

Wetland Basics

How do you know if it is a wetland?

Wetlands are identified by looking at the soil, vegetation, and hydrology. Generally speaking, it is a wetland if these three factors are present:

1. **Soils** low in oxygen because they are saturated with water much of the time; called hydric soils. Hydric soils are soils low in oxygen. Wetland biologists can tell if soil is hydric by its color. Iron and other elements in soils with this condition have a specific grey color that experts are able to identify with the aid of a soil color chart.
2. **Vegetation** that has adapted to growing in the low-oxygen hydric soils. These water-loving plants are called hydrophytic. There are many scientific resources that list hydrophytic plants; and
3. **Water** in the right place, at the right time, for at least two weeks. A site has the necessary wetland hydrology when there is evidence of soil saturation:
 - Within the rooting zone;
 - During the growing season;
 - For a minimum of two consecutive weeks.

Wetlands continually receive or lose water through exchange with the atmosphere (evaporation and precipitation), streams and ground water. A persistent supply of water is necessary for the existence of wetlands. However, that does not mean the wetland must be wet year round.

For a particular site, other details may need to be considered. A common indicator of wetland hydrology is a groundwater level within 12 inches of the surface during the growing season.

What are the classes of wetlands?

Wetland biologists determine what class and category a wetland is by completing the Washington State Department of Ecology (DOE) wetland rating worksheet. There are many classes of wetlands but not all classes can occur in Snohomish. The possible classes in the City include:

- Bogs
- Depressional wetlands
- Flats
- Lake-fringe wetlands
- Slope wetlands
- Riverine wetlands
- Forested wetlands

What are the categories of wetlands?

The number of points accumulated on the DOE rating worksheet determines the category of wetland, which ranges from I-IV. Part of the rating is determined by the class of the wetland. The more points the more valuable the wetland. The most important (highest functioning) wetlands are Category I and the least valuable are Category IV.

A separate point system on the rating worksheet is used to rate the functionality of a wetland's habitat. The higher the score the more functional the habitat is. Habitat scores are divided into three ranks:

- 3-5 points = Low
- 6-7 points = Moderate
- 8-9 points = High

The predominant wetlands in Snohomish are Category III wetlands with a Low habitat score. While there certainly are Category II and Category IV wetlands in the city the likelihood there is a Category I is remote. Similarly, since by definition wetlands in the city are in an urban area the likelihood a wetland would have a High habitat rank is very small but there certainly are some that rank as Moderate.

How are wetland buffer widths determined?

The scientific literature is unequivocal that buffers are necessary to protect wetland functions and values. Buffers are necessary to protect the wetland from the impact of surrounding activities. As a general rule the lower the category and the higher the habitat rank the larger the buffer needs to be. Factors to consider in establishing appropriate buffer widths are the:

- Wetland class and category and the functions needing protection;
- Types of adjacent land use and their expected impacts; and
- Characteristics of the buffer area (e.g. slope, soils, vegetation).

The width of buffers needed will vary depending on the above three factors. For instance, a low quality wetland surrounded by residential development (low impact on the wetland) might only need a 20'-30' buffer. However, a high quality wetland that is home to wetland-dependent species (e.g. waterfowl, herons, frogs, amphibians) also surrounded by residential development would need a 200'-300' buffer.

DOE guidance provides flexibility in applying buffers that includes:

- Buffer averaging (where the buffer width can be reduced in one area if increased in another area so the total buffer area stays the same);
- On-site enhancement (improving the functionality of a wetland and/or its buffer by removing invasive vegetation and replacing it with native species); and
- Off-site mitigation banking (providing funds to an established bank established by a public or private sponsor located outside of the city but within the same watershed).