

Goal 5 Open Spaces, Scenic & Historic Areas & Natural Resources

□ Section 4, Stream Corridors

BACKGROUND

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

“To conserve open space and protect natural and scenic resources.”

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

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

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

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

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

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

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

Summary of Major Issues

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

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

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- Placement of public utilities, such as water and sewer lines, in stream corridors can result in infiltration and environmental disruption.
- The City has adopted Zoning and Development Standards for Erosion Control, Hillside Protection, Drainage and Sensitive Lands. [ZC 1-95-1204 Revised; 5/20/97]

GOALS, POLICIES AND RECOMMENDED ACTION MEASURES

GOAL

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

POLICIES

1. Protect, maintain, enhance and restore the functions and values of stream corridors, including maintenance of water quality, storm and flood water conveyance, fish and wildlife habitat, open space and aesthetic values.
2. Identify stream corridors within the USB and designate stream corridors with Resource Protection overlay zones on the Comprehensive Plan Land Use Map. [ZC 1-95-1204 Revised; 5/20/97]
3. The City shall emphasize protection rather than mitigation of stream corridor functions and values.
4. Enact and enforce standards and ordinances which regulate development, including filling and grading, within delineated stream corridors, stream corridor buffer* areas, and buffer edges*. These regulations shall require:
 - a. Preservation of the functions and values of stream corridors;
 - b. No net loss of the total inventoried area of stream corridors within Lake Oswego;
 - c. That stream corridors which are designated as “distinctive natural areas,” or which contain rare or endangered plant or animal species shall have the highest level of protection;and,

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- d. Preservation of stream corridors, stream corridor buffer areas and buffer edges through dedication, deed restrictions, covenants and other means as a condition of development approval for properties containing such features.
5. Require activities which use stream corridors to be compatible with the preservation of stream corridor functions and values. These activities include uses such as private development, public and private recreation, surface water management and flood control.
6. Require the review of any development proposal that could impact stream corridors with the appropriate local, state and federal agencies.
7. Require all development proposed within or adjacent to stream corridors to:
 - a. Incorporate and maintain stream corridor features, functions and values in the project design such as stream banks, riparian* vegetation, and fish and wildlife habitat; and,
 - b. Dedicate land or easements to preserve stream corridors and adjacent riparian areas.
8. Allow development density on parcels containing stream corridors to be transferred to other portions of the development site when stream corridors and the required buffer areas are permanently dedicated as open space.
9. Allow innovative site and building design, including the clustering of buildings to preserve stream corridors.
10. Prohibit diversion or impoundment of streams from their natural channels, except where:
 - a. Diversion would return a stream to its original location; or,
 - b. A stream channel occupies all or most of a legally created lot; or,
 - c. An impoundment is designed to reduce flooding or improve water quality.
11. Restore and enhance the environmental quality of streams.
12. Design and construct public works projects to preserve existing stream banks and adjacent riparian vegetation.
13. The City shall emphasize protection rather than mitigation of the functions and values of stream corridors.

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RECOMMENDED ACTION MEASURES

- i. Use streams as part of the City's Surface Water Management Program to enhance water quality and control.
- ii. Develop and maintain a database of stream corridors and their respective functions and values within Lake Oswego's Urban Services Boundary, and periodically update, through the Goal 5 ESEE* inventory process.
- iii. Preserve environmentally sensitive stream corridor sites through public acquisition, dedication, conservation easements and other methods which permanently limit development.
- iv. Prohibit activities and uses within stream corridors, buffer areas and buffer edges, which could harm stream corridors, such as those whose effects could result in:
 - a. Interruption or diversion of water flows;
 - b. Discharge of pollutants or contaminants, including sediment, into stream corridors or buffer areas; and,
 - c. Negative impacts on adjacent natural systems such as forested areas, wildlife habitat and wetlands.
- v. Prohibit development in stream corridors, except:
 - a. For public storm drainage, water and sanitary sewer facilities; and,
 - b. Where site size and configuration prohibits all reasonable and economic use of the property.

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

- vi. Prevent the placement of contaminants or discharge of pollutants into stream corridors or buffer areas.
- vii. Minimize negative impacts from development on the functions and values of stream corridors.

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- viii. Avoid negative impacts such as flooding and siltation on stream corridor areas both upstream and downstream of development sites. If negative impacts are found, require the responsible party to mitigate for any damage found.
- ix. Limit fences and other obstacles that would impede wildlife travel along stream corridors, and cause localized flooding due to debris accumulation.
- x. Regulate excavation, stockpiling of soil, grading, cutting and earthwork construction within the vicinity of stream corridors.
- xi. Require Erosion Control Plans as a condition of development approval to prevent increases in surface water runoff, erosion and siltation that can damage stream corridors.
- xii. Establish clearly defined Development Standards which require a buffer area and an additional building setback adjacent to stream banks.
- xiii. Monitor development adjacent to stream corridors to ensure compliance with the City's regulations and conditions of development approval.
- xiv. Support community efforts to restore, maintain and enhance stream corridors.
- xv. Restore and enhance the environmental quality of streams currently beneath pavement or in culverts by returning them to their natural, above-ground state where appropriate.
- xvi. Provide information to the general public and developers regarding the location and importance of stream corridors and ways in which they can be protected and restored.
- xvii. Encourage appropriate jurisdictions to protect stream corridors and adjacent riparian corridors within the unincorporated portion of the Lake Oswego Urban Services Boundary (USB).
- xviii. Coordinate with state and federal agencies and private organizations in stream restoration and water quality improvement efforts.