

Lake Oswego Comprehensive Plan Background Report Healthy Ecosystems

INTRODUCTION

The Healthy Ecosystems action area of the Comprehensive Plan will include goals and policies to protect Lake Oswego’s natural resources and open space. The community developed the following 2035 Vision for Healthy Ecosystems:

We are good stewards of our environment. Our urban forest, natural areas and watersheds are valued and cared for as essential environmental, economic, and cultural assets. We effectively balance today’s community needs with the need to preserve clean air, water and land resources for future generations. The built environment is designed to protect, enhance and be integrated with natural systems.

In suburban settings like Lake Oswego, environmental stewardship means protecting ecosystem health. A “healthy ecosystem” supports native plants and wildlife and provides significant environmental, social, and economic benefits to humans. For example, a healthy ecosystem provides clean air and water, prevents flooding, moderates temperatures, stabilizes hillsides and topsoil, reduces noise pollution, provides recreation opportunities, and beautifies a community. These benefits increase property values and contribute to community pride and quality of life.

The built environment, however, can have a significant negative impact on ecosystem health. Development replaces the natural landscape with water-impervious material such as roads, parking lots, driveways, sidewalks, and rooftops. This changes the amount and timing of water runoff and results in the loss of natural vegetation. Development eliminates wildlife habitat, degrades natural processes like stormwater retention and flood control, and decreases the environmental, social, and economic benefits previously provided by the natural landscape.

Cities and towns can minimize the negative impacts of development and maintain or restore ecosystem health by protecting the natural resources that remain within their boundaries. Lake Oswego has a long history of protecting natural resources and open space. The existing Comprehensive Plan includes numerous goals and policies designed to protect, restore, and enhance the city’s streams, wetlands, and wooded areas. These goals and policies reflect the values of Lake Oswego citizens, but they also help the City comply with Oregon law. However, conditions have changed since the Comprehensive Plan was last updated: new regional regulations have been created, the City has adopted numerous plans and reports related to natural resources, and the City’s existing natural resource protection program has undergone extensive review and is on the verge of major revisions.

This report provides the context for updating the Comprehensive Plan goals and policies related to natural resources. It begins with a description of the city’s existing natural resources and

open space. It then provides the state and regional regulatory context for natural resource protection and describes the programs that the City uses to comply with the requirements. Next, it summarizes other relevant regulations as well as plans and reports that the City has adopted since 1997, when the Comprehensive Plan was last revised. Finally, it describes current issues, challenges, and trends relating to natural resource protection.

BACKGROUND

Natural Resources

Lake Oswego contains an abundance of natural resources, including wetlands, streams, tree groves, Oswego Lake, and the Willamette River. This section describes the city's natural resources and summarizes the environmental, social, and economic benefits they provide.

Wetlands

Wetlands are areas that are inundated or saturated by surface or groundwater frequently enough and for long enough that the water affects soil development and the types of plants that can survive there. Wetlands perform vital functions for watershed health. For example, they intercept and slow stormwater runoff, providing storage capacity for this water before it flows into Oswego Lake or the Tualatin or Willamette Rivers. Wetlands absorb floodwaters, sustain summer stream flows, and replenish groundwater. Vegetation found in wetlands filters pollution, traps sediments and nutrients, and provides excellent wildlife habitat, especially in association with an adjacent upland forest. Wetlands also contribute to the community's aesthetic quality and provide opportunities for recreation and education.

Stream Corridors

A stream corridor is comprised of the stream channel, the banks formed by water flow and erosion over time, the surrounding floodplain, and the associated riparian vegetation. Stream corridors play a critical role in the health of a watershed. The natural resource benefits of a stream corridor are determined by the stream's water quality, the condition of the channel and banks, the type and amount of surrounding vegetation, the presence of invasive species or human disturbance, and the corridor's connection to related resource areas such as upland forest and wetlands.

Stream corridors provide important wildlife habitat; they provide food, water, and cover and serve as travel corridors. The quality and diversity of vegetation along a stream corridor influences the quality of the wildlife habitat; greater plant diversity provides greater food, cover, and nesting resources for wildlife. Stream corridor vegetation is also vital to the health of the stream itself. Plant materials stabilize the bank, protect the stream from erosion, and filter pollution. Vegetation on the stream bank also keeps water temperatures cool by providing shade, which helps support fish populations.¹ Like wetlands, stream corridors can improve

¹ Many of the streams within Lake Oswego's USB are very low flow, high gradient streams that are unlikely to be fish-bearing. However, small streams influence larger fish-bearing streams into which they flow. Temperature, sediment, and nutrient levels in larger streams are affected by the cumulative contribution of small tributaries.

water quality by storing and reducing the velocity of stormwater runoff. In Lake Oswego, streams are essential components of the surface water management system because they convey and store stormwater and help control flooding. Streams also contribute to the community's aesthetic quality and provide opportunities for recreation and education.

Streams can be seasonal (intermittent) or year-round (perennial) and can run both above and below ground. In older areas of the city many streams were placed in underground pipes and culverts during the development process. In more recent developments, streams remain in open channels and many are placed within protected open space tracts. Current planning practices discourage piping, culverting, or channelizing streams because streams left in an open, natural state improve water quality, help manage stormwater, and provide wildlife habitat.

Tree Groves

The urban forest is an integral part of Lake Oswego's environment. The urban forest includes all trees in the city: street trees, yard trees, and trees in parks and natural areas. Trees add to the livability and desirability of the community and provide essential environmental services: they improve air and water quality, reduce erosion and stormwater runoff, create shade, and absorb city noise. Trees also provide food, cover, nesting, and perching sites for birds and other wildlife.

Groups of trees, or tree groves, provide greater environmental benefits than individual street and landscape trees. The most valuable tree groves are remnants of native forest. Much of the native vegetation within Lake Oswego has been displaced since the late 1800s, first by agriculture and logging, and more recently by urban development. However, many native forest remnants remain within the city, and these forest fragments are valuable natural resources. Tree groves provide habitat patches and travel corridors for birds and mammals that live in the City or pass between the Willamette shoreline, the Stafford area, and Tryon Creek State Natural Area. Tree groves also store water during rain events and promote groundwater infiltration.

Oswego Lake

Oswego Lake is the city's largest natural feature and its geographic center. The main portion of the Lake covers approximately 380 acres, with an additional seven acres in West Bay and 28 acres in Lakewood Bay (for a total size of 415 acres). The Tualatin River is the major source of water for the Lake, which enters through the Oswego Canal. Several major streams drain to the Lake, including Springbrook Creek, the east and west tributaries of Lost Dog Creek, and Blue Heron Creek. The Lake also receives stormwater from storm drain outfalls and surface runoff.

Before the pioneer settlement period in the 1860s, Oswego Lake was a natural, smaller body of water, fed by streams and springs. The Oswego Canal was dug between the Lake and the Tualatin River to increase water flow and raise the reservoir's level. 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. The land surrounding the Lake has also been highly modified; logging and residential development cleared much of the original forest that surrounded the Lake. Today, homes with lawns and formal landscaping

stretch to the Lake's edge and waterfront seawalls and docks are interspersed among second growth and ornamental trees.

There are a few remaining undeveloped natural areas surrounding the Lake, including small pockets of riparian² vegetation and wetlands at the mouths of streams and forested areas on the surrounding slopes. These natural areas provide food, cover, and nesting sites for wildlife. The remaining forest is typically Douglas-fir on the north-facing slopes and oak, madrone, and fir on the south-facing rocky bluffs. The forested areas provide perch sites for birds of prey such as eagles and osprey. The Lake is also an important habitat for resident and migratory waterfowl including dabblers, diving ducks, Canada geese, and great blue herons. Fish species in the Lake include bass, catfish, bluegill, carp, crappie and yellow ringtail perch.

Willamette River

The Willamette River is a defining natural feature of northwest Oregon. From its southern extent near Eugene, the river flows north 187 miles until it joins the Columbia River at the Oregon border. The Willamette has been significantly affected by the cities and suburbs within its watershed; key impacts include loss and alteration of habitat, impaired fish passage on major tributaries, pollution, and poor water quality. However, the river is still home to spring Chinook salmon and winter steelhead, which are both listed as threatened under the Endangered Species Act, as well as the Pacific lamprey.

The Willamette River forms Lake Oswego's eastern boundary, stretching approximately two and a half miles from the Birdshill neighborhood to Marylhurst University. Much of the land adjacent to the river is developed as single-family residential properties. The Tryon Creek Wastewater Treatment Plant and some commercial uses are located along the river in the Foothills District, and Marylhurst University is located at the southern end. However, the City has protected a large amount of river frontage as public parks, including Tryon Cove Park, Foothills Park, Roehr Park, George Rogers Park, and the Glenmorrie Greenway. Many of the parks are developed for active use recreation, but some include natural features like tree groves and stream corridors.

Open Space

The existing Comprehensive Plan defines open space as:

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 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 backyard.

² Riparian: relating to or located on the bank of a river, lake, stream, or wetland.

Open space provides many important benefits; it protects water quality, provides wildlife habitat, provides recreational and educational opportunities, contributes to community character, and enhances property values. The existing Comprehensive Plan groups open space into two broad categories: natural open space and developed open space.

Natural Open Space

Natural open space consists of natural areas such as stream corridors, wetlands, tree groves, and steep slopes. Natural areas may be pristine or may have been affected by human activity such as vegetation removal, agricultural, or grading. However, these areas either retain significant natural characteristics or have recovered to the extent that they contribute to the city's natural systems.

The existing Comprehensive Plan defines natural open space as:

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)³, and through individual development standards.

Developed Open Space

Developed open space includes both public parks and private open space that is formally landscaped. The existing Comprehensive Plan defines developed open space as:

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

Private and Public Open Space

Natural and developed open space can be either publically or privately owned. The Comprehensive Plan provides the following definitions for public and private open space:

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

³ The category of Protection Open Space was replaced by RP and RC Districts when the Sensitive Lands program was adopted in 1997. The definition of Protection Open Space was removed from the Comprehensive Plan when the Goal 5 chapter was updated in 1997, but the reference remains within the definition of natural open space. Protection Open Space was defined as:

Public or private lands important for essential natural processes such as stream corridors, floodplains, Willamette River Greenway, wetlands, [and] Oswego Lake as designated on the Comprehensive Plan Map. Also, lands containing natural hazards, such as weak foundation soils, high groundwater areas, slopes with erosion or landslide hazards, and unique natural areas valued for scientific, educational, recreational or community identity benefits. Development will be allowed on these lands when compatible with natural systems present.

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.

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 private open space tracts and common areas within subdivisions or planned developments. Such areas are typically found within tree groves or 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.

Public, private, natural, and developed open space are all integral components of the community's open space system. Since the mid-1970s, Lake Oswego residents have made policy and funding choices to protect the city's open space. The Community Development Code includes development standards to create and protect private open space, and public open space has been designated and purchased by the City over time. Voters have approved three park and open space bond measures to fund acquisitions, park improvements, and pathway development: a \$12.2 million bond measure in 1990, a \$13 million bond measure in 1998, and a \$9.75 million bond measure in 2002. These bond measures were used to acquire over 300 acres of parks and open space.

According to the City's GIS data, there are approximately 650 acres of public open space (including parks) and 375 acres of private open space within Lake Oswego's Urban Services Boundary (USB). There are almost 170 additional acres of City-owned open space just south of the USB in the Stafford area.

REGULATORY CONTEXT – GOAL 5

Lake Oswego is charged with protecting its natural resources under Oregon law and Metro's Urban Growth Management Functional Plan. This section describes Statewide Planning Goal 5 and Metro Titles 3 and 13, which provide the regulatory framework for natural resource protection. It then describes the Sensitive Lands program, which the City uses to comply with State and Metro requirements.

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

The purpose of Statewide Planning Goal 5 is "to protect natural resources and conserve scenic and historic areas and open spaces for present and future generations." 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. The goal covers more than a dozen natural and cultural resources, including stream corridors, wetlands, wildlife habitat, and open space. Local governments must inventory and evaluate Goal 5 resources and develop land use programs to protect significant resources.

OAR 660-023 establishes the procedures and requirements that each community must follow to achieve compliance with Goal 5. A local government must first inventory Goal 5 resources and determine which resource sites are environmentally significant. The standard Goal 5 inventory process consists of the following steps:

1. Collect information about Goal 5 resource sites;
2. Determine the adequacy of the information;
3. Determine the significance of resource sites; and
4. Adopt a list of significant resource sites.

Local governments must then develop a program to achieve Goal 5 for all significant resource sites based on an analysis of the economic, social, environmental, and energy (ESEE) consequences that could result from a decision to allow, limit, or prohibit a conflicting use. A “conflicting use” is a land use that could adversely affect a significant Goal 5 resource, such as residential or commercial development in or near the resource. A standard ESEE process includes the following steps:

1. Identify conflicting uses;
2. Determine the impact area;
3. Analyze the ESEE consequences; and
4. Develop a program to achieve Goal 5.

Local governments must use the ESEE analysis to determine whether to allow, limit, or prohibit conflicting uses for significant resource sites. A local government must then adopt comprehensive plan provisions and land use regulations to implement that decision for each resource site.

Lake Oswego completed a Goal 5 natural resource inventory, performed an ESEE analysis, and established the Sensitive Lands regulations to protect significant resources in 1997. The Sensitive Lands program is described on pages 8-10.

Metro Title 3: Water Quality, Flood Management and Fish and Wildlife Conservation

The purpose of Title 3 is:

To protect the beneficial water uses and functions and values of resources within the Water Quality and Flood Management Areas by limiting or mitigating the impact on these areas from development activities and protecting life and property from dangers associated with flooding.

Title 3 protects streams, rivers, wetlands, and floodplains by avoiding, limiting, or mitigating the impact on these areas from development. Title 3 contains performance standards related to development in Water Quality Resource Areas (WQRA).⁴ The performance standards require that development be restricted within a WQRA, which consists of a protected water feature (as designated on Metro’s adopted map) plus a vegetated corridor. The width of the vegetated corridor is generally 50 feet or 200 feet from top of bank on either side of a stream, depending

⁴ Title 3 also includes performance standards for Flood Management Areas, which are not described here.

on the surrounding slope, and 50 feet from the edge of a wetland. Development is only allowed within the WQRA if there is no practicable alternative that will not disturb the area. If there is no practicable alternative, development must be limited to reduce the impact and mitigation must be required. (WQRAs are located on both public and private property, and the performance standards apply to all mapped properties regardless of ownership or development status.)

Metro Code Section 3.07.330 outlines two options for complying with Title 3. Cities and counties can:

1. Adopt the Title 3 Model Ordinance and the Metro Water Quality and Flood Management Area Map; or
2. Demonstrate that new or existing regulations and maps “substantially comply” with the intent of Title 3, the performance standards in Section 3.07.340, and the Metro map.

Lake Oswego is currently in compliance with Title 3, as confirmed by Metro in March 2011. Metro’s compliance determination was based on the existing Sensitive Lands regulations and map (option 2 above). The Sensitive Lands program is described on pages 8-10.

Metro Title 13: Nature in Neighborhoods

The purpose of Title 13 is twofold:

- To conserve, protect, and restore a continuous ecologically viable streamside corridor system, from the streams’ headwaters to their confluence with other streams and rivers and with their floodplains in a manner that is integrated with upland wildlife habitat and with the surrounding urban landscape, and
- To control and prevent water pollution for the protection of public health and safety and maintain and improve water quality throughout the region.

Title 13 applies to resources identified as Habitat Conservation Areas (HCAs). Metro’s Habitat Conservation Areas Map identifies which areas are subject to high, moderate, and low levels of protection. Title 13 establishes performance standards and best management practices to protect, maintain, enhance, and restore HCAs. The performance standards do not prohibit development within the HCA area, but take an avoid-minimize-mitigate approach to limit the impacts of development. Title 13 also provides incentives and encourages the use of habitat friendly development practices in order to avoid or minimize development impacts on habitat. (Like Title 3’s WQRAs, HCAs are located on both public and private property, and the performance standards apply to all mapped properties regardless of ownership or development status.)

Title 13 generally does not require protection of upland wildlife habitat (i.e., tree groves) on private property that was located within the Metro boundary as of December 28, 2005. However, Title 13 does include a “no rollback” provision, which states:

A city or county that, prior to December 28, 2005, adopted any comprehensive plan amendments or land use regulations that (a) apply to areas identified as upland wildlife habitat on the Inventory Map but not identified as riparian habitat on the Inventory

Map, (b) limit development in order to protect fish or wildlife habitat, and (c) were adopted in compliance with division 23 of OAR chapter 660, shall not repeal such amendments or regulations, nor shall it amend such provisions in a manner that would allow any more than a de minimis increase in the amount of development that could occur in areas identified as upland wildlife habitat.

Metro Code Section 3.07.1330 outlines four options for complying with Title 13. Cities and counties can:

1. Adopt the Title 13 Model Ordinance and the Metro Habitat Conservation Areas Map;
2. Demonstrate that existing or new regulations and maps “substantially comply” with the performance standards and best management practices in Metro Code Section 3.07.1340 and the Metro map;
3. Demonstrate that the City has implemented a program based on “alternative approaches” that will achieve protection and enhancement of resource areas “substantially comparable” with that which would result under options 1 or 2; or
4. Adopt “district plans” (meeting the requirements of option 3) for areas with common or adjoining watersheds.

Lake Oswego is currently in compliance with Title 13, as confirmed by Metro in March 2011. Metro’s compliance determination was based on the existing Sensitive Lands regulations and map (option 2 above) and existing education and incentive programs. The Sensitive Lands program is described below.

Lake Oswego’s Sensitive Lands Program

In 1991, Lake Oswego began the process of updating its natural resource inventory to comply with Goal 5.⁵ Between 1991 and 1995, two consulting firms mapped streams, wetlands, and tree groves and rated the quality of each natural resource site based on its wildlife habitat value. Biologists prepared Wildlife Habitat Assessment forms for each resource, which allowed for comparative ratings based on a site’s cover, food and water availability, physical and biological disturbance, connectivity to other natural areas, and unique site features. (The rating is called a Habitat Assessment Score, or HAS). Wetland functional values were also determined using the Oregon Freshwater Wetland Assessment Methodology. The consultants then inventoried the educational, scenic, and recreational values associated with each resource site and prepared site-specific maps of all of the inventoried resources.

The next step in the Goal 5 process was to determine the environmental and social significance of each resource. The “significance” of a resource site was determined based on its Habitat

⁵ Before the Sensitive Lands program was adopted, Lake Oswego’s natural resources protection program was based on the 1975 Lake Oswego Physical Resources Inventory (LOPRI) and Lake Oswego Development Standards (LODS) 3 and 4. LODS 3 regulated development within “major stream corridors,” and LODS 4 regulated development within “essential wetlands.” LODS 4 relied on an adopted 1984 Comprehensive Plan Map called the Hydrology Map, which did not meet the inventory standards of Statewide Planning Goal 5. In the early 1990s, the City Council directed staff to develop a revised natural resources protection program that was consistent with requirements of Goal 5.

Assessment Score (HAS) and its scenic quality. A resource was determined to be significant if it had a HAS of at least 35 or a “high” ranking for scenic value. The break point of 35 was based on the best professional judgment of the project team; resources with a HAS ranking of less than 35 are typically highly disturbed and support only a limited range of wildlife species. However, some disturbed resources do have scenic qualities that make them “significant” from a social perspective.

The consultant then performed an ESEE analysis to evaluate the consequences of protecting significant resource sites. In accordance with Goal 5 requirements, the ESEE analysis considered the consequences of three policy options:

1. Protect significant resources from all development impacts, regardless of the social, economic, or energy consequences.
2. Allow development to occur within all significant resources, regardless of the environmental consequences.
3. Allow some conflicting uses on a limited basis, subject to clear and objective review standards. The goal is to find a balance where at least some development can occur while providing a reasonable amount of protection for the resource.

The ESEE analysis found that the first two options were unrealistic when applied across the board. On one hand, full protection for all significant resource sites would unduly constrain urban development and recreational uses. On the other hand, allowing unconstrained development within significant resource sites would have significant negative environmental impacts (as well as negative economic and social consequences). The City therefore developed a set of regulations that focused on the third option: limiting conflicting uses based on clear and objective standards.

The Sensitive Lands program is a set of land use regulations that limit the amount of development that can occur within significant natural resources. The regulations apply to land within two types of overlay zoning districts. Significant stream corridors and wetlands are designated as Resource Protection (RP) Districts, and significant tree groves are designated as Resource Conservation (RC) Districts. The RP and RC Districts are shown on the Sensitive Lands Atlas, which is adopted as part of the City’s Comprehensive Plan Map and Zoning Map.

The purpose of the RP District is to maintain a vegetated corridor around significant streams and wetlands. The RP District generally requires a 25- or 30-foot “protected riparian area” around streams and wetlands, plus a 10-foot construction setback. Development is generally not allowed within the RP District. Existing native plants may not be removed from an RP District, and any new landscaping must consist of native plants.

The purpose of the RC District is to conserve significant tree groves. The code requires at least 50 percent of a tree grove be protected during the development process. Development is generally not allowed within the protected area (RCPA) or a 5-foot construction setback. Existing native plants may not be removed from an RCPA, and any new landscaping must consist of native plants.

The Sensitive Lands regulations were designed to protect natural resources and provide development flexibility for property owners. For example, a proposed development may vary from the typical lot dimensional standards in order to avoid impacts to an RP or RC District. Lot density may be transferred from an RP District or RCPA to contiguous non-resource areas under the same ownership. Streets, driveways, and utilities may be placed within a resource district if there is no other practical alternative. The size of the protected riparian area can be reduced if the development complies with progressive mitigation steps (avoid-minimize-mitigate). Even if an RP District occupies most or all of a residential lot, the property owner is guaranteed the ability to develop one single-family home.

The Sensitive Lands program was adopted in 1997 in order to comply with Statewide Planning Goal 5. Metro adopted Titles 3 and 13 after the Sensitive Lands program was already in place, but Lake Oswego used the existing Sensitive Lands regulations and map to achieve compliance with those titles as well.

There are approximately 950 acres of designated RP and RC Districts in the City of Lake Oswego.⁶ Of these 950 acres, 512 acres (54%) are located on public property and 438 acres (46%) are located on private property. Sensitive Lands districts are located on 1,253 private lots, the majority of which are single family residential. Approximately 9% of the City's private single family residential lots contain Sensitive Lands districts.

REGULATORY CONTEXT – GOAL 15

The Healthy Ecosystems action area will also include goals and policies related to the natural resource elements of Statewide Planning Goal 15: Willamette River Greenway. This section describes Goal 15 and the City's Greenway Management Overlay District.

Statewide Planning Goal 15: Willamette River Greenway

The purpose of Goal 15 is “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 goal sets forth procedures that state and local governments must follow to administer the 300 miles of greenway that protects the Willamette River.

Goal 15 requires cities and counties to adopt Greenway boundaries, specify uses permitted within those boundaries, indicate areas of potential acquisition along the Greenway, and adopt provisions requiring compatibility review for any intensification, change of use, or development within the Greenway boundaries.

Greenway Management Overlay District

In Lake Oswego, the Greenway boundary is located 150 feet from the ordinary low waterline of the Willamette River. The Greenway Management Overlay District provides design review

⁶ This data is from a GIS-based analysis completed in April 2010.

procedures for intensification, change of use, or development within the Greenway. The Greenway Management Overlay District requires that new development within the Greenway protect the scenic, recreational, and environmental qualities of the river. New residential development must be located at least 25 feet from either the 50-year floodplain line or the western right-of-way line for Old River Road.

REGULATORY CONTEXT – OPEN SPACE PROTECTION

In addition to the Sensitive Lands program and Greenway Management Overlay District, the City has development standards relating to the provision and protection of open space.

Park and Open Space Contributions

Section 50.06.005 of the Community Development Code Development requires all major developments and some minor developments to provide open space equal to at least 15 to 20 percent of the gross land area of the development. For residential development, open space contributions are required for subdivisions and major partitions when the parent lot is greater than 75,000 square feet or includes a Sensitive Lands district, mapped recreational trail, or Title 13 Regionally Significant Fish and Wildlife Habitat.

Parks and Natural Areas Zone

The Park and Natural Area (PNA) zone applies to publicly owned parks and open space. One purpose of the PNA zone is to “protect, preserve, conserve and enhance natural areas, greenways and parks.” The PNA zone limits development to public facilities, concessions, natural areas, agriculture, and other uses specifically provided for in a Parks and Natural Areas Master Plan.

PLANS AND REPORTS ADOPTED SINCE 1997

The Goal 5 chapter of the existing Comprehensive Plan was updated in 1997 to include the then-new Sensitive Lands program. Since 1997, the City of Lake Oswego has adopted numerous plans and policies related to natural resources. The following plans and reports are relevant to the Healthy Ecosystems action area.

Open Space Plan (2001)

Lake Oswego adopted an Open Space Plan in 2001. The Plan includes multiple objectives, including:

- Protecting sensitive resources and re-connecting fragmented habitat;
- Connecting Lake Oswego to larger, regional open space systems;
- Providing better citizen access to the City’s resources;
- Expanding upon the recreational trail system;
- Recognizing and celebrating the City’s unique heritage landscapes and vistas; and
- Capturing and expanding upon the “green” attributes that contribute to the identity and character of Lake Oswego as a “village in a park.”

To accomplish these objectives, the Open Space Plan suggests focusing on the following six elements:

- Water access: enhance physical and visual access to the major water bodies (including the Willamette River, Oswego Lake, the Canal, and the Tualatin River) in order to celebrate the region’s history and its place in the larger ecosystem.
- Heritage landscapes: increase stewardship of historic structures, historic sites, and unique natural features such as the Lake Oswego Hunt Club, Marylhurst Campus, Luscher Farm, and Cooks Butte.
- Scenic resources: retain and improve scenic viewpoints, scenic corridors, and scenic sites.
- Natural resources: Carry out Goal 5 by expanding and connecting resources and categorizing resources based on their sensitivity and capacity for public access and use.
- Green neighborhoods: Create new programs and incentives to encourage private landowners to plant native or locally adapted trees and landscaping, as well as green boulevards that have enhanced vegetation.
- Regional connections: Create regional connections in the form of greenways and trails, and close gaps in existing corridors.

Specific recommendations relating to natural resources include the following:

- Acquire properties or easements with sensitive natural resources.
- Prioritize and create master plans for each resource site.
- Provide a network of corridors linking natural systems.
- Categorize all open space and parkland based on environmental sensitivity.
- Increase buffer widths around wetlands and stream corridors to comply with Metro’s recommended Title 3 standards.
- Strengthen hillside protection standards.
- Inventory, map, and protect migration corridors.
- Create additional protection for tree groves.
- Revisit Sensitive Lands Inventory, Map, and Atlas.

Lake Oswego Urban & Community Forestry Plan (2007)

The purpose of the Urban and Community Forestry Plan is to support tree stewardship on both public and private property with an integrated and cooperative approach. The plan emphasizes the need to manage the community forest as vital infrastructure similar to roads and water systems. It proposes an integrated approach to tree selection, planting, care, and maintenance in the City.

The plan recommends goals, policies, and actions to protect, restore, and improve trees in parks and on public lands; educate and encourage property owners to care for privately-owned trees; and better manage trees located in the public rights-of-way. The plan includes the following goals:

- Stewardship and education: The public is actively engaged in the stewardship of the community forest through education and outreach.

- Forest health: The community forest will remain healthy and diverse with respect to size, age, and species.
- Forest size: Increase canopy cover by planting trees that are likely to succeed (“right tree in the right place”).
- Tree maintenance: Publicly-owned or cared-for trees receive regular assessment and appropriate maintenance.
- Invasive species: Invasive plants that kill trees are eradicated.
- Integration: Urban and Community Forestry principles are integrated in the plans and actions of all City departments.
- Funding: Urban and Community Forestry programs are funded to an effective level.

Lake Oswego’s State of the Urban Forest Report (2009)

The State of the Urban Forest Report provides quantitative information about the size and condition of the City’s urban forest and the function it serves. It includes detailed data on street trees as well as information about the citywide tree canopy cover. The information in the report is intended to help the City prioritize projects and allocate funding related to the Urban and Community Forestry program.

The report found that the citywide canopy cover was 44.4 percent, and street trees represented 13 percent of the entire canopy. Based on U.S. Forest Service data, the estimated value of benefits provided by the city’s street trees is nearly \$3 million per year. The report found that there is not enough species diversity among street trees, and that there are too many small street trees to maintain canopy cover over time. The report states that the most pressing threat to street trees is the ubiquitous presence of English ivy, which is an aggressive invasive species that causes detrimental health effects. The report recommends that urban forest management should focus on maintenance of existing trees and ivy removal. There is also great potential for increasing street trees on private property. Planting new trees provides an opportunity to increase the diversity of the urban forest and plant the “right trees in the right places” so that they become long-term amenities for the community.

Clean Streams Plan (2009)

The Clean Streams Plan creates a program that addresses public education, water quality, flooding, maintenance, and other issues related to storm and surface water management. The governing principle of the program is “to manage flooding and improve stormwater quality in a manner that recognizes the value and function of the natural surface water systems.” The goal of the program is to cost-effectively implement and maintain a sustainable drainage system to:

- Promote public safety and minimize property damage;
- Protect and enhance the quality of surface water; and
- Preserve and enhance fish and wildlife habitat.

The plan recommends public education and outreach activities, low impact development approaches, capital improvement projects, and improved regulation and maintenance practices to meet these goals.

Parks Plan 2025 (2012)

Parks Plan 2025 is a long-range plan that presents the community's vision for parks, natural areas, and recreation facilities. The Parks Plan is based on extensive community input, through which four prioritized goals were developed:

- Investing in existing parks and natural areas: Renovate existing parks and facilities, and stabilize natural areas to preserve existing city assets.
- Enhancing stewardship, maintenance, and operations: Promote stewardship, conservation, and sustainability through park and natural area operations and management.
- Providing recreation options: Create unique and diverse recreation facilities, programs, and parks to serve a multi-generational community.
- Filling geographic gaps: Ensure that all residents have access to essential recreation services.

Objectives and recommended action steps were developed for each goal. The following objectives relate to the protection and management of natural resources:

- Investing in existing parks and natural areas
 - Implement existing site master plans: Implement completed site master plans to enhance existing park sites (including Luscher Area Parks, George Rogers Park, Canal Acres, Bryant Woods, and River Run I & II). Depending on the site, these actions will expand recreation opportunities and support the ecological function of natural areas.
 - Stabilize natural areas: Plan, prioritize, and initiate natural area stewardship programs to stabilize natural areas, address public safety hazards, and halt deterioration.
 - Enhance river connections: Provide public access to the Willamette and Tualatin Rivers.
- Enhancing stewardship, maintenance, and operations
 - Enhance the existing maintenance plan for parks and recreation facilities based on a tiered system for different park types (including “stabilize” and “restore” maintenance tasks for natural areas).
 - Create natural resource management plans for prominent natural character sites or large hybrid parks with significant natural resources.
 - Restore selected natural areas to their highest resource value and ecological functions.
 - Inform residents about the importance of and the benefits provided by parks, recreation, and natural areas in Lake Oswego.
- Providing recreation options
 - Provide recreational programs to address essential services: Provide recreation programming and community events to support essential recreation services desired by the community (including access to nature).

- Filling geographic gaps
 - Identify and integrate natural features: Integrate natural features and opportunities for nature play and interpretation into existing parks.
 - Manage the property portfolio: Fill gaps in access to essential services through the acquisition of new park sites to meet current and future demand.
 - Connect natural area corridors: Protect land to expand and connect existing natural resource habitat clusters.

The Parks Plan also includes an implementation plan, which includes a five-year capital and non-capital improvement plan, a maintenance cost model, and flexible funding strategies.

ISSUES AND CHALLENGES

The previous sections described new regulations and plans that were developed after the Comprehensive Plan was last reviewed. These include:

- Metro Title 3;
- Metro Title 13;
- Open Space Plan;
- Urban and Community Forestry Plan;
- State of the Urban Forest Report;
- Clean Streams Plan; and
- Parks Plan 2025.

As summarized above, these regional requirements and local plans support the continued protection and enhancement of Lake Oswego’s natural resources. However, a variety of issues and challenges regarding natural resource protection have arisen since 1997, when the Goal 5 section of the existing Comprehensive Plan was last revised. Several of these specifically relate to the City’s Sensitive Lands program, as summarized below.

Sensitive Lands Map Updates

In 2003, the City began the process of updating the natural resource inventory and Sensitive Lands Atlas. The purpose of the update was to correct errors and omissions from prior inventories and to include all of the areas that may eventually be annexed to the City. The City identified new stream corridors, wetlands, and tree groves that could potentially qualify for protection under the Sensitive Lands program. The new resources included 30 wetlands, totaling 23 acres, 30 stream corridors, totaling 16 acres, and 90 tree groves, totaling 198 acres.

In 2007, staff held a public open house and invited comments and suggestions from property owners. Staff also asked property owners for permission to visit the resource sites. An environmental consultant made a series of field visits and provided maps and Habitat Assessment Scores for the new resources. In 2008, the City held several open house events on the proposed map changes, made site visits, and corrected the draft maps based on those site visits.

During this process, the City received significant public comment about the need for more outreach and education regarding the Sensitive Lands program, its geographic scope, and its regulatory requirements. The City Council therefore put the map update process on hold and began a comprehensive review of the Sensitive Lands program (described below). The initial review was completed in 2010, but the map updates remain on hold pending additional changes to the program (see page 16).

If the map update process moves forward in the future, several additional steps would need to be completed. First, an ESEE analysis would need to be performed for the new resources. The ESEE analysis would evaluate the costs and benefits of protecting each resource and determine whether an RP or RC District should be applied. The map update process would involve significant public involvement, including notice, discussion, meetings with individual property owners, and public hearings before the Planning Commission and City Council.

Second Look Task Force Report (2010)

The review of the Sensitive Lands program was performed by the Second Look Task Force, a citizen group that met from September 2009 to May 2010. The purpose of the Task Force was to seek opportunities to simplify the code language, streamline application processes, and achieve an equal level of environmental protection with less regulatory burden on property owners. The Task Force identified broad topic areas for consideration, made a series of observations based on their research in each category, and made recommendations to improve the program. In brief, they recommended that the City should:

- Lead by example: maintain and restore streams, wetlands, and tree groves in City parks and natural areas; remove invasive species.
- Retain maps and create clarity for property owners: make it easier for property owners to address mapping concerns; use the same methodology for future map updates; complete other code improvements before adding any new properties to the Sensitive Lands Atlas.
- Apply regulations to both public and private lands: the City must regulate both to comply with Metro requirements.
- Increase flexibility, create incentives, and encourage voluntary measures: provide volunteer support, incentives, training, and recognition for residents who voluntarily restore natural habitats; allow alternative or innovative approaches if they provide an equivalent level of environmental benefit.
- Change the code: permit uses that have a minimum impact on riparian corridors (like small sheds and vegetable gardens).
- Streamline the application process: eliminate jargon, provide clearer written materials; provide workshops for professionals like realtors and builders.
- Provide educational resources: provide consultations on best practices; target free resources to Sensitive Lands owners.

Resolution 10-51A (2010)

The City Council reviewed the Second Look Task Force’s recommendations during several public comment sessions and hearings. The Council then directed staff to revise the Sensitive Lands program with a goal of offering greater flexibility for property owners, while maintaining environmental protection and compliance with Metro and state standards. Recommended revisions included the following:

- Modify the Development Code to permit uses with de minimis impacts, clarify terms, exempt invasive trees from tree removal permit requirements, and eliminate the resource delineation fee.
- Implement additional regulatory changes, including developing a free map correction process, removing the RC District from isolated tree groves on private property, developing a two-track review system, developing standards for mitigation measures, and expanding resource protection on public lands.
- Develop enhanced communication and community outreach activities.
- Study new resource protection and environmental initiatives, including watershed-based environmental management, invasive species removal on City property, ongoing environmental outreach, and an on-line data service program.
- Create an appeal process and fair and equitable options for potential future map updates.

Many of these recommended changes were implemented between 2010 and 2012. (Removing the RC District from isolated tree groves is discussed in more detail below.) Others, including the two-track review system, standards for mitigation measures, and the map correction and update process, are on hold pending further discussion about potential changes to the City’s natural resource protection program (described below).

Removal of Isolated Tree Groves (2012)

One of the changes recommended in Resolution 10-51A was to “consider removing small, isolated tree groves from the overlay zone on private property, not including private, dedicated open space.” In January 2012, the Council held a study session on the options for removing the RC District designation from isolated tree groves and directed staff to move forward with the proposal. Staff prepared the necessary code and map amendments, and the Council approved the proposal in July 2012.

Removing the RC District from isolated tree groves was a two-step process. First, the Community Development Code was amended to define what an “isolated tree grove” is and to state that the RC District can be lifted from isolated groves on private property. Second, the RC District was removed from 45 qualifying properties by amending the Comprehensive Plan Map and Zoning Map.

The Council voted to remove the RC District from private properties in six tree groves. However, Metro staff found that removing the RC District from one of the groves did not comply with the “no rollback” provision of Title 13. Under Metro Code Section 3.07.1330 (A) (2), an RC District can only be removed if there will be only a “de minimis” increase in the amount of

development that could occur in areas identified as upland wildlife habitat (see page 7 for more information). Metro staff determined that removing the RC District from one of the isolated groves (TG-13) would not meet the de minimis standard, and appealed the Council decision to the Land Use Board of Appeals (LUBA) in August 2012. The appeal is currently pending.

Proposed Revisions to the Natural Resource Protection Program (2013)

In 2011, the City Council formed a three-member workgroup to research and suggest alternative approaches for the City's natural resource protection program. One topic that the workgroup explored was whether the City could remove tree grove protections (RC Districts) from private properties. Prior discussions about the Sensitive Lands program indicated that the "no rollback" provision of Metro's Title 13 limits the City's ability to amend existing RC Districts, so workgroup members met with Metro Council President Tom Hughes about the possibility of repealing the "no rollback" provision. Workgroup members reported their findings to the full Council during a study session in January 2012. During the study session, the Council discussed the feasibility of removing all Sensitive Lands overlay districts from private properties. That discussion led to the creation of a 2012 Council goal: to obtain and consider recommendations to modify the Sensitive Lands program to reduce regulations on private property.

Members of the workgroup asked David Hunnicutt, President of Oregonians In Action, to review and propose revisions to the City's Sensitive Lands program. Mr. Hunnicutt submitted his report to the Council on June 28, 2012. He recommended that the City remove the Sensitive Lands overlay districts from privately owned single-family residential properties and replace the lost acreage by fully designating 15 public parks as Sensitive Lands.

The Council reviewed Mr. Hunnicutt's recommendations at a study session on July 31, 2012. The Council directed staff to work with Councilor Olson to refine and add to Mr. Hunnicutt's proposal to craft a package of natural resource protection measures that could reduce Sensitive Lands regulations on private property, meet the Council goal, and maintain compliance with Metro's Titles 3 and 13. The Council would then review the alternative approach and decide whether to present it to the Metro Council for feedback.

Staff worked with Councilor Olson to analyze four possible options for alternative natural resource protection programs. Descriptions and analysis of the options were presented to the Council on October 9, 2012. The Council decided to present a preferred alternative approach to the Metro Council for feedback. The preferred alternative includes following components:

- Remove all Sensitive Lands overlay districts from private residential property;
- Continue to apply other existing regulations to resources on private residential property;
- Maintain existing and create new incentive programs to encourage voluntary resource protection on private property (e.g., grants, tax incentives, fee waivers);
- Maintain existing and create new education programs to encourage voluntary resource protection on private property (e.g., increased outreach, new brochures and handbooks, volunteer program);
- Create a new acquisition program to purchase resource areas for public open space;

- Create a new program to acquire conservation easements on resource areas;
- Designate new RP and RC Districts on public property where qualifying resources are not currently protected;
- Create new restoration programs to improve management of resources on public property; and
- Create a new monitoring program to assess environmental outcomes.

The framework of the revised program is based on Title 13’s standards and guidelines for an “alternative approach” to natural resource protection. However, there remain several policy and procedural questions about the Title 13 requirements and whether the “alternative approach” can achieve compliance with Title 3 as well. City staff met with Metro and DLCD staff in February 2013 to discuss the proposed revisions to the program. Metro and DLCD staff indicated that the proposed approach of removing all Sensitive Lands districts from private residential property would be difficult to implement under the existing framework of Goal 5 and Titles 3 and 13 (described on pages 5-8).

The 2013 City Council Action Plan includes direction to “implement modifications to Sensitive Lands Ordinance.” On March 19, 2013, the Council held a study session on the proposed revisions and initial feedback from Metro and DLCD staff. The Council voted to present the proposal to the Metro Council and then proceed with implementation.

Implementing the proposed revisions to the Sensitive Lands program will involve the following procedural steps:

- Revising Comprehensive Plan goals and policies related to the existing Sensitive Lands program;
- Revising the Sensitive Lands sections of the Community Development Code (LOC 50.05.010 and 50.07.004.8);
- Amending the Comprehensive Plan Map and Zoning Map to remove existing RP and RC Districts from private residential properties and add new RP and RC Districts to public property; and
- Creating new incentive and education programs to protect resources on private property and new acquisition and restoration programs for resources on public property.

Staff will create a work plan and begin the implementation process this summer.

EXISTING CONDITIONS AND TRENDS

In addition to the issues and challenges regarding the Sensitive Lands program, existing conditions and trends related to natural resources have changed since the Comprehensive Plan was last revised.

Land Development Patterns

Current trends are for redevelopment of residential areas, where smaller, older homes are being replaced with new larger homes. In addition, the city's remaining larger lots are being partitioned or subdivided to create smaller lots with multiple homes and driveways. This type of development results in a reduction of pervious area, which contributes to increasing amounts of runoff from residential areas. Larger development footprints also often require tree removal; nearly 100 tree removal permits have been issued per year since 2008.

The city's Sensitive Lands regulations help protect stream corridors, wetlands, and tree groves from development impacts by limiting the amount of development that can occur within a protected resource area. However, there are few incentives available for developers to go above and beyond the requirements, which means that new development is often located as close as possible to a protected area. This complies with the code but can result in future encroachments into a resource area. The RC Districts also only require protection of 50% of a tree grove, which means that significant tree grove area is lost even when new development complies with the code.

Condition of Parks and Natural Areas

During the Second Look Task Force's review of the Sensitive Lands program, the public expressed significant concern regarding the condition of City-owned natural areas. One of the follow-up measures to Resolution 10-51A was to research and fund restoration activities in park natural areas. In 2010, MIG, Inc. assessed the ecological condition of 456 acres of City-owned natural areas. The study found that 23% of natural areas (105 acres) were in good condition, 16% (75 acres) were in fair condition, and 61% (276 acres) were in poor condition.

MIG and the Parks Department developed four options for restoring park natural areas. Option 1 assumed 100% restoration within 5 years, at a total cost of \$1,513,932. Option 2 assumed 75% restoration within 5 years, at a total cost of \$1,003,262. Option 3 assumed 50% restoration within 5 years, at a total cost of \$504,750. And Option 4 assumed that only "high priority" sites would be restored within 5 years, at a total cost of \$146,653. The Council approved Option 4 and authorized a budget request of \$70,000 for restoration in fiscal years 2011-12 and 2012-13.

Water Quality Monitoring

The City of Lake Oswego has collected monthly instream water quality data since 1997 at seven stations in accordance with the terms of the municipal separate storm sewer (MS4) National Pollutant Discharge Elimination System (NPDES) permit. Monitoring stations are located on Ball Creek, Carter Creek, Lost Dog Creek, Boones Ferry Creek, Springbrook Creek, and Tryon Creek. Monitoring data include the following parameters:

- pH
- Temperature
- Specific conductivity
- Dissolved oxygen
- Turbidity

- Bacteria
- Nutrients
- Metals
- Total solids
- Total suspended solids

The City also conducts biological and habitat-related monitoring every two to three years. A consultant performed macroinvertebrate assessments at 11 monitoring stations in 2004, 2007, and 2009. These assessments involve field sampling of macroinvertebrate communities and collecting information about physical habitat conditions, including riparian vegetation and composition, riparian buffer width, bank stability, presence of large woody debris, channel substrate composition, and presence of non-native vegetation.

The City recently combined this water quality, biological, and physical habitat data into a watershed health index. The purpose of the index is to provide a holistic picture of a waterbody's ability to support a healthy aquatic community. The index will help the City communicate surface water quality conditions, make informed decisions, and set priorities to improve water quality city-wide.

Sustainability Considerations

The We Love LO Comprehensive Plan process defines sustainability as meeting the vital human needs of the present without compromising our ability to meet future needs. Planning in a sustainable way means looking at the community as an interrelated system that includes places around us (the natural and built environments), people (who live and work here), and prosperity (of the local economy) that supports society's needs.

"Places" includes the natural environment, which forms the basis for this community system because it provides the air, water, and land that we as people depend on to meet our life-sustaining needs. One of the principles of sustainability is therefore to protect natural systems from degradation. Protecting natural resources from degradation means reducing and ultimately eliminating new encroachment on streams, wetlands, forests, and other open spaces. In addition to preventing new impacts, sustainability also means reversing existing impacts through restoration projects. In urban and suburban areas like Lake Oswego, natural resources must be properly managed in order to sustain ecosystem health.

WHAT WE'VE HEARD

The Comprehensive Plan Citizen Advisory Committee, Sustainability Advisory Board, and Natural Resources Advisory Board held a Community Health and Public Safety and Healthy Ecosystems Fair on August 25, 2012. In conjunction with the fair, the community members were invited to complete an on-line survey. The survey questions and responses for the Healthy Ecosystems action area are compiled in a separate report available online as Reference Document C for the Citizen Advisory Committee meeting on May 23, 2013.

PLAN UPDATES TO CONSIDER

This background report and the results of the on-line survey provide context for updating the Comprehensive Plan goals and policies related to natural resources. The existing goals and policies will be evaluated and revised as needed to reflect existing conditions, incorporate recommendations from plans and reports adopted since 1997, and address current issues, challenges, trends, and community values.