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*****READ THIS FIRST*****

The City of Lake Oswego proposes to amend the Comprehensive Plan, to include a new Healthy Ecosystems Chapter, with goals, policies, and recommended action measures for Natural Resources, Urban Forest and Vegetation, Open Spaces, Oswego Lake, Air Quality, and Willamette River Greenway, as shown in Attachment B. The current Comprehensive Plan chapters titled “Goal 5: Open Spaces & Natural Areas,” “Goal 6: Air Resources Quality,” and “Goal 15: Willamette River Greenway,” each of which had previously been carried forward from the 1994 Comprehensive Plan, will be repealed.

The Comprehensive Plan Map and Zoning Map are also proposed to be amended to update the locations and boundaries of existing Resource Conservation (RC) and Resource Protection (RP) Overlay District designations, and to add Habitat Benefit Areas (HBA) Overlay District designations, as depicted in Attachment C; and Lake Oswego Code Chapter 50 (Community Development Code), Chapter 42 (Streets and Sidewalks), Chapter 47 (Signs), and Chapter 55 (Tree Code) are to be amended as shown in Attachment D.

The proposed plan, map, and code amendments are based on citizen and agency comments, input from the Planning Commission, and City Council direction. Explanatory comments are provided in comment boxes, below each amendment or group of amendments. Terms followed by an asterisk (*) are defined in the Glossary at the end of this document.

Healthy Ecosystems

Natural Resources Program – Urban Forest and Vegetation – Open Spaces – Oswego Lake - Air Quality – Willamette River Greenway

Vision

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.

The above statement was originally crafted for Vision 2035, which serves as the basis for Lake Oswego’s Comprehensive Plan.

Statewide Land Use Planning Goals

Healthy Ecosystems implements Statewide Planning Goal 5 (Natural Resources, Scenic Areas, and Open Spaces provisions); Goal 6 (Air, Water and Land Resources Quality); and, Goal 15 (Willamette River Greenway).

Updates to 2013 Comprehensive Plan

The Healthy Ecosystems chapter replaces and consolidates Goal 5, Sections 1 through 7 (Fish and Wildlife Habitat, Vegetation, Wetlands, Stream Corridors, Sensitive Lands, Open Spaces, and Oswego Lake); Goal 6 (Air Resources Quality); and Goal 15: Willamette River Greenway. This chapter complements the Community Health and Public Safety Chapter, particularly the Public Facilities & Services – Surface Water Management Section.

Natural Resources Program and Sensitive Lands

This section is updated and reformatted to describe the overall framework for the Natural Resources program and Sensitive Lands revisions, including revisions to the Sensitive Lands code, ongoing natural resource stewardship activities, and adoption of incentives for habitat protection and enhancement. The “Background” section is relocated from the Healthy Ecosystems introduction. Chapter sections specific to Urban Forest and Vegetation, Open Spaces, Oswego Lake, Willamette Greenway, and Air Resources Quality continue to follow the Natural Resources Program section, each containing explanation of how it fits into the new program.

Background

Lake Oswego residents respect and value the environment and take pride in caring for their natural resources. The City has a long history of natural resource stewardship, as demonstrated by its extensive tree canopy (approximately 50% of the City), protection of streams and wetlands, and maintenance of more than 600 acres of park and natural areas. The City is also actively involved in restoring natural areas, for example, by partnering with area watershed councils on riparian area enhancement projects, and it offers education and incentives for wildlife habitat conservation (e.g., Backyard Habitat Certification Program).

Since 1979, the City has maintained a Natural Resources Advisory Board. The Board reviews trends in air, water and land quality within the Urban Services Boundary, and advises the City Council in the development and implementation of the Comprehensive Plan and other plans and policies to protect, restore, and enhance environmental quality. The Board also designates Heritage Trees as provided by the Tree Code (LOC 55), and recommends actions to the City Council to preserve open spaces. More recently, the City established a Sustainability Advisory Board, which promotes the sustainability of the community as a whole, considering public and private actors and their effects on ecological, economic, and community systems.

Lake Oswego maintains an active urban and community forestry program, which includes education and outreach to residents and contractors, and enforcement of the Tree Code. Since 1989, the City has had the distinction of being designated a “Tree City USA” by the National Arbor Day Foundation.

The City also works in partnership with local organizations such as friends groups and watershed councils to leverage their expertise to carry out natural resource enhancement projects. Watershed councils have been created for the Oswego Lake, Tualatin River, and Tryon Creek watersheds, and friends groups contribute thousands of hours of volunteer labor in various City parks and natural areas. The City works in partnership with these organizations, and in FY 2014-15 the City Council began budgeting approximately \$250,000 annually for upland and riparian habitat enhancement projects.

In 2011, the City began working with Friends of Tryon Creek, in partnership with the Audubon Society of Portland and the Columbia Land Trust, to provide the Backyard Habitat Certification Program (BHCP) to Lake Oswego residents. The program provides assistance and incentives to residents who seek to restore native wildlife habitat to their backyards. During the first four years of the program (through FY 2014-15), the BHCP has completed 274 site assessments and certified 101 properties, totaling 80 acres enrolled. The BHCP has also established 12 community (native garden) demonstration sites throughout Lake Oswego, and conducted native plant sales twice yearly, with over 58,000 native plants sold to area residents.

Goal 5 Resources

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 the provision of open spaces; 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. Local governments must inventory Goal 5 resources, including riparian corridors, wetlands, and wildlife habitat, and determine which resource sites are environmentally significant. 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 are determined and programs developed to achieve compliance with Goal 5.

A variety of natural resources and fish and wildlife habitat exist in Lake Oswego. These areas include remnants of native woodlands, open fields, wetlands, and water bodies 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 and serve as an extension of the City’s network of natural resources. Furthermore, even where

property is not regulated specifically for natural resource protection, properly managed private property, including residential lots, can provide valuable nesting habitat, food, and cover for wildlife, including songbirds, raptors, small mammals, insects and other organisms that are important to the local ecology.

Two natural resource inventories for the Lake Oswego planning area have been completed over the past forty years. The 1975 Lake Oswego Physical Resources Inventory (LOPRI) was conducted by community volunteers; it identified and characterized water resources, vegetation, “Distinctive Natural Areas,” and wildlife present in Lake Oswego. The LOPRI provided much of the information needed to develop the natural resource element of the 1978 and 1994 Comprehensive Plans. It also formed the basis of the stream and wetland protection standards adopted in the early 1980s. As the community developed during the 1970s through the 1990s, these inventories and standards were used in setting aside public and private open space areas for protection.

Between 1991 and 1995, a new natural resources inventory was conducted by two consulting firms. The new inventory consisted of more location-specific data than the 1975 inventory, and rated the quality of streams, wetlands, and tree groves according to their wildlife habitat values. The consultants also inventoried the educational, scenic, and recreational values associated with each resource site and prepared site location maps of all of the inventoried resources. The “significance” of each resource site was determined, and a Goal 5 ESEE analysis was performed to evaluate the consequences of protecting significant resource sites.

The natural resources inventory and ESEE analysis formed the basis of Lake Oswego’s Sensitive Lands regulations, one component of the City’s natural resources program. These regulations limit the amount of development that can occur within significant natural resource areas. The regulations apply to land within two types of overlay zoning districts. Significant stream corridors and wetlands were designated as Resource Protection (RP) Districts, and significant tree groves were designated as Resource Conservation (RC) Districts. The RP and RC Districts are shown on the Sensitive Lands Map, which is adopted as part of the City’s Comprehensive Plan Map and Zoning Map.

The Sensitive Lands Map and Code are being revised. Please refer to Ordinance Attachments C and D.

The Sensitive Lands regulations were adopted in 1997 to comply with Goal 5, but the City also uses them to maintain compliance with Metro Titles 3 and 13. Metro adopted Titles 3 and 13, in 1998 and 2005, respectively, establishing new requirements for local jurisdictions in the Portland area to protect water resource areas, floodplains, and wildlife habitat. (The City achieved compliance with Metro Titles 3 and 13 in 2011.)

In 2007 and 2008, the City began the process of updating the natural resources inventory and Sensitive Lands Map. During that process, it received significant public comment with concerns about the geographic scope and requirements of the Sensitive Lands regulations. These concerns addressed both new development and regulation of established, non-dividable

residential properties. (The Sensitive Lands program regulated approximately 950 acres or 15% of the land in the City, of which approximately 200 acres or over 1,000 lots were single family residential properties. This represented approximately 10% of single family property owners in the City limits, at the time, and approximately 650 or 62% of those lots were non-dividable.)

The City began a comprehensive review of the Sensitive Lands program in 2009, resulting in a series of code revisions in 2010. This effort culminated in 2013 with a City Council goal to replace the program with one that reduces the regulatory burden on private property owners. In 2014, the City Council adopted the following policy as a guide for the City's approach to natural resource protections:

The City Council affirms its responsibility to protect the rights of property owners while recognizing the need to comply with State and regional land use and environmental standards. These standards will be applied locally in a fair and equitable manner that respects citizens' use and enjoyment of their property while meeting the intent of State and regional standards and goals.

The City Council amended the Sensitive Lands regulations in 2014 as an interim measure to clarify the code and address some of the concerns with it. In 2015, the City updated its natural resources program and amended the Sensitive Lands regulations, as described herein.

Please refer to the proposed Sensitive Lands amendments in Ordinance Attachments C and D.

Summary of Major Issues

The following are some of the key issues that were considered in the creation of the Healthy Ecosystems chapter of the Comprehensive Plan.

- Clean water is critical to the survival of all species and should be the basis of establishing a comprehensive network of open spaces to host wildlife. Water quality must be maintained, and the habitat immediately adjacent to water resources protected to provide food, cover, and shelter for wildlife.
- Natural resource protection and conservation are integral to the City's overall water quality compliance program. Through implementation of the City's Clean Streams Plan (Surface Water Management Plan) and water quality standards for new development and redevelopment, the amount of pollution conveyed by storm water runoff is reduced, protecting water quality in streams and wetlands.
- The spread of invasive plants, which can lead to the use of herbicides, has contributed to the decline of native plant species and wildlife habitat. The City and community volunteers have begun to address this problem by removing invasive species from protected open space areas.

- Historically, new development and construction of utilities, especially sanitary sewers, led to removal of vegetation, erosion and degradation of streams. 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 City is working to repair its infrastructure and restore its natural resources.
- The City has improved utility and surface water management practices, and must comply with more stringent surface water requirements than it did 20 years ago, affording greater protection to water quality. For new development and redevelopment the City requires on-site disposal of storm water with bioswales, rain gardens, and/or subsurface stormwater infiltration systems, where feasible. Therefore, even as the City is nearly built-out, the amount of untreated stormwater flowing into natural waterways is progressively reduced. (See also, CHPS-Surface Water Management, Policy 1, use of natural systems to treat, convey, and dispose of storm water runoff; and, Policy 8, regarding Low Impact Development and water quality.)
- As a nearly built-out City, Lake Oswego faces a different set of challenges than it did thirty years ago. The circumstances that drove land use planning then are not the same as today. Where there was once a focus on protecting large open space areas in new developments (as new neighborhoods came into being), and through land acquisitions, there is now a greater need to invest in infrastructure maintenance and repair, and natural resource enhancement both on public and private lands.
- Lake Oswego is extraordinarily green. A recent analysis of forest canopy cover using 2014 Lidar found that citywide canopy coverage has increased from 44.6% in 2007 (Lake Oswego State of the Urban Forest Report, 2009) to approximately 50% in 2014 (Shannon and Wilson, 2015). This compares to less than 30% for the City of Portland. The “urban forest” contributes to the livability of Lake Oswego and provides more valuable wildlife habitat than would occur with smaller, fragmented areas.
- The City’s Community Development Code (CDC – Chapter 50) historically has facilitated environmentally friendly development by allowing flexible lot sizes, building setbacks, and street widths in developments that protect natural areas. The 2015 update to the Comprehensive Plan and CDC create additional incentives for habitat-friendly development and natural resource protection and restoration*
- The City Council had received public feedback that the Sensitive Lands regulations were applied inconsistently and unfairly (i.e., some significant natural resources were protected, while others were not). Concern was also expressed that areas that were not significant resources were being over-regulated. The City Council decided to create a new natural resource program that ensures a balanced, equitable, and environmentally sound approach to natural resource protection that combines appropriate regulation with incentives for resource protection and enhancement, while engaging the community in a positive manner.

Goal

Protect, enhance and restore natural resources, including significant stream corridors, wetlands, and riparian and upland wildlife habitat.

Policies

1. Develop a systems-wide approach to urban forestry, watershed protection, and other environmental management issues, to protect, restore, and enhance the City's natural resources.
2. Maintain Resource Protection (RP) district regulations for the protection of significant streams and wetlands, and their adjacent vegetated corridors, consistent with Goal 5, Metro Title 3, and Clean Water Act requirements.
3. Prohibit diversion or impoundment of significant 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 and will maintain or improve water quality.
4. Protect threatened and endangered fish and wildlife species and their associated habitats consistent with state and federal requirements.
5. Adopt and maintain code incentives for the protection, restoration, and enhancement of significant streams, wetlands, and tree groves, consistent with Goal 5 and Metro Title 3 and 13 requirements. Incentives may include:
 - a. A more streamlined development review process for projects with resource protections;
 - b. Transfer of allowable density and floor area within a development site and between a development and adjacent lands under the same ownership;
 - c. Additional flexibility in lot dimensional standards and building height.

Incentives shall include safeguards for neighborhood compatibility and provide certainty for adjacent property owners with respect to density and mitigation of development impacts. Properties eligible for the incentives shall be designated Habitat Benefit Area (HBA) on the Sensitive Lands Map or authorized through specific text-based Community Development Code criteria.

6. Maintain Resource Conservation (RC) district regulations that protect wildlife habitat on public and private open spaces, consistent with Goal 5 and Metro Title 13 requirements; such areas shall receive the highest level of regulatory protection.
7. Provide development standards that require the following habitat-friendly development practices where RP districts, or RC or HBA protection areas, are established:
 - a. Retention of existing native vegetation;
 - b. Removal of invasive plant species and replanting with native plants, where habitat restoration* is proposed;
 - c. Use of native plants in new landscaping;
 - e. Coordinating with natural resource regulatory agencies where review of development proposals involves state or federal agencies with jurisdiction;
 - f. Development restrictions that protect the designated resource in perpetuity, as a condition of development approval.
8. Maintain development standards that prioritize impact avoidance over minimization and mitigation of adverse impacts to natural resource functions and values.
9. Prohibit the placement of contaminants or discharge of pollutants in streams, wetlands, wildlife habitat areas, and ground water.
10. Require the dedication of open space, or the recording of covenants, conservation easements or other legal instruments running with the land, in new developments where the CDC requires the provision of open space.
11. Ensure natural resources are protected in park and open space master plans.

Recommended Action Measures

- A. Explore the availability of opportunities with the State to develop and implement a tax incentive program to encourage habitat protection and habitat-friendly development. .
- B. Continue to fund the Habitat Enhancement Fund, for the restoration* and enhancement of riparian and upland wildlife habitat on public and private lands.
- C. Establish a natural resource education program for property owners, including home owners associations, that promotes water quality protection and the preservation, restoration*, and enhancement of fish and wildlife habitat, and to engage all property owners in natural resources stewardship.
- D. Encourage the development of forest management plans pursuant to the Tree Code, to preserve the wooded character of the City.

- E. Consider providing a more streamlined development review process for public facilities that are part of an approved master plan.
- F. Coordinate plans for public and private open space areas to maximize the return on investment in natural resource protection and enhancement.
- G. Provide property owners with educational materials and training on natural gardening techniques, use of native plants, identification of plant and tree species, and avoiding use of chemicals that can impair water quality, harm fish or wildlife, or negatively impact native plants and pollinator species.
- H. Continue to offer the Backyard Habitat Certification program.
- I. Continue to establish and support “Friends” groups to provide community volunteer stewardship of parks and natural areas, including assistance in removing invasive plants.
- J. Maintain and update the Community Development Code, Tree Code, and other City regulations to be consistent with the City’s systems-based approach to natural resources management.
- K. Explore options for creating a resource mitigation bank to facilitate off-site restoration* projects on a larger scale than could be accomplished through individual on-site mitigation (i.e., where development impacts are unavoidable).
- L. Monitor the health of the City's water resource areas through the surface water management program and the Oregon Department of Environmental Quality (DEQ) water quality reporting requirements.
- M. Encourage schools and local organizations to provide public education opportunities regarding preservation and improvement of wildlife habitat.
- N. Coordinate with conservation groups, land trusts, and other jurisdictions and state and federal agencies in implementing the City’s natural resources program and protecting threatened and endangered species identified within the Urban Services Boundary.

Figure HE-1 Sensitive Lands Map

The proposed amendments to the Comprehensive Plan Map and Zoning Map (revised Sensitive Lands Map) will appear in the final adopted version of this chapter. Please refer to Ordinance Attachment C for proposed revisions.

Urban Forest and Vegetation

Background

Many factors contribute to a high quality of life in Lake Oswego. Few things contribute more to Lake Oswego's livability than its natural beauty. The abundant tree groves, flourishing street trees, densely wooded parks and open spaces attest greatly to the City's charm and character. Trees contribute generously to private landscapes, and provide privacy and noise buffers between land uses. The mere presence of trees puts people at ease, as evident in multiple studies that show people maintain more vigorous health and mental faculties when trees are present in their neighborhoods or visible from their windows.

"Urban Forest" refers to the trees and vegetation in urban and suburban areas—street trees, landscape trees and plants, and the remnants of the wild forest. The urban forest functions as an ecological unit and provides important benefits to urban residents. Community Forestry is a collaborative approach to managing the urban forest. It brings together City government, residents, and other local stakeholders to shape the policies and practices that affect our forest resources. Community Forestry promotes education, dialogue, and voluntary stewardship to protect the health and integrity of the urban forest.

Lake Oswego's Community Forestry Program began in 2006 as a grant-funded project through Northwest Service Academy, which has provided AmeriCorps members to manage the program. The City, with the AmeriCorps member organized a series of public events to create public dialogue on forestry issues and identify priorities for the program. This feedback, along with interdepartmental efforts among City staff resulted in the Urban and Community Forestry Plan adopted by City Council in February, 2008. The plan synthesizes existing tree-related policies and procedures, best management practices, expert knowledge and citizen input to create a vision for the future of Urban and Community Forestry in Lake Oswego.

In 2009, as recommended by the Urban and Community Forestry Plan, the City prepared its first State of the Urban Forest Report, which analyzed the structure, function and value of the City's street tree population and provided basic information about City-wide tree canopy cover. This report identifies the benefits of maintaining a healthy urban forest, as summarized below.

Economic Vitality

The aesthetic value of the City's urban forest extends to the community's economic vitality. Research by the organization American Forests shows that investment in green infrastructure is cost effective for communities. Communities that invest in urban forests alongside traditional infrastructure are more livable in the long term. Studies have also correlated tree canopy cover to real estate values; trees along streets and on private property can increase property values up to 20%. Other studies show that consumers spend more and shop longer in retail areas where trees are present. Yet even these methods of quantification cannot account for benefits

such as crime reduction, business district success, public health improvement, and wildlife habitat.

Reduce Energy Costs

Shade from trees can reduce the need for air conditioning in summer by up to 30%. By breaking the force of winds in the winter, trees can reduce heat loss from residences by up to 50%; effectively lowering energy bills. The cooling shade from trees can also help extend the life of outdoor infrastructure; keeping pavement shaded can reduce urban temperatures by up to 9 degrees Fahrenheit and lengthen pavement life.

Clean the Air

Trees reduce the impact of greenhouse gases by removing carbon dioxide and releasing oxygen. They improve air quality by reducing the formation of smog and capturing airborne dust particles on their leaves. By reducing the heating and cooling needs of homes and buildings, they also effectively reduce emissions that contribute to the greenhouse effect.

Slow Runoff and Prevent Erosion

Leaves break the force of rain, allowing water to percolate into soils (where soils allow) or slowing the rate of surface water runoff, reducing flooding. Trees play a crucial role in holding the soil in place on steeper hillsides, preventing erosion and improving water quality.

Attract Wildlife

Trees provide habitat for many types of desirable wildlife in urban settings. Along with shrubs and other plants, they create protection from the elements and predators, a place to rest and sleep, and nesting sites for rearing their young. Many animals, including birds, mammals, bees and other pollinators, use tree foliage, flowers, nuts, and fruit as a source of sustenance.

Water Quality

In addition to controlling erosion and reducing the potential for flooding, trees help protect water quality by reducing heat pollution. Tree canopy over impervious surfaces reduces pavement temperature. During a rainfall event, thermal energy is transferred from impervious surfaces to storm water runoff, causing the runoff to become warmer. This high temperature runoff can be harmful to cold water habitat in receiving waters. Second, canopy cover over streams reduces direct heat gain by streams from solar radiation. In 2009, the average canopy cover in the City's stream corridors using a 100-foot buffer was 70.2% and 77.2% using a 50-foot buffer. According to Metro studies, the City's streamside canopy cover within 50 feet of streams is about 15% above the regional average. (Source: Lake Oswego State of the Urban Forest Report, 2009).

Summary of Issues

The following are some of the issues, changed circumstances, and conditions which were considered in the update of the Urban Forest and Vegetation section of the Comprehensive Plan.

The State of the Urban Forest

There is a need to update the State of the Urban Forest Report (2009). This Report documents the condition of the urban forest and provides baseline data for which further monitoring and management. The report should be periodically updated so that the City can continue to make informed decisions and ensure the greatest return on the public's investment in urban forestry.

As Lake Oswego approaches build-out and its trees mature, there should be a greater emphasis on maintenance and management of the urban forest as a natural system. This would include removal of invasive plants, and other practices that promote forest health and diversity. Forest practices should help the City and property owners avoid or reduce the risk of catastrophic events, such as tree blow-down from wind storms, wildfires, landslides, pest infestations, and other plant diseases. This is also a public safety concern.

As identified in the 2009 Report, the City has a disproportionate number of small diameter street trees and half of the recommended large diameter trees in the public right-of-way. (The opposite is true for properties outside the right-of-way.) Due to their large sizes at maturity Douglas-fir and big-leaf maple are planted less often in the public rights of way. Unless these species are replaced (through increased stocking levels of young trees), the roadside canopy of mature trees will eventually decline.

Invasive plant species are another threat to the urban forest. The most pressing threat locally is English Ivy (*Hedera helix*). The City, Tryon Creek State Natural Area, and local Friends groups, among others, are actively engaged in the removal of invasive species.

Tree Code (LOC 55)

In 2015, the City Council amended the Tree Code (LOC 55) to provide a more flexible permit process for large forested parcels that is focused on urban forestry principles rather than individual tree regulations while still maintaining the wooded character of the City. The primary objective of amendment was to encourage and assist owners of large forested tracts in managing their property, while providing safeguards for neighborhood character, protection of water quality, and erosion control. The amendment created separate permitting processes for forested properties of one acre or larger.

In spring 2015, the City held a Community Forestry Summit, in part, to engage the community in a dialogue about the Tree Code. The City processes over one thousand tree removal permits annually, as well as over one hundred permits for tree protection during construction. In the City's 2013 Community Attitudes Survey, 51% of respondents said the Tree Code is overly restrictive. While this is only a slim majority, there is agreement that the permit process can be improved, and that the City should seek to reduce administrative costs while protecting the

wooded character of the community. The 2015 Community Attitudes Survey asked different questions, but feedback regarding the Tree Code was generally consistent with the 2013 survey.

Water Quality

The Willamette River and many of its tributaries, including Tryon Creek, exceed the maximum water temperature standard for the State of Oregon. Temperature standards were designed to protect certain fish species during critical periods when they use rivers for spawning, rearing, migration, or other life stages. The Federal Clean Water Act, as administered by the DEQ, requires that impaired water quality be addressed, for example, through DEQ's Total Maximum Daily Load (TMDL) provisions. One of the ways that the City does this is by maintaining streamside shading with tree canopy cover. Under the 2015 Sensitive Lands revisions, stream buffers are maintained in compliance with the Clean Water Act. The corrections the City made to the Sensitive Lands Map in 2015 (e.g., consistent application of buffers to both sides of RP district streams) are also helping to meet the City's TMDL targets for temperature by protecting riparian area shade.

Goal

Protect and enhance the functions and values of Lake Oswego's urban forest and beneficial vegetation.

The following Vegetation policies and action measures are updated from the 1994 Comprehensive Plan. Existing provisions that were redundant with other Plan chapters have been removed. Non-land use policies, and policies that would have budgetary impacts, have also been changed to recommended action measures.

Policies

1. Encourage the protection and enhancement of existing vegetation that has both natural resource value and aesthetic qualities, including mature trees and native plant communities.
2. Maintain development standards that preserve trees and other vegetation through innovative site and building design, including the clustering of buildings.
3. Maintain a voluntary Heritage Tree program to protect significant trees and tree groves.
4. Provide and maintain landscaping standards for new development to:
 - a. Visually enhance development projects;
 - b. Provide buffering and screening between differing land uses;
 - c. Reduce surface water runoff, maintain water quality, and maintain soil stability;
 - d. Reduce energy use by using vegetation for shade and windbreaks;

- e. Encourage the use of native plants; and
 - f. Ensure the establishment and continued maintenance of landscape areas.
5. Require the establishment and maintenance of landscaped areas in parking lots to:
 - a. Provide shade and mitigate the negative visual, sound, and environmental impacts of parking lots; and,
 - b. Provide buffering and screening between parking lots and adjacent land uses.
 6. Require street tree planting with new development.
 7. Prohibit the use of invasive species in any new landscaping or street tree planting.
 8. Preserve and enhance trees and vegetation within rights-of-way and public lands.
 9. Maintain standards and permit procedures that protect trees during construction.
 10. Update and maintain code standards and permit procedures for tree removal that protect the wooded character of the community and which are based on sound urban forestry principles. Maintain clear and objective standards for:
 - a. Forest management on large tracts of land, both public and private;
 - b. Tree protection during construction; and
 - c. Forest/tree management on developed lots.
 11. Encourage the protection of tree groves and other significant vegetation within the unincorporated portion of the Urban Services Boundary (USB) through annexation policies, intergovernmental agreements, public education, and other methods.

Recommended Action Measures

- A. Permanently protect significant trees and tree groves through public acquisition, conservation easements, land donations, and other voluntary methods.
- B. Update and maintain the Tree Code to emphasize retention of overall tree canopy and to maintain the health and diversity of the urban forest, while balancing private property rights with community aesthetics and livability. (Note: The Tree Code is not a land use regulation but contains standards that are applied to development.)
- C. Develop programs and educational outreach materials that emphasize the contribution of trees and vegetation towards improved water quality, erosion control, slope stability, microclimate moderation, and community aesthetics.

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- D. Develop an ongoing planting and maintenance program for trees and other vegetation that uses native plants where appropriate within rights-of-way and public lands.
- E. Ensure adequate right-of-way width to allow for sufficient space for tree planting.
- F. Evaluate tree canopy cover and update the State of the Urban Forest Report on a regular basis, at least every five years.
- G. Protect tree groves and other significant vegetation on City owned properties within the unincorporated portion of the USB.

Open Spaces

This section updates the Open Spaces section Goal 5.

Background

Lake Oswego's character and identity are closely tied to its open spaces, which includes natural areas, parks, ball fields and golf courses. These natural and manmade assets provide habitat resources for wildlife, aesthetic and scenic resources. They also provide flood and water quality protection, as well as enhanced property values derived from the presence of trees, views (e.g., water bodies, wooded skyline, and mountains), or proximity to recreation facilities.

Lake Oswego's open spaces includes land in public and private ownership and consists of both natural areas and parks. These areas are important to Lake Oswego residents. 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. Since the original Comprehensive Plan was approved in 1978, the City has acquired much open space. Lake Oswego voters approved a \$12 million open space bond issued in 1990 to fund the purchase of open space lands and to develop pathways.

In 2008, the City adopted Parks 2025, a long range plan for the City's parks and open space resources. As Lake Oswego approaches a fully developed state, there will be a need to place greater emphasis on managing, maintaining and enhancing the open spaces it now owns. In addition, the larger City open space lands that abut the City limits to the south of Lake Oswego represent an opportunity for the City, neighboring jurisdictions, and responsible agencies to preserve open spaces and to provide open space buffers as a transition between neighborhoods and communities far in advance of development pressure, consistent with the Urbanization chapter of the Comprehensive Plan.

Summary of Issues

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

- There is a need to coordinate the City's plans for managing open spaces with efforts to enhance natural resources and implement sustainable urban forestry practices.
- As the community reaches build-out, there will need to be a greater emphasis on maintaining and enhancing existing open spaces as compared to acquiring more open space lands.

- Managers of private open space areas, such as homeowners associations, face many of the same maintenance and management issues that the City faces, and some are better equipped than others to carry out these responsibilities. The City should provide education and technical support where appropriate.
- Protection and proper management of open spaces is critical to maintaining water quality and watershed health.

(See also, the Community Culture Chapter – Recreation, for issues, goals, policies, and recommended action measures pertaining to recreation.)

Goal

Protect, enhance, maintain, and expand a network of designated open space areas and scenic resources within and adjacent to the Urban Services Boundary.

The following Open Spaces policies and action measures are updated from the 1994 Comprehensive Plan. Existing provisions that were redundant with other Plan chapters have been removed. Non-land use policies, and policies that would have budgetary impacts, have also been changed to recommended action measures. Note: The definition of Open Spaces was revised in the recent Comprehensive Plan Update. All open spaces related definitions are now contained in the Glossary.

Policies

1. Establish and maintain an open space network of public land which:
 - a. Provides outdoor recreation activities and preserves natural areas in an intact or relatively undisturbed state;
 - b. Provides access to scenic resources and distinctive aesthetic qualities such as views of Mount Hood, Oswego Lake, the Willamette River, the Stafford Basin, the Tualatin Valley, and forested ridge lines;
 - c. Preserves areas valued for community identity benefits such as urban forest 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 dissimilar uses;
 - f. Preserves fish and wildlife habitat; and,
 - g. Provides opportunities for pedestrian and bicycle linkages.
2. Where open space is required in new subdivisions, use dedications, deed restrictions, covenants, or other conditions of development approval, as appropriate.
3. Provide and maintain development standards that prioritize protection rather than mitigation of open space functions and values.

4. Require a higher level of regulatory protection for natural resources located on public open spaces and on private open space tracts created through the development process.
5. Establish and maintain open space buffers and protected view corridors between Lake Oswego and adjacent communities.

Recommended Action Measures

- A. Promote the voluntary dedication of open spaces through methods such as life estates, land donation, and conservation easements.
- B. Develop and implement management plans for public open spaces to control access and maintain a balance of protected natural areas and areas open to the public.
- C. Manage the public open space network to protect and enhance its existing tree canopy, water quality benefits, and wildlife habitat.
- D. Coordinate with homeowners associations and periodically review and update City code requirements to promote efficient and effective management of open space areas; provide education and technical support where appropriate.
- E. Identify opportunities for restoration* and planting of native trees and plants.
- F. Provide adequate funding and seek grants to enhance and restore natural resources on public lands.
- G. Utilize a volunteer coordinator to work with citizen “Friends” groups and other community volunteer organizations to assist with restoration*, maintenance and enhancement of public lands.
- H. Utilize the Lake Oswego Parks, Recreation and Natural Areas System Plan (Parks Plan 2025) to guide future open space acquisition and development. See also, the Community Culture Chapter, Recreation Section.
- I. Coordinate open space conservation efforts with area Friends groups.

Oswego Lake

This section updates the Oswego Lake section of Goal 5.

Background

Oswego Lake is the City's largest water 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 managed by Lake Oswego Corporation, commonly known as "The Lake Corporation." The Corporation has 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, which serve as the major source of water for Oswego Lake, the most notable of which is Springbrook Creek. The Tualatin River via Oswego Canal is another source of water for Oswego Lake.

A dam at the outlet to Oswego Creek regulates the lake level. The first dam on Oswego Lake was built in 1850. Before the pioneer settlement period, 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 had commercial and industrial functions important to the culture of the community. 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. The Lake or reservoir is used for irrigation.

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. Lakewood Bay on the east end was completed in 1928, seven years after a final dam was built.

The Oswego Lake Dam Spillway Modification Project was completed in 2011 in conjunction with the Lake Oswego Sewer Interceptor project, in response to the 1996 flood. The Lake Oswego Corporation modified the dam resulting in the lowering of the floodplain by 3.7 feet and removing more than 200 homes from the 100 year flood plain.

Oswego Lake was initially described in the 1975 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 hawks. The Lake is also an important habitat for resident and migratory waterfowl, including dabblers, diving ducks, Canadian geese and great blue heron. Fish species in the Lake include bass, catfish, sturgeon, bluegill, carp, crappie, and yellow ring tail perch, and there exists a resident population of cutthroat trout which reside in Springbrook Creek and may use the creek for spawning.

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 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 residents at the Lake Grove Swim Park (operated by Lake Oswego School District for residents with a swim park easement) and the Lake Oswego Swim Park. A 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 water 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 can also adversely impact water quality in some locations. 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 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.

Water quality in the City is primarily monitored by two entities: the City and the Oswego Lake Corporation. The City monitors tributary streams, while the Lake Corporation alone monitors water quality within Oswego Lake to support their management of the lake. 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. Since 1994, when the last Comprehensive Plan was adopted, the Lake Corporation replaced the dam at the outlet to Oswego Creek, and the City replaced the sewer interceptor line that traverses the lake.

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 and animals. 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 City Standards include former Sensitive Lands "RP" Districts (where streams enter the lake), Erosion Control, Flood Plain, Drainage, Parks and Open Spaces, Hillside Protection, and the Tree Code. In addition, there are zoning regulations related to Oswego Lake, including the Cabana Zone (WR) 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 Lake property line, except for 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 Federal Emergency Management Agency (FEMA). 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 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. More recently, the Willamette River has been added to this list of streams/rivers that are subject to Total Maximum Daily Load (TMDL) requirements. The Lake's characterization arises from the condition of its tributaries and other sources of inflow. (See also Community Health & Public Safety Chapter, Surface Water Management Section.) As a

result, the City adopted the Lake Oswego Surface Water Management Plan (SWMP) and new Erosion Control Standards in 1992 to guide water quality improvements, including rehabilitation of streams that drain into the Lake, and public education programs. The SWMP was updated by the Clean Streams Plan adopted in 2009.

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, surface water storage, water recreation, aesthetic values and scenic views, habitat for fish and wildlife and social values.
- The City updated its Surface Water Management Plan (Clean Streams Plan) in 2009; the Plan is consistent with The Lake Corporation's efforts in managing water quality.
- The Lake's condition follows from the condition of its tributaries and other sources of inflows. Oswego Lake has been designated as "water quality limited" by the DEQ. Therefore the streams that feed the Lake, including the tributaries to those streams, are subject to Total Maximum Daily Load (TMDL) standards.

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

Goal

Protect the natural resource, aesthetic, and recreation values of Oswego Lake.

The following Oswego Lake policies and action measures are updated from the 1994 Comprehensive Plan. Existing provisions that were redundant with other Plan chapters have been removed. Non-land use policies, and policies that would have budgetary impacts, have also been changed to recommended action measures.

Policies

1. Coordinate with the Lake Oswego Corporation to protect the natural resource, aesthetic, and recreation values of Oswego Lake.
2. Require all development proposed within or adjacent to Oswego Lake to:
 - a. Minimize negative impacts on 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;
 - c. Prevent damage caused by erosion and siltation; and,

- d. Prevent the placement of pollutants or contaminants into the Lake and its tributaries.
3. 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, stream corridors, or wetlands are permanently protected as open space through recorded legal instruments.
4. Allow innovative site and building design, including the clustering of buildings to preserve natural features associated with Oswego Lake.

Through the 2013 Comprehensive Plan update the City Council determined that Oswego Lake Policy 8 (City Swim Park and Lake Grove Swim Park) should be reframed as a RAM. Are there other Oswego Lake policies that should be added?

Recommended Action Measures

- A. Design, construct, and operate public works projects to preserve natural features and protect the water quality of the Lake.
- B. Coordinate with the Oswego Lake Watershed Council on surface water management and related improvements.
- C. Establish and maintain significant public viewpoints of Oswego Lake and surrounding areas.
- D. Provide and maintain projects, programs, and development standards that improve the water quality of Oswego Lake.
- E. 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.
- F. 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.
- G. 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.
- H. Support efforts to prevent and remove sedimentation from Oswego Lake.

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- I. Continue to provide swimming access on Oswego Lake through the City's Swim Park and through coordination with the Lake Oswego School District to preserve the Lake Grove Swim Park. (See also, Community Culture Chapter, Recreation Section, RAM 'P')

Air Quality

This section updates the Air Resources Quality section of Goal 6. The background text is from the DEQ and the report “2014 Regional Transportation Plan and 2015-2018 Metropolitan Transportation Improvement Program Joint Air Quality Conformity” (Metro, 2014).

Background

There are many different pollutants in the Portland Metropolitan area’s air and what people breathe depends in part on how close they are to pollution sources such as woodstoves, busy roadways and industrial facilities. Overall, according to the DEQ which is responsible for enforcement of air quality standards, air pollution in the Portland area has decreased dramatically over the last 30 years. Important success stories include reducing lead, carbon dioxide and ozone (smog) to meet federal clean air standards.

Despite this progress, DEQ is concerned about levels of other pollutants called air toxics, which are known or suspected to cause serious health problems including cancer, nerve damage and respiratory irritation. Much of our scientific knowledge about air toxics is still emerging. However for many pollutants and sources, there is currently enough information to understand problems and prioritize emission reductions.

Air toxics include diesel soot, benzene, polycyclic aromatic hydrocarbons (tar-like by-products from auto exhaust and other sources commonly called PAHs), and metals including manganese, nickel, and lead. Air toxics come from a variety of sources including cars and trucks, all types of burning including burning wood in fireplaces and woodstoves, businesses and industries of all sizes, and consumer products such as solvents and pesticides.

Federal Air Quality Requirements

The Federal Clean Air Act is the primary regulatory framework for national, state and local efforts to protect air quality (see <http://www.epa.gov/air/caa/> for more information). Under the Clean Air Act, the EPA is responsible for setting standards, known as national ambient air quality standards (NAAQS), for pollutants considered harmful to people and the environment. These standards are set at levels that are meant to protect the health of the most sensitive population groups, including the elderly, children and people with respiratory illnesses. Air quality planning is focused on meeting the deadlines set by the Federal Environmental Protection Agency (EPA) and DEQ for meeting the NAAQS standards. In partnership with federal partners, USDOT requires areas to demonstrate on-road transportation sources are making progress towards attaining the NAAQS standards or not further violating the NAAQS. This is known as the conformity determination. Failing to conform restricts an area's ability to receive federal transportation funds during any period for which the air quality approval has lapsed.

More specifically, federal air quality conformity requirements come from the integration of requirements in the *Clean Air Act Amendments of 1990* and the *Intermodal Surface*

Transportation Efficiency Act (ISTEA) of 1991 and are codified at chapter 40 Code of Federal Regulations (CFR) Part 93. These requirements are also included in federal transportation policies and regulations, which are compiled by EPA, Office of Transportation and Air Quality, in a document entitled: “*Transportation Conformity Regulations Updated April 2012*.”

State Air Quality Requirements

Oregon’s air quality regulations, adopted by the Oregon Environmental Quality Commission under OAR 340-200-0040 and approved by EPA, establish rules and standards for determining air quality conformity of transportation plans, programs and projects in Oregon (specifically, OAR 340 Division 252). These regulations contain all federal requirements plus a few additional state standards. The Oregon DEQ is responsible for writing the air quality plan for the Metro region. By meeting the Oregon standards for purposes of demonstrating air quality conformity, the federal standards are also met.

Metro’s Role

Metro is the designated Metropolitan Planning Organization (MPO) for the Portland region. As the MPO, Metro is the lead agency for developing regional transportation plans and scheduling the spending of federal transportation funds in the Portland area. The Metro Council, after receiving recommendations from the Joint Policy Advisory Committee on Transportation (JPACT) approves regional transportation plans and air quality conformity determinations, and implements related programs. The JPACT is a 17-member committee of elected officials and representatives from regional agencies and local jurisdictions.

Summary of Issues

The National Ambient Air Quality Standards (NAAQS) adopted by both the EPA and DEQ identify six air pollutants for which seven standards are established and regulations in place to address areas that exceed or have exceeded the standards in the past. (Other air pollutants, such as benzene, have been identified, but standards and procedures for addressing them have not been approved.) These air pollutants are:

- carbon monoxide;
- lead;
- nitrogen dioxide;
- ozone;
- particulate matter, 2.5 micrometers and smaller diameter (PM2.5);
- particulate matter, 10 micrometers and smaller diameter (PM10); and,
- sulfur dioxide.

The Metro region has not exceeded the standards for five air pollutants: lead, nitrogen dioxide, PM10, PM2.5 and sulfur dioxide. However, in the past, the region has exceeded carbon monoxide and ozone standards. The region is no longer subject to the 1-hour ozone standard and no longer has a requirement to complete air quality conformity for ozone. The region,

however, is still considered in a maintenance status with regard to ozone. The EPA maintains data on the region's ozone status.

In the past several years, EPA is considering lowering ozone standards (reducing allowed levels of ozone) based on updated air quality data. Lowering of the ozone standard could result in additional requirements the region would need to comply or the need to take additional actions, but until notification of new standards, the region is not subject to ozone conformity.

As of 1997, the Metro area is a maintenance area for carbon monoxide (CO). While the region meets federal CO standards, it must continue to monitor CO levels through an air quality conformity determination. The determination analysis must compare forecast levels of air quality assuming proposed transportation investments with motor vehicle emission budgets or maximum allowed levels of the pollutant from the on-road and transit elements of the region's transportation system. In 2006, the EPA approved a new CO State Implementation Plan (SIP) finding new CO motor vehicle emission budgets adequate for transportation conformity purposes in the second Portland Area Carbon Monoxide Maintenance Plan. This second CO maintenance plan is effective through 2017, after which time conformity demonstration will no longer be necessary if the area does not violate the CO standard.

Goal

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

The following Air Quality policies and action measures are updated from the 1994 Comprehensive Plan. Existing provisions that were redundant with other Plan chapters have been removed. Non-land use policies, and policies that would have budgetary impacts, have also been changed to recommended action measures.

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 spaces and natural resources to sustain their positive contribution to air quality.
4. Increase the opportunity to use alternative transportation as a means to reduce air pollution by implementing multi-modal transportation policies of the Connected Community Chapter.

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

Recommended Action Measures

- A. 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.
- B. Reduce the local effects of air pollution by requiring commercial and industrial development to undertake measures such as locating discharge sources where impacts are minimized; utilizing state of the art abatement equipment and processing technology; and, planting trees and other plant materials on the development site.
- C. Ensure that industrial and commercial development with the potential for air pollution is reviewed by the DEQ to determine impacts on local and regional air quality.
- D. Implement measures to reduce air pollution associated with City operations, consistent with the Sustainability Plan for City Operations.
- E. Work with Metro and DEQ to provide information on regional air shed characteristics and air quality regulations to new and expanding industry.
- F. 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.
- G. Encourage the preservation and planting of trees to improve air quality.
- H. Encourage the use of electrical vehicles by providing for the siting vehicle charging stations.

Willamette River Greenway

This section updates Goal 15 Willamette Greenway, removing outdated language. The City has acquired land at the mouth of Tryon Creek (Tryon Cove Park), which the 1994 Comprehensive Plan had identified as a possible new park. The policies and recommended action measures, which were initially updated through the Comprehensive Plan CAC process, are intended to be consistent with the approach and format used in drafting other Plan chapters (e.g., policies must be applicable as “land use” policies, action measures may address non-land use matters).

Background

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 1960s. 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 feet of ordinary low water line.

The City received Land Conservation and Development Commission approval of its Greenway goals and policies and Greenway Management Overlay District 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 District provides design review procedures for any of these activities in the Greenway.

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

The Greenway Management Overlay District addresses many of the same concerns as Sensitive Lands (e.g., water quality and wildlife habitat), consistent with State Goal 5, but is specifically designed to balance multiple uses of the shoreline (e.g., views, river recreation, public access), consistent with State Goal 15.

Goal

Protect, restore, enhance, and maintain the natural, scenic, historic, economic, and recreational qualities of the Willamette River Greenway.

Policies

1. Designate and maintain the Willamette River Greenway on the City's Comprehensive Plan Map, consistent with the location established by the state.
2. Require non-water related* and non-water dependent* structures to be set back from the Willamette River. Utilize larger set-backs on public land.
3. Establish and maintain development standards to protect, restore, and enhance native vegetation and fish and wildlife habitat within the Willamette River Greenway.
4. Minimize the visual impact of development within the Willamette River Greenway through measures such as setbacks, height restrictions, building materials and color choices, and landscape screening.
5. 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
 - c. Protecting and enhancing the natural functions and values of the ground and surface water systems which drain into the River.
6. Continue to protect the Willamette Greenway open spaces, preserving significant view corridors to the Willamette River.
7. 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.

Recommended Action Measures

- A. Develop and implement a management plan to protect and enhance native vegetation and fish and wildlife habitat on public land along the Willamette River.
- B. Coordinate with the Willamette Riverkeepers to identify opportunities for project partnerships.
- C. Coordinate Greenway planning activities with Clackamas County, the Oregon State Parks and Recreation Department, other responsible jurisdictions and governmental agencies, and users of the Willamette River to promote stewardship of the River and Willamette Greenway.

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- D. Promote safe public use of the River and Willamette Greenway in compliance with local and state goals, policies and regulations; maintain public safety and protect public and private property from vandalism and trespass along the Greenway.
- E. Acquire land and easements to protect the Greenway's natural resources and provide for continuous public access along, and to, the River.
- F. Identify significant view corridors to the Willamette River Greenway, and develop standards to protect them.

Healthy Ecosystems Definitions

The definition of HBA is new. It implements the incentive program the City proposes as one element of its compliance program under Metro Title 13. The urban forestry definitions are carried forward or adapted from the recent amendments to the Tree Code for large forested tracts. The Planning Commission had asked if the Comprehensive Plan contains definitions for “easement” and “lake”. The 2013 Comprehensive Plan contains a definition of “Lake Easement”, which was carried forward from the 1994 Plan

Forest Management/Urban Forestry means the systematic approach to sustaining forest cover and health while minimizing the risk of catastrophic events such as wildfire, drought, pest infestations and disease, storms (tree blow-down), and landslides. Effective urban forestry can also provide thermal comfort and energy conservation (where stands of trees provide summer shade and windbreaks); water quality protection (through reduced storm water runoff and erosion); air quality (filtration of pollutants); noise reduction (e.g., in areas of dense trees and shrubs); wildlife and biodiversity; income for property owners; and aesthetics, which can contribute positively to community identity, real estate values, commerce, recreation, and individual health and well-being.

Habitat Benefit Area (HBA) means a Comprehensive Plan designation and Zoning Overlays identifying private properties where incentives, rather than regulations, are applied to protect significant natural resources. These incentives may include but are not limited to: financial incentives, such as tax reduction, fee reduction, and/or grants; development standard exceptions (code flexibility), development review/permit expediting, and technical assistance to property owners. See Figure HE-1.

Restoration means the process of returning a disturbed or altered area or feature to a previously existing natural condition. Restoration activities reestablish the structure, function, and/or diversity to that which existed prior to impacts caused by human activity.

Stocking means the number of trees on a given area, as in the case of trees per acre required to be retained or planted after removal under a forest management permit. Re-stocking means trees planted under a Forest Management Permit for reforestation. Stocking counts trees of all sizes and ages, including seedlings and young trees.

Tree canopy means the total ground area covered by a tree or a stand of trees, as measured at the outer limit of tree branches or crown, projected to the ground. This is also referred to as the tree dripline.

-END-