Metro's "Title 13: Nature in Neighborhoods"

- Created the Nature in Neighborhoods program, including these Metro activities:
  - restoration and enhancement grants (Mary Rose Navarro)
  - State of the Watersheds biennial monitoring report
  - Nature-friendly development practices program (Gail Shaloum, Lyn Bonyhadi)
- Model ordinance contains language regarding trails in high-value areas.
- Implements Statewide Planning Goal 5 (fish and wildlife habitat protection).
- Council adopted in fall 2005 after about a 10-year process; jurisdictions compliance in 2009.
- Regionally Significant Fish and Wildlife habitat inventory – 3 riparian classes (I, II, III) and 3 upland classes (A, B, C); ~80,000 acres, or 28% of the region.
- Program includes voluntary and regulatory components.
- Regulatory protection on Classes I and II only. New UGB additions will need to look at some protection for Classes A and B. Local implementation maps may differ from Metro maps.

  Environmental, Social, Economic and Energy (ESEE) analysis resulted in lowering regulatory protection in some riparian areas.
- Two sets of maps: inventory and Habitat Conservation Areas (HCAs are post-ESEE analysis).
- **Mapping tool available at http://www.oregonmetro.gov/index.cfm/go/by.web/id=8385; inventory maps, data available at ftp://ftp.metro-region.org/dist/gm/fish+wildlife/.**
- Seeks to conserve, protect and restore habitat through time, using a comprehensive approach including voluntary, incentive based, educational and regulatory elements.
- Includes provisions to:
  - determine whether jurisdictions are in compliance (must meet baseline standard, but can do it in a variety of ways and may exceed baseline if desired)
  - monitor and evaluate program performance over time to determine whether the program is achieving its objectives and targets (State of the Watersheds on even years, local jurisdictions report on non-regulatory activities on odd years)
  - provide sufficient information to determine whether to amend the program in the future (formal Council check-in scheduled for 2015)
- DEQ considers Title 13 a key tool for complying with Federal Clean Water Act (TMDLs).
- Builds on Title 3 (water quality and floodplain regulations), but Title 13's regulatory area is more site-specific and in some areas, greater in extent compared to Title 3.

Key points:
- *natural area parks are held to the highest standard*
- *local jurisdictions set and enforce the requirements (in Tualatin Basin, usually CWS)*
- *only applies to properties within the UGB*
- *within current UGB, Class I and II are potentially subject to protection; some upland protection is likely to be required in future UGB expansion areas*

Wildlife habitat criteria

Habitat characteristic	Criteria for scoring
Habitat patch size	The size value for a patch is calculated by: 1. Calculating the area in acres for all type 1 patches[1] using a GIS system. Assigning all type 1 patches a value of 1 to 3 based on their distribution within three classes derived by finding natural breaks using a GIS system[2].
Habitat interior (minimizes edge habitat)	The interior value for a patch is calculated by: 1. Defining an interior zone for all type 1 patches by using a GIS system to draw internal buffers of 200 feet for each. 2. Calculating the interior zone area (if any) in acres for all type 1 patches using a GIS system. Assigning all type 1 patches an interior value of 1 to 3 based on their distribution within three classes derived by finding natural breaks using a GIS system.
Connectivity and proximity to water resources	The connectivity to water value for a patch is calculated by: 1. Calculating the area of all type 1 and 2 patches that is less than 300 feet from of a source of water[3] using a GIS system. 2. Deriving the "connectivity to water" ratio of each type 1 patch. This is done by dividing the patch area inside 300 feet by the patch area greater than 300 feet away from a stream. (Inside 300 / outside 300 = "connectivity to water" ratio) 3. Deriving the "adjusted connectivity to water" ratio of each type 2 patch. The area inside 300 feet is divided by two to create an adjusted total. The adjusted amount is divided by the patch area greater than 300 feet away from a stream. ((Inside 300 / 2) / outside 300 = "adjusted connectivity to water" ratio) Assigning all type 1 and 2 patches a connectivity to water value of 1 to 3 based on the distribution of their ratios within three classes derived by finding natural breaks using a GIS system.
Connectivity and proximity to other patches	The Connectivity/Proximity value for a patch is calculated as follows: 1. Perform a nearest neighbor operation GIS operation that measures the average distance from each type 1 and 2 patch to other patches within ¼ mile of their perimeters.* 2. Assigning all type 1 and 2 patches a connectivity/proximity value of 1 to 3 based on their distribution within three classes derived by finding natural breaks using a GIS system. *General fragmentation also affects the overall score to a lesser degree. The more fragmented a patch the lower the score.
Habitats of concern and habitats for unique and sensitive species	A habitat of concern is a unique or unusually important wildlife habitat area. They are identified based on site-specific information provided by local wildlife or habitat experts. Habitats of concern can be smaller than 2 acres, and will be included in the inventory if falling into one or more of the following categories: Any patch specifically identified as a Priority Conservation Habitat by ODFW, USFWS, or other agencies or local wildlife experts. Priority conservation habitats are Oregon white oak savannas and woodlands, native prairie grasslands, wetlands, and bottomland hardwood forests. Any patch of natural land cover identified by ODFW, USFWS, or other agencies or local wildlife experts as a riverine island or delta important to wildlife. Specifically delineated habitat areas that provide life-history requirements of sensitive, threatened or endangered wildlife species or Great Blue Heron rookeries (for example, nesting habitat for an existing population of native turtles); habitats that support at-risk plants; or habitats that provide unusually important wildlife functions, such as major wildlife crossings/pathways or a key migratory pathway, such as an elk migratory corridor.

[1] Type 1 patches are defined as any forest landcover, forested wetland, or nonforested wetland with a total combined size greater than 2 acres. Where different cover types are contiguous they are considered to be part of a single larger patch. Type 2 patches are defined as any shrubland/scrubland or grassland/open soils landcover in a tract greater than 2 acres, within 300 feet off a surface stream.

[2] The Jenkins method for finding natural breaks was used. This method creates classes based on natural groupings of data values. Features are divided into classes whose boundaries are set where there are relatively big jumps in the data values.

[3] A source of water is defined as any surface river or stream, wetland, or other water body.

Riparian corridors ecological functions and criteria

Ecological function	Criteria for receiving a primary score	Criteria for receiving a secondary score
Microclimate and shade	Forest or woody vegetation within **100 feet** of a stream; a wetland[1]; or a flood area[2].	Forest or woody vegetation that is contiguous to the primary area (which is 100 feet) and extends outward to **780 feet**.
Streamflow moderation and water storage	A wetland or other water body[3] with a hydrologic connection to a stream; or a flood area.	Forest, woody vegetation, or low structure vegetation/undeveloped soils within **300 feet**[4] of a stream; or forest that is contiguous to the riparian corridor (starts within **300 feet**[5] but extends beyond); or developed floodplains.
Bank stabilization, sediment and pollution control	A 50-foot band is included within the riparian corridor as a default to maintain basic functions. All sites within **50 feet** of a surface stream receive a primary score. Forest, woody vegetation, or low structure vegetation/undeveloped soils within **100 feet**[6] of a stream or a wetland; or forest, woody vegetation, or low structure vegetation/ undeveloped soils[8] within a flood area. Forest, woody vegetation, or low structure vegetation/undeveloped soils within **100-200 feet** of a stream if the slope is greater than 25%.	Forest, woody vegetation, or low structure vegetation/undeveloped soils located on a slope greater than 25%, that starts within **175 feet**[7] of a stream and runs to the first effective break in slope.
Large wood and channel dynamics	Forest within **150 feet** of a stream or wetland; or within a flood area. The channel migration zone is basically defined by the floodplain, but where there is no mapped floodplain a default of **50 feet** was selected to allow for the channel migration zone[9].	Forest within **150 to 262 feet** of a stream; or developed floodplains.
Organic material sources	Forest or woody vegetation within **100 feet** of a stream or wetland; or within a flood area.	Forest or woody vegetation within **100 to 170 feet** of a stream.

Source: Metro 2001.

[1] Here we refer to "hydrologically-connected wetlands," which are located partially or wholly within ¼ mile of a surface stream or flood area.

[2] Developed floodplains are not included as a regional resource since they do not receive a primary ecological function score.

[3] "Other water body" could include lakes, ponds, reservoirs, or manmade water feature that is not a water quality facility or farm pond.

[4] All upland forests, vegetation, and undeveloped soils help to moderate streamflow and store water. Staff used 300 feet here because some data layers for landcover types do not extend past 300 feet from a stream.

[5] Forest landcover is the only type that extends beyond 300 feet in the Metro database and thus excludes other types.

[6] Metro's science paper indicates 100 feet as a suitable average distance for vegetation contributing to filtering.

[7] 175 feet was chosen due to the method used for mapping riverine slopes.

[8] The woody vegetation and low structure vegetation/undeveloped soils are mapped to 300 feet, the forest is mapped to the edge of the floodplain.

[9] Application of the default to maintain basic functions will be limited to low and moderate gradient channel types.

Created by Lori Hennings, November 2009

Class I riparian/wildlife habitat

- Largest classification – 32% of total habitat inside UGB, 31% outside
- Includes rivers, streams, wetlands, undeveloped floodplains, forest canopy within 100 feet of streams (200 if steep sloped)
- High value riparian corridors providing 3-5 primary functions (18-30 in the model)
    - Microclimate and shade
    - Streamflow moderation and water storage
    - Bank stabilization, sediment and pollution control
    - Large wood and channel dynamics
    - Organic material sources

Class II riparian/wildlife habitat

- 14% inside UGB, 10% outside
- 1 to 2 primary functions (6-17 points) or one primary plus one or more secondary
- Includes wildlife habitat where it coincides with the medium value riparian habitat
- Includes rivers, streams, 50-ft area along developed streams, forest canopy or low structure within 200 ft of streams, and portions of undeveloped floodplain beyond 300 ft of streams
- Elevated to Class I when contain HOCs

Class III riparian/wildlife habitat

- 8% of habitat inside UGB, 1% outside
- Riparian value only (outside wildlife areas)
- Developed floodplains, smaller forest canopies disassociated from streams (less than 20 acres)

Class A upland wildlife habitat

- 24% of habitat inside UGB, 25% outside
- High value habitat areas scoring 7-9 points in model
- Includes upland portions of large forest patches
- May also contain areas providing secondary fxns for riparian, and HOCs outside riparian

Class B upland wildlife habitat

- 13% inside, 22% outside UGB
- 4-6 points in model
- Primarily upland portions of medium sized forest patches

Class C upland wildlife habitat

- 9% inside, 11% outside UGB
- 2-3 points in model
- Include forest patches and smaller connector patches along streams and rivers

Table 3.07-13a: Method for Identifying Habitat Conservation Areas ("HCA")

Fish & wildlife habitat classification	High Urban development value[1]	Medium Urban development value[2]	Low Urban development value[3]	Other areas: Parks and Open Spaces, no design types outside UGB
Class I Riparian	Moderate HCA	High HCA	High HCA	High HCA / High HCA+[4]
Class II Riparian	Low HCA	Low HCA	Moderate HCA	Moderate HCA / High HCA+[4]
Class A Upland Wildlife	No HCA	No HCA	No HCA	No HCA / High HCA[5] / High HCA+[4]
Class A Upland Wildlife	No HCA	No HCA	No HCA	No HCA / High HCA[5] / High HCA+[4]

NOTE: The default urban development value of property is as depicted on the Metro Habitat Urban Development Value Map. The Metro 2040 Design Type designations provided in the following footnotes are only for use when a city or county is determining whether to make an adjustment pursuant to Section 4(E)(5) of this title.

[1] Primary 2040 design types: Regional Centers, Central City, Town Centers, and Regionally Significant Industrial Areas
[2] Secondary 2040 design types: Main Streets, Station Communities, Other Industrial Areas, and Employment Centers
[3] Tertiary 2040 design types: Inner and Outer Neighborhoods, Corridors
[4] Cities and counties shall give Class I and II riparian habitat and Class A and B upland wildlife habitat in parks designated as natural areas even greater protection than that afforded to High Habitat Conservation Areas, as provided in Section 4(A)(5) of this title.
[5] All Class A and B upland wildlife habitat in publicly-owned parks and open spaces, except for parks and open spaces where the acquiring agency clearly identified that it was acquiring the property to develop it for active recreational uses, shall be considered High HCAs.

Table 3.07-13b: Method for Identifying Habitat Conservation Areas ("HCA")
in Future Metro Urban Growth Boundary Expansion Areas

Fish & wildlife habitat classification	High Urban development value[1]	Medium Urban development value[2]	Low Urban development value[3]	Other areas: Parks and Open Spaces, no design types outside UGB
Class I Riparian	Moderate HCA	High HCA	High HCA	High HCA / High HCA+[4]
Class II Riparian	Low HCA	Low HCA	Moderate HCA	Moderate HCA / High HCA+[4]
Class A Upland Wildlife	Low HCA	Moderate HCA	Moderate HCA	High HCA / High HCA[5] / High HCA+[4]
Class B Upland Wildlife	Low HCA	Low HCA	Moderate HCA	Moderate HCA / High HCA[5] / High HCA+[4]

(same footnotes apply as in first table)