or a combination thereof, assessed or collected at the time of increased usage of a capital improvement or issuance of a development permit, building permit or connection to the capital improvement. System development includes that portion of a sewer or water connection charge that is greater than the amount necessary to reimburse the governmental unit for its average cost of inspecting and installing connections with water or sewer facilities. An "improvement fee" means a fee for costs associated with capital improvements to be constructed. A "reimbursement fee" means a fee for costs associated with capital improvements already constructed or under construction.

Town Centers: Town Centers may serve a population base of tens of thousands of people. Within these areas the City will encourage good transit services, a pedestrian environment, shopping, services, entertainment, and higher density housing so that residents may have more transportation choices by

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locating near these uses and services. There are two areas designated as Town Centers in Lake Oswego: Lake Grove (Figure 26) and Lake Oswego (Figure 27).

Transit Corridors: Within these corridors, development may be continuous, such as along portions of Boones Ferry Road in the Lake Grove area, or organized around major intersections or transit stops with sections of residential development in between, based on appropriate criteria. Transit corridors are to receive frequent, high-quality transit service. There are four transit corridors designated in Lake Oswego: 1) State Street, 2) A Avenue, 3) Boones Ferry Road, between Country Club and I-5 and 4) Kruse Way (See Figure 29). Those segments with solid lines in Figure 29, represent Transit Corridors which contain commercial, high density residential, employment intensive, or mixed use development. The broken lines represent the portions of the Transit Corridor which link the nodes of higher intensity uses described above.

Transit Supportive Uses: Land uses and developments that encourage the use and development of alternative transportation facilities such as rail, bus, car-pooling, bicycle and pedestrian modes.

Transportation Disadvantaged: Those individuals who have difficulty in obtaining transportation because of their age, income, physical or mental disability.

Transportation System Plan (TSP): A plan for one or more transportation facilities that are planned, developed, operated and maintained in a coordinated manner to supply continuity of movement between modes, within and between geographical areas and jurisdictions.

Tree Grove: A stand of three or more trees (of the same species or a mixture) which form a visual and biological unit, including the area between the forest floor and the canopy, including skyline trees, and including any understory vegetation existing within the canopied area. The stand of trees must be at least 15' in height and must have a contiguous crown width of at least 120' to qualify as a tree grove.

Turn Refuge Lane: A turn land which provides for left or right turns away from the vehicle travel lane. A turn refuge lane could be at an intersection of two streets or where other major turning movements are required.

Underutilized (Commercial and Industrial Land): Refers to a methodology used during periodic review of the Comprehensive Plan to comply with OAR 660-09(15)(A) to determine the total number of parcels of vacant or "significantly underutilized" parcels. A parcel is "underutilized" when there is a large difference between the value of improvements on a parcel and the land value. Where land value is significantly greater than the value of the improvements, redevelopment is probably profitable. A detailed description of the methodology is contained in Appendix "A" of the August, 1988 Lake Oswego Periodic Review Order.

❑ Definitions

Urban Reserve Area: Land designated by Metro outside the 1996 Urban Growth Boundary for future growth.

Urban Services Boundary: Lake Oswego's ultimate growth area, within which the City will be the eventual provider of the full range of urban services.

Urbanization Plan: A comprehensive document including maps and text which specifies the land uses that will be developed in an urban reserve area, the on-site and off-site public facilities that will be required to be constructed to serve the development and maintain current service levels to existing development, and the financial strategy which specifies how the public facilities will be funded and how the ongoing costs of providing public services to the urban reserve area will be funded.

Vehicle Miles Traveled Per Capita (VMT): The number of miles traveled in single person vehicles per person in a specified area during a specified time period.

Walking Distance to a Transit Stop: One-quarter mile from bus stops or one-half mile from light rail stations, according to "Planning and Design for Transit," Tri-County Metropolitan Transportation District of Oregon, March, 1993.

Water Courses: Water courses are ephemeral, intermittent, and perennial drainageways which exhibit defined channels. They also include perennial springs. They may be either the result of natural processes or human-made features such as canals, mill races, and open draingeways which are either historic in nature, or have come to function as natural water courses, thus contributing to the quality of an area's overall natural systems including hydrology, vegetation and wildlife habitat.

Ephemeral means water courses which convey water associated with rainfall events.
Intermittent means water courses whose conveyance of water is seasonal in nature.
Perennial means water courses which convey water year-round.
Springs means water courses which flow underground, or emanate from the ground.

Water Dependent Structures: Structures necessary for a use or activity which can be carried out only on, in or adjacent to water areas because the use requires access to the waterbody for water-borne transportation, recreation, energy production or source of water.

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

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Water Quality Limited: A body of water is said to be water quality limited when it does not meet water quality standards even after conventional secondary wastewater treatment and effluent limits for industrial sources are applied. Pollutants which affect these water bodies include varying amounts of excessive nutrients, sediments, fecal coliform bacteria, copper and other metals, household and industrial chemicals, oil and grease.

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

Watershed: The entire land area drained by a stream or system of connected streams from which a water provider acquires raw water for treatment and distribution.

Weak Foundation Soils: Also known as unstable soils. Those soils which may cause overall settlement or differential settlement resulting in damage to structures not designed to accommodate movements. Weak Foundation Soils have one or more of the following characteristics: Low strength, compressibility, high organic material content, high shrink-swell ratio or elasticity or slow percolation and wetness. (The Weak Foundation Soils and Potential Landslide Map is available at City Hall.)

Wetland: An area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation. Wetlands generally include but are not limited to swamps, marshes, bogs and area with similar vegetation.

Wetland Functions and Values: The beneficial characteristics of wetlands including but not limited to:

a. Wildlife and plant habitat protection,
b. Protection of rare, threatened and endangered species,
c. Erosion control,
d. Flood and storm water storage,
e. Water quality enhancement,
f. Ground water recharge,
g. Open space, passive recreation, and visual enjoyment, and;
h. Cultural, social, education and research values.

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Willamette River Greenway: An area along the Willamette River including all lands within 150 feet from the ordinary low water line on each side of the channel of the Willamette River and such other lands considered necessary. Development in the greenway is reviewed for compliance with the natural, scenic, historic and economic qualities of the greenway.

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