Best Available Science

Wetlands– Review of Publicly Proposed Amendments to the ECA Regulations

Prepared for the City of Sammamish

by AMEC Environment & Infrastructure, Inc.

Introduction

AMEC (2012) provided a Best Available Science (BAS) review that describes information relative to protecting wetlands as a critical area within the City of Sammamish (City). The review included an overview of wetland regulations, new wetland science, wetland issues throughout the Puget Sound region, conditions unique to the City, relevance of federal and state policy changes to the existing City regulations, and a list of recommended actions for the City's Environmentally Critical Areas (ECA) code.

In response to AMEC (2012) and to the existing ECA code, the public has proposed several amendments to the ECA code. The City has requested that AMEC review the requested amendments with respect to their consistency with BAS.

Below are listed the recommended ECA code amendments made by members of the public (in bold font) with a response framed in terms of Best Available Science following the comment.

Proposed Amendments, and Responses Framed in Best Available Science

Issue #6 (Public Comments #5 & 73)

<u>Property owners should have the option to tailor wetland buffers to existing property improvements.</u> Currently buffers are established from the edge of a wetland, and the size of the buffer is based on the type of wetland feature. Buffers should be based upon site conditions surrounding the wetland rather than a one-size-fits-all approach. Human-made improvements that constitute a de facto barrier to influence should define the barrier of the wetland buffer (e.g., a house in the buffer should represent the edge of the buffer).

Response to Issue #6

Unfortunately, there is no agency approved systematic approach for rating or scoring of wetland buffer functions analogous to the Ecology's wetland rating system. However, as described in the BAS review, the Ecology *Synthesis of the Science* Report (Sheldon, et al. 2005) states that wetland buffers widths should be determined based on:

- The type of wetland and the functions the wetland provides;
- Adjacent land uses; and
- Physical and biological characteristics of the buffer itself.

Because the review conducted by Sheldon et al. (2005) specifically identifies the physical and biological condition of the buffer as potential criteria for establishing buffer widths, it is scientifically credible to evaluate alternative methods for determining buffer widths for areas where the buffer is "developed." This is made more complicated, however, by the absence of a systematic, scientifically established methodology for evaluating buffer functions based on the unique conditions of a specific site. Moreover, some of those conditions (e.g., vegetation cover) may be temporary.

To maintain some functions (e.g., filtration of pollutants), a buffer might need to be larger rather than smaller if it is in poor condition. Other functions (e.g., wildlife habitat) depend greatly on the quality of the buffer, so that buffers in good condition arguably should be increased because they would provide substantially greater benefit if they were even larger. The buffer recommendations made by Ecology and the required distances that are in Sammamish's and other codes are essentially compromises that balance the many different functions provided by buffers, giving greater weight to certain functions (e.g., water quality or habitat) based on the characteristics of a given wetland and its place on the landscape.

Moreover, SMC 21A.50.290(8) already allows reductions of wetland buffers in return for restoration of degraded conditions or incorporation of stormwater improvements in a development that would perform some of the functions of a buffer. SMC 21A.50.290(7) identifies criteria for where standard buffers should be increased. Together, these provisions offer substantial flexibility in the actual buffers ultimately required, based in part on site conditions before and after a development, which goes a long way toward addressing the concern about "one size fits all" buffers.

With regard to cases where a house or other improvement was previously built within what is now the regulated buffer of a wetland, SMC21A.50.060(b) currently allows

> structural modification of, addition to, or replacement of legally created single detached residences and improvements constructed on existing associated legally created impervious surfaces in existence before November 27, 1990,... if the modification, addition, replacement, or related activity does not increase the existing total footprint of the residence and associated impervious surface lying within the above-described buffer or building setback area by more than 1,000 square feet over that existing before November 27, 1990, and no portion of the modification, addition or replacement is located closer to the critical area or, if the existing residence is in the critical area, extends farther into the critical area.

Best Available Science

Wetlands

While regulation of existing development that affects critical areas relates to a variety of policy issues, science is only concerned about potential impacts on the critical area. The biggest scientific concern with the current code is its authorization of up to 1,000 square feet of additional development within the buffer. The undeveloped portions of these buffers still provide a variety of ecological functions, from filtration of pollutants to wildlife habitat. If the existing authorization is exercised without proper mitigation, further degradation can be expected, especially considering cumulative effects. From a policy perspective, though, if the City wishes to consider broadening this exemption it is worth noting that the State of Washington's "Example Code" (Washington State Department of Community, Trade, and Economic Development, 2003) and the adopted codes of many other jurisdictions do not limit this sort of exemption to improvements existing before November 27, 1990. Instead, they allow it for all improvements "legally constructed" based on the laws in place at the time.

In summary, there is no method supported by BAS to establish wetland buffers on a site-by-site basis. The City's existing code provides adequate flexibility to avoid "one size fits all" buffers. The partial exemption that the City's existing code provides for existing development located within regulated buffers addresses some of the policy issues raised by the "de facto barrier" that the public comment identifies for ecological functions provided by buffer areas. Undeveloped areas behind this "barrier," however, still provide some ecological functions. While the partial exemption in the existing code is more narrowly drawn than state guidance allows, its provision for up to 1,000 square feet of additional development in the buffer area could lead to significant further degradation without proper mitigation.

Issue #7 (Public Comments #5 & 73)

Distinguish between developed and undeveloped land when establishing wetland buffers. Provide for reduced wetland buffers in developed areas where human created improvements are currently located within a buffer, as opposed to undeveloped areas where new development proposals are under consideration.

Response to Issue #7

See the answer to Issue #6. Again, the partial exemption that the City's existing code provides for existing development located within regulated buffers addresses some of the policy issues raised by this public comment. While the partial exemption is more narrowly drawn than state guidance allows, its provision for up to 1,000 square feet of additional development in the buffer area could lead to significant further degradation without proper mitigation.

Issue #8 (Public Comments #33, 67-70, 84, 85, 88, 101, & 105)

Increase the wetland exemption threshold from 1,000 to 4,000 square feet. The City has received a number of comments related to an increase in the wetland limited-exemption

threshold. The code currently allows for the filling/alteration of hydrologically isolated wetlands of less than 1,000 square feet. The BAS report prepared by the city's consultant has indicated that the peer jurisdictions evaluated as part of their review provide similar exemptions that range from 250 to 2,500 square feet for isolated wetlands. The Department of Ecology has noted that the city may wish to consider provisions for isolated wetlands between 1,000 and 4,000 square feet.

Response to Issue #8

As discussed in AMEC (2012), there is no scientific basis for exempting even small wetlands from regulatory protection. All wetlands provide some ecological functions. However, recognizing the need for some administrative flexibility, the Washington State Department of Ecology (2012) has provided guidance that could support exempting isolated wetlands up to 4,000 square feet from requirements to avoid impacts, with mitigation still required. By "isolated," the wetlands would not be associated with riparian areas or buffers for either streams or lakes and would not be part of a wetland mosaic, where they would function as a part of a larger collection of nearby wetlands. Ecology also recommends that exempt wetlands not provide habitat identified by the Washington Department of Fish and Wildlife as essential for local populations of priority species. For wetlands between 1,000 and 4,000 square feet, Ecology recommends that the exemption apply only to Category III and IV wetlands that do not score 20 points or greater for habitat under the Western Washington Rating System. Ecology also notes that, where water quality is a high priority (as is the case for all areas draining to Lake Sammamish), wetlands that provide a high level of water quality protection should generally also not be exempted from normal regulatory protections.

In summary, there is no scientific basis for exempting wetlands from regulatory protections. If the City wishes to follow Ecology's guidance to provide administrative flexibility for wetlands up to 4,000 square feet, the City should limit this exemption not just for wetlands with higher habitat functions, as Ecology generally advises, but also for wetlands with higher water quality functions in areas that drain to Lake Sammamish.

Issue #9

Increase the allowance for wetlands to be used for stormwater management purposes. The city currently allows isolated Category IV wetlands to be used for stormwater management. The proposed amendment would evaluate increasing the types of wetlands to include low function Category III and IV wetlands, if mitigation is also provided.

Response to Issue #9

In general, using wetlands to treat stormwater discharge has the potential to degrade existing water quality in the wetlands, which would violate the federal and state policy of "no net loss" of

wetland functions. "No net loss of wetland functions and values" is a regulatory goal that emerged in 1989 and has been a mainstay of land use regulations since then (NRC, 2001). To date, the no net loss policy has been interpreted to mean that wetlands should be conserved wherever possible, and that wetlands converted to other uses must be offset through compensatory mitigation to provide the same functions and values that have been lost (NRC, 2001).

Isolated wetlands not regulated by the Corps could theoretically be used for stormwater management, although Ecology implements WAC 90.48.80, which prohibits the discharge of pollutants into any waters of the state (including wetlands). Therefore, any discharge would need to meet water quality standards.

In terms of BAS, King County developed a "Wetlands and Urbanization" report through the Puget Sound Wetlands and Stormwater Management Research Program. The report emphasized that wetlands in developed and developing areas receive urban effects even if not specifically used in storm water management. The report continues by recommending methods to control storm water quantity, resorting to structurally or hydrologically engineering an existing wetland for water quantity control only if upland alternatives are inadequate to solve the existing or potential problem.

The King County report continues by emphasizing that the use of existing wetlands for water quality control is prohibited under state and federal law. However, guidance is provided for using existing wetlands for *improving* water quality as follows:

- If restoration or enhancement of a previously degraded wetland is also provided, and if upgrading of the wetland functions can be accomplished along with benefitting runoff control, and
- If appropriate source control and treatment BMPs are applied and legally adopted water quality standards for wetland are observed.

If the criteria above are met, the King County report recommended that wetlands may potentially be used for storm water management.

In summary, BAS can support expanding the types of wetlands that the City allows to be used for stormwater management to include Category III wetlands if a number of conditions are met: discharge to the wetland is treated for water quality; upland alternatives are inadequate to address the quantity of stormwater to be managed; and impacts on the wetland are mitigated, including potential restoration or enhancement of degraded wetland functions.

References

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