

# Whatcom County Planning & Development Services Staff Report

## Wetland Buffer Amendments

### I. Project Information

**File #** PLN2019-00008

**File Name:** Wetland Buffer Amendments

**Applicants:** Whatcom County Planning and Development Services (PDS)

**Summary of Proposal:** Proposed amendments to the Critical Areas Ordinance, WCC 16.16.630, Table 1. Standard Wetland Buffer Widths, to adopt the Washington Department of Ecology's new recommended wetland buffers to use with their revised rating sheets. And because WCC Chapter 16.16 (Critical Areas Ordinance) will soon be incorporated into the Shoreline Master Program (SMP) (WCC Title 23), these amendments would also constitute an amendment to the SMP.

**Location:** Countywide.

**Staff Recommendation:** Planning and Development Services recommends the Planning Commission review the materials and forward a recommendation on the proposed amendments to the County Council for consideration.

### II. Background

In July 2018 the Washington Department of Ecology (DOE) modified the habitat score ranges and recommended buffer widths in their wetland buffer tables, with some minor text changes to ensure consistency.

- *Wetland Guidance for CAO Updates: Western Washington Version.* See [July 2018 modified sections XX.040 and XX.050 - Western Washington](#).
- *Wetland Guidance for CAO Updates: Eastern Washington Version.* See [July 2018 modified sections XX.040 and XX.050 - Eastern Washington](#).
- *Wetlands in Washington State – Volume 2: Guidance for Protecting and Managing Wetlands.*
  - See [July 2018 Appendix 8-C with modified habitat score ranges](#).
  - See [July 2018 Appendix 8-D with modified habitat score ranges](#).

In DOE's previous wetland buffer tables, low habitat function was represented by a score of 3 or 4 points and moderate habitat function by a score of 5 to 7 points. However, after they conducted a detailed analysis of habitat scores for the 211 reference wetlands used to calibrate the rating system, they found that wetlands scoring 3, 4, or 5 points for habitat are more similarly distributed to those scoring ≤ 19 points in the 2004 version. The buffer widths themselves are consistent with the DOE's original wetland buffer tables in Appendices 8-C and 8-D of [Wetlands in Washington State, Volume 2: Guidance for](#)

[Protecting and Managing Wetlands](#). Table XX.1 values come from the moderate land-use intensity widths in the Appendix tables. Table XX.3 values come from the high land-use intensity widths. Where necessary, they also made minor changes to the text in the appendices as well as their *Wetland Guidance for CAO Updates*.

The DOE made the change based on public feedback and their review of the reference wetland data used to calibrate the rating system. Their preference is to maintain similar distributions between the 2004 and 2014 versions of the Washington State Wetland Rating System.

This information prompted the DOE to adjust the habitat score break points in the current wetland buffer tables. The modified tables now group habitat scores of 3 to 5 into low habitat function and scores of 6 and 7 into moderate habitat function. However, concurrent with the reclassification of the Habitat Function Scores, the DOE has also revised some of their recommended buffers for the revised categories, as shown in Table 1.

It should be noted that we would either need to keep the current buffers and use the current habitat score system, or adopt the new buffers for use with the updated habitat score system. We cannot use the new habitat score system with our current buffer widths.

### Do We Need to Update These?

According to the DOE<sup>1</sup>, having just updated our Critical Areas Ordinance (CAO) we are not obligated to revise our wetland buffers at this time. Instead, they suggested using the modified tables through an administrative interpretation. However, staff cannot devise a way to legally do this given that Table 1 is adopted in code. Apart from this, they state that we can wait until our next CAO update, though that is not anticipated until 2022 or so.

### Then Why Would We Want To?

Some citizens, three local environmental consulting firms<sup>2</sup>, and the Builder Industry Association of Whatcom County have requested this amendment to the CAO. PDS Staff reached out to local consultants to solicit comments on using the new wetland guidance from Ecology. Three firms submitted letters and provided an analysis which compared the two systems on their past projects. The analysis confirmed some wetlands would be rated higher and some would be rated lower.

**WCC 16.16.630 Table 1, Standard Wetland Buffer Widths**

Wetland Category	Habitat Function Score	Land Use Intensity*		
		High	Moderate	Low
		Buffer Width (feet)		
Category I				
	8 – 9	300	225	150
	6 – 7	150	110	75
	≤ 5 – 3	100	75	50
Category II				
	8 – 9	300	225	150
	6 – 7	150	110	75
	≤ 5 – 3	100	75	50
Category III				
	8 – 9	300	225	150
	6 – 7	150	110	75
	≤ 5 – 3	80	60	40
Category IV				
	8 – 3	50	40	25

\* Definitions for high, moderate, and low intensity land use are provided in Article 9 of this chapter.

<sup>1</sup> <https://ecology.wa.gov/Water-Shorelines/Wetlands/Regulations/Local-regulations>

<sup>2</sup> NW Ecological Services, NW Wetlands Consulting, and Aqua-Terr Systems, Inc.

## **What Would Be the Effects of These Amendments?**

Before PDS proceeded with this amendment, staff wanted to know how these changes might affect local wetland protection and property owners, especially since some of the recommended buffers increase substantially. Would more wetlands (especially our lower value ones) end up with smaller buffers, or would more (especially our higher value ones) end up with larger buffers? To this end, we asked the three consulting firms to perform analyses. Their results are as follows:

### **NW Ecological Services (NWES)<sup>3</sup>**

To assess the effects of these proposed changes NWES reviewed 58 random wetlands they rated under the 2014 version of the Wetland Rating System for Western Washington over the past two years. The wetlands were randomly selected from their database and represent a wide range of sites in the lowland areas of Whatcom County.

In NWES's review five wetlands would have increased buffers and 15 wetlands would have decreased buffers. In all cases the buffer decreases were associated with wetlands that received a score of 5 for habitat. The wetlands where buffers would increase had more complex scorings on the Habitat section of the rating forms, indicating a larger buffer may be more appropriate. Where buffers would decrease, the majority (79%) of wetlands had a score component of LHL<sup>4</sup>. These wetlands' habitat scores were a product of where they were located, not the functions they provide or their importance to society. NWES believes it appropriate to decrease buffer sizes for these wetlands as they are primarily providing water quality improvement and hydrological functions for which smaller buffers are sufficient.

### **NW Wetlands Consulting (NWWC)<sup>5</sup>**

NWWC reviewed 21 random wetlands rated in 2018 under the 2014 rating system. When applying the modified chart, changes resulted in Category II and Category III wetlands: 3 buffers decreased and 2 buffers increased.

### **Aqua-Terr Systems, Inc. (ATSI)<sup>6</sup>**

ATSI reviewed 30 random wetland ratings performed by their firm within the last two years using the 2014 update for the Washington State Wetland Rating System for Western Washington (Hruby 2014). They observed Category III wetland buffers impacted most by the proposed update, 21 of the 23 (91%) Category III wetlands sampled would experience a buffer change.

They noted many of their sample wetlands (23 out of the total 29, or 79%) were Category III and therefore compared their results with those of NWWC and NWES (see Table 2 and Figure 1, below). After doing so, ATSI found that approximately equal portions of Category III wetland buffers will increase (22) and decrease (21) as a result of adopting the proposed recommended buffers. They also found that a small portion (43%) of Category II wetland buffers will experience changes, and that Category IV wetland buffers will experience very little change.

---

<sup>3</sup> For their analysis and data, see Exhibit B.

<sup>4</sup> They scored Low for overall habitat function; High on the landscape potential of the wetland; and Low on the overall value of the wetland to society.

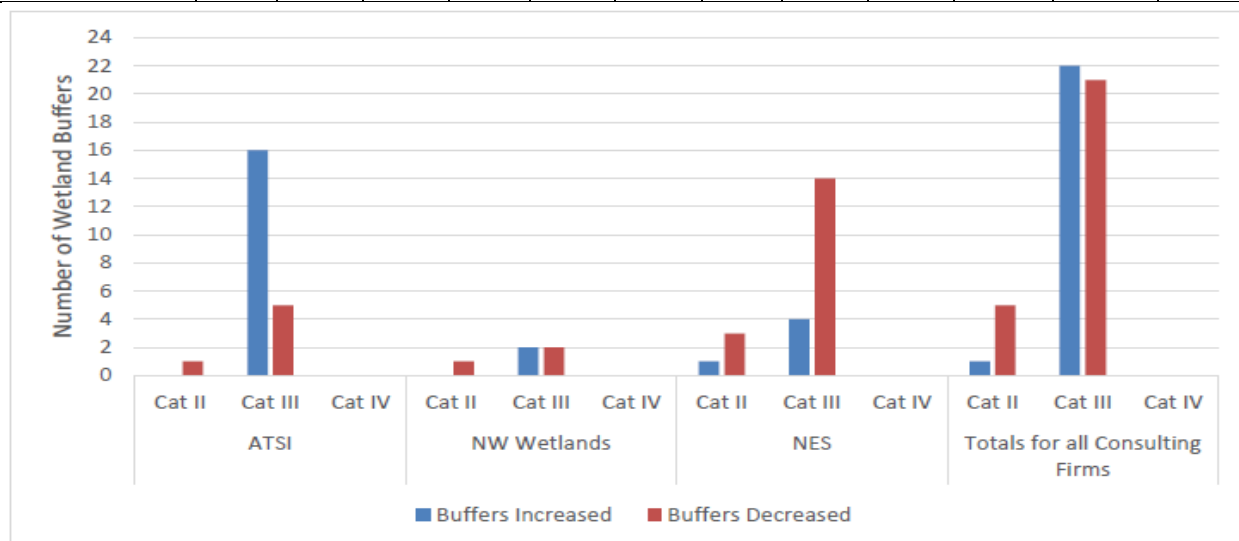
<sup>5</sup> For their analysis and data, see Exhibit C.

<sup>6</sup> For their analysis and data, see Exhibit D.

They also concluded that, rather than resulting in an addition or loss of buffer space, the new DOE recommendations result in a redistribution of buffer areas, with a greater emphasis on habitat score. This emphasis on habitat score comes from the rearrangement of the buffer determination brackets (Ecology 2018). Rearranging the lowest bracket to include higher habitat scores moves wetlands that would have fallen into the middle bracket (and received larger buffers) into the lowest bracket (and therefore receive smaller buffers). However, wetlands that remain in the middle bracket will have an increased buffer.

**Table 2. Comparison of Analyses Results**

	ATSI			NWWC			NWES			Totals for All Consulting Firms		
	Cat II	Cat III	Cat IV	Cat II	Cat III	Cat IV	Cat II	Cat III	Cat IV	Cat II	Cat III	Cat IV
Increased Buffers	0	16	0	0	2	0	1	4	0	1	22	0
Decreased Buffers	1	5	0	1	2	0	3	14	0	5	21	0
Sample Size	4	23	2	2	6	3	8	28	21	14	57	26



**Figure 1. Comparison of Analyses Results**

### Staff Conclusion of these Analyses

Based on these analyses, it appears that many of Whatcom County's lower quality wetlands (e.g., small wetlands in agricultural fields) would end up with smaller buffers as a result of being reclassified from Category III to Category IV wetlands, but that our higher quality wetlands (Categories III and II) would end up with larger buffers. (But even this is speculation, as ATSI noted that the comparison results are not statistically significant.<sup>7</sup>) Thus, farmers may benefit but developers/builders may suffer, as many of

<sup>7</sup> Paired sample t-tests were conducted to compare the proposed buffer results with categories of the wetlands impacted.

our lower quality wetlands are those found in agriculture fields, while our higher quality wetlands are typically found in non-agriculture rural areas.

### III. Code Amendments

The proposed code amendments would amend WCC 16.16.630, Table 1. Standard Wetland Buffer Widths as shown in Table 1, above.

### IV. Comprehensive Plan Evaluation

The Whatcom County Comprehensive Plan (WCCP) contains one policy regarding wetland buffers:

**Goal 10M:** Conserve and enhance regulated wetlands.

Policy 10M-2: Develop and adopt criteria to identify and evaluate wetland functions that meet the Best Available Science standard and that are consistent with state and federal guidelines.

This policy directs us to use wetland evaluation criteria that are: 1) based on Best Available Science, and 2) consistent with state and federal guidelines.

#### Are the Proposed Amendments Based on Best Available Science?

Yes. However, so are our current buffers. In fact, the DOE claims that both are based on Best Available Science. But, we would either need to keep the current buffers and use the current wetland habitat score system, or adopt the new buffers for use with the updated habitat score system. We cannot use the new habitat score system with our current buffer widths.

#### Are the Proposed Amendments Consistent with State and Federal Guidelines?

Yes. The Department of Ecology has incorporated these new recommendations into their guidance documents (*Wetland Guidance for CAO Updates: Western Washington Version*). This guidance also revises the wetland-specific provisions in the Department of Commerce's [Critical Areas Assistance Handbook](#). And all of these guidance documents are consistent with Federal guidelines.

Therefore, the proposed amendments are consistent with WCCP Policy 10M-2.

### V. Shoreline Master Program Evaluation

Whatcom County's CAO is incorporated by reference into our Shoreline Master Program (SMP). This necessitated applying to DOE for an SMP amendment after we updated our CAO in 2017. We are still awaiting DOE approval for this amendment to the SMP, but staff anticipates that by the time Council acts on these current amendments, the updated CAO will have been incorporated into the SMP by reference. Therefore, these amendments have also been advertised as an amendment to the SMP.

The only policy in the SMP regarding wetland buffers (apart from WCC 16.16.630, Table 1, itself, which is incorporated into the SMP, is WCC 23.90.040(A)(3):

#### **23.90.040 Water quality and quantity.**

##### A. Policies

...

3. Appropriate buffers along all wetlands, streams, lakes, and marine water bodies should be provided and maintained in a manner that avoids the need for chemical treatment.

While this policy calls for “appropriate” buffers, it does not provide guidance as to what “appropriate” is. However, as both the CAO and the SMP are required to use BAS, and since the DOE says that both the current buffers that use the current habitat score system or the new buffers for use with the updated habitat score system are based on BAS, use of either would be considered “appropriate.” Staff thus believes that these amendments are consistent with the SMP.

## VI. Proposed Findings of Fact and Reasons for Action

Staff recommends the Planning Commission adopt the following findings of fact and reasons for action:

1. Whatcom County Planning and Development Services has submitted an application to WCC 16.16.630, Table 1. Standard Wetland Buffer Width.
2. A determination of non-significance (DNS) was issued under the State Environmental Policy Act (SEPA) on March 16, 2019.
3. Notice of the subject amendment was submitted to the Washington State Department of Commerce on February 20, 2019.
4. Comprehensive Plan Policy 10M-2 is “Develop and adopt criteria to identify and evaluate wetland functions that meet the Best Available Science standard and that are consistent with state and federal guidelines.” The proposed amendments are consistent with this policy and the Comprehensive Plan.
5. Shoreline Master Program Policy WCC 23.90.040(A)(3) is “Appropriate buffers along all wetlands, streams, lakes, and marine water bodies should be provided and maintained in a manner that avoids the need for chemical treatment.” The proposed amendments are consistent with this policy and the SMP.
6. The Planning Commission held a duly noticed public hearing on the proposed amendments on March 14, 2019.
7. After discussion and hearing public testimony, the Planning Commission has recommended that Council *X.insert recommendation*.
8. The County Council held a duly noticed public hearing on the proposed amendments on *X.insert date*, 2019.

## VII. Proposed Conclusions

1. The amendments are the public interest.
2. The amendments are consistent with the Whatcom County Comprehensive Plan.
3. The amendments are consistent with the Whatcom County Shoreline Master Program.

## Attachments

- A. Draft Ordinance
- B. 11/29/18 letter from Vikki Jackson (NWES) to Diane Hennessey (DOE)
- C. 10/4/18 letter from K. Jackson (NWWC) to R. Ericson (WC PDS)
- D. 12/3/18 letter from K. Gallina (ATSI) to R. Ericson (WC PDS)

PROPOSED BY: \_\_\_\_\_  
INTRODUCTION DATE: \_\_\_\_\_

ORDINANCE NO. \_\_\_\_\_

**ADOPTING AMENDMENTS TO THE CRITICAL AREAS ORDINANCE, WCC 16.16.630, TABLE 1. STANDARD WETLAND BUFFER WIDTHS, AND THE SHORELINE MASTER PROGRAM (WCC TITLE 23) BY REFERENCE**

**WHEREAS**, in July 2018 the Washington Department of Ecology (DOE) modified the habitat score ranges and recommended buffer widths in their wetland buffer tables, with some minor text changes to ensure consistency.

**WHEREAS**, Some citizens, three local environmental consulting firms, and the Builder Industry Association of Whatcom County have requested this amendment to the Critical Areas Ordinance to adopt the Department of Ecology's revised wetland buffers for use with their revised habitat score system.

**WHEREAS**, The Whatcom County Council reviewed and considered Planning Commission recommendations, staff recommendations, and public comments on the proposed amendments; and

**WHEREAS**, The County Council hereby adopts the following findings of fact:

**FINDINGS OF FACT**

1. Whatcom County Planning and Development Services submitted an application to WCC 16.16.630, Table 1. Standard Wetland Buffer Width.
2. A determination of non-significance (DNS) was issued under the State Environmental Policy Act (SEPA) on March 16, 2019.
3. Notice of the subject amendment was submitted to the Washington State Department of Commerce on February 20, 2019.
4. Comprehensive Plan Policy 10M-2 is "Develop and adopt criteria to identify and evaluate wetland functions that meet the Best Available Science standard and that are consistent with state and federal guidelines." The proposed amendments are consistent with this policy and the Comprehensive Plan.
5. Shoreline Master Program Policy WCC 23.90.040(A)(3) is "Appropriate buffers along all wetlands, streams, lakes, and marine water bodies should be provided and maintained in a manner that avoids the need for chemical treatment." The proposed amendments are consistent with this policy and the SMP.
6. The Planning Commission held a duly noticed public hearing on the proposed amendments on March 14, 2019.
7. After discussion and hearing public testimony, the Planning Commission has recommended that Council **X.insert recommendation**.
8. The County Council held a duly noticed public hearing on the proposed amendments on **X.insert date**, 2019.

## **CONCLUSIONS**

1. The amendments to the development regulations are the public interest.
2. The amendments are consistent with the Whatcom County Comprehensive Plan.
3. The amendments are consistent with the Whatcom County Shoreline Master Program.

**NOW, THEREFORE, BE IT ORDAINED** by the Whatcom County Council that:

Section 1. WCC 16.16.630, Table 1. Standard Wetland Buffer Widths, is hereby amended to read as follows:

Wetland Category	Habitat Function Score	Land Use Intensity*		
		High	Moderate	Low
		Buffer Width (feet)		
Category I				
	8 – 9	300	225	150
	6 – 7	150	110	75
	< 5 – 3	100	75	50
Category II				
	8 – 9	300	225	150
	6 – 7	150	110	75
	< 5 – 3	100	75	50
Category III				
	8 – 9	300	225	150
	6 – 7	150	110	75
	< 5 – 3	80	60	40
Category IV				
	8 – < 3	50	40	25

ADOPTED this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

WHATCOM COUNTY COUNCIL  
WHATCOM COUNTY, WASHINGTON

ATTEST:

\_\_\_\_\_  
Dana Brown-Davis, Council Clerk

\_\_\_\_\_  
Rud Browne, Council Chair

APPROVED as to form:

( ) Approved      ( ) Denied

\_\_\_\_\_  
Civil Deputy Prosecutor

\_\_\_\_\_  
Jack Louws, Executive

Date: \_\_\_\_\_



November 29, 2018

Ms. Diane H. Hennessey  
Wetlands/401 Unit  
Washington State Department of Ecology  
3190 - 160th Ave. SE  
Bellevue, WA 98008

**RE: DOE Habitat Score and Buffer Recommendations- revised**

Dear Ms. Hennessey,

The memo is a revised version of the memo we submitted to Whatcom County (October 2, 2018). The revisions in this memo are the result of our conference call on November 28, 2018.

The Department of Ecology (DOE) has presented modifications to Habitat Scores within the Wetland Rating System for Western Washington (DOE, July 2018 Modified from Wetland Guidance for CAO Updates Western Washington Version Ecology Publication No. 16-06-001). They have also presented corresponding changes to recommended buffers. Whatcom County has requested wetland professionals indicate if we support the presented changes.

The changes are complex and we wanted to understand how that may affect individual projects and protection in Whatcom County. We have been having similar discussions with the City of Bellingham (COB), so we have included COB wetlands in this analysis. To assess the effects of these proposed changes we reviewed 58 random wetlands Northwest Ecological Services (NES) has rated under the 2014 version of the Wetland Rating System for Western Washington over the past two years. The wetlands were located either within Whatcom County's or the City of Bellingham's jurisdiction. The wetlands were randomly selected from our database and represent a wide range of sites in the lowland areas of Whatcom County.

Attached is a spreadsheet with the Category of each wetland, the overall rating score, scores for the Water Quality, Hydrology and Habitat portions of the rating. We also looked at how the Habitat Score was derived and indicated how it scored (either H, M, or L) on questions H 1.0; H 2.0, H 3.0 for the Rating Forms. We list the current buffer for the rating and the proposed buffer under the new guidance. Buffers that are Red have increased in size and buffers in Green decreased, those in black have not changed.

The included wetlands included Category II, III and IV, but no Category I wetlands were encountered in this sample. Category III were the most numerous wetlands, with Category IV next most numerous. The attached spreadsheet shows the raw data.



**NW ECOLOGICAL SERVICES**

2801 Meridian St, Suite 202, Bellingham, WA 98225  
nwecological.com | t 360.734.9484

Table 1 provides a breakdown of the number of wetlands in each Category and the number of wetlands that scored 5 in the Habitat Portion of the Rating Form. Of the 58 wetlands sampled 19 wetlands (33%) received a score of 5 for Habitat. Investigating which wetlands most often had the score of 5, Category III wetlands received a Habitat score of five 48% of the time, Category II wetlands had this score 38% of the time and Category IV wetlands only 10% of the time.

Table 1. Wetland Category and Habitat Scores of 5 (n=58)

	Wetland Category		
	II	III	IV
# of Wetlands in Category	8	29	21
# of wetlands with habitat score of 5	3	14	2
% of the wetland with habitat score of 5	38%	48%	10%

To further drill down into what is generating the Habitat score on these wetlands we looked at how that Habitat score broke down into the three primary elements of the score (Habitat Function, Landscape Potential and Value to Society). When we looked at all the wetlands that received the score of 5, 79% of the wetlands scored Low in Section 1.0- Habitat Function, High in 2.0 Landscape Potential, and Low in 3.0 Value to Society (LHL).

We also looked at how moving Habitat Scores of 5 into the Low Habitat Function bucket rather than the current Medium Habitat Function might change buffer sizes for wetlands. The result was that in five cases the buffers would increase over the current buffer size and 15 would decrease (see attached spreadsheet, red values are increase to buffer sizes and green are decreases to buffer size). In all the cases where the buffers would become larger the habitat scores were greater than 5 and scores on questions H. 1 and H. 3 were moderate to high, and moderate or high for H.2. In all cases where the wetland buffers would decrease the wetlands received a habitat score of 5 and received primary low scores for questions H.1 and H.3, and moderate or high for H.2.

In summary, this investigation allowed us to better understand what and how the proposed changes to the Habitat Scoring and buffers would affect projects and wetland protection. From our data we found:

- Category III and IV wetlands are most frequent in our reviews.
- Habitat scores of 5 occur frequently and are more common in Category II and III wetlands than Category IV wetlands. Moving wetlands with a habitat score of 5 would affect many wetlands, most in the Category II and III categories.
- When the Habitat Score is 5 the most frequent scoring combination is: Low for question H1.0 (Habitat Functions); High for Question 2.0 (Landscape Potential); and Low for H3.0 (Habitat Value to Society) (LHL). This appears to indicate that wetlands with a Habitat Score of 5 are providing lower levels of habitat functions and services to society; but are located in the landscape that are fairly well connected and less fragmented. Buffer sizes that are designed

to protect wildlife functions may not be appropriate in these cases, as the wetlands are primarily providing water quality improvement and hydrological support functions. This brings up the question: Is the location of the wetland irrespective of actual habitat it provides, more important when the wetland is located in a "corridor" or higher quality habitat? Should wetlands in these situations receive larger buffers? If the wetland does not have features that support wildlife in a meaningful way, should we be requiring buffer sizes that are based on habitat protection? This would be a good topic to discuss with other professionals in the field.

- Wetland buffers will change for some wetlands under the proposed buffer recommendations. In our review only five wetlands had increases in buffer size, but 15 wetlands would have decreased buffer size. In all cases the buffer decreases were associated with wetlands that received a score of 5 for habitat. The wetlands where buffers would increase had more complex scorings on the Habitat section of the rating forms, indicating a larger buffer may be more appropriate. Where buffers would decrease, the majority of wetlands (79%) had a score component of LHL. They scored low for overall habitat function; high on the landscape potential of the wetland; and low on the overall value of the wetland to society. These wetlands' Habitat Scores were a product of where they were located, not the functions they provide or their importance to society. It seems appropriate to decrease buffer sizes for these wetlands as they are primarily providing water quality improvement and hydrological functions where smaller buffers are more appropriate.

Based on these findings we support Whatcom County adopting the recommendations presented in the Washington State Department of Ecology's July 2018 *Modified from Wetland Guidance for CAO Updates Western Washington Version Ecology Publication No. 16-06-001*

Please let me know if you have any questions regarding this letter or the data presented.

Sincerely,



Vikki Jackson  
PWS, Senior Ecologist  
Northwest Ecological Services, LLC

cc: Kim Weil, City of Bellingham  
Ryan Ericson, Whatcom County PDS

Attachments:  
Spreadsheet, wetland rating raw data from 58 wetlands  
Existing and proposed buffer revisions for Whatcom County  
Existing and proposed buffer revisions for the City of Bellingham

[illegible]

Current County Code

Habitat score 3-4

Wetland Category	high Intensity	moder intensity	low intensity
I	100	75	50
II	80	60	50
III	80	60	50
IV	50	40	25

Habitat score 5-7

Wetland Category	high Intensity	moder intensity	low intensity
I	150	110	75
II	150	110	75
III	150	100	60
IV	50	40	25

Habitat score 8-9

Wetland Category	high Intensity	moder intensity	low intensity
I	300	225	150
II	275	150	100
III	150	110	75
IV	50	40	25

Revised following DOE Guidance Sheet

Habitat score 3-5

Wetland Category	high Intensity	moder inten:	low intensity
I	100	75	50
II	100	75	50
III	80	60	40
IV	50	40	25

Habitat score 6-7

Wetland Category	high Intensity	moder inten:	low intensity
I	150	110	75
II	150	110	75
III	150	110	75
IV	50	40	25

Habitat score 8-9

Wetland Category	high Intensity	moder inten:	low intensity
I	300	225	150
II	300	225	150
III	300	225	150
IV	50	40	25

Current City Code

Habitat score 3-4

Wetland Category	high Intensity	moder intensity	low intensity
I	100	75	50
II	100	75	50
III	80	60	50
IV	50	40	25

Habitat score 5-7

Wetland Category	high Intensity	moder intensity	low intensity
I	150	110	75
II	150	110	75
III	150	100	60
IV	50	40	25

Habitat score 8-9

Wetland Category	high Intensity	moder intensity	low intensity
I	200	190	150
II	200	150	100
III	150	110	75
IV	50	40	25

Revised following DOE Guidance Sheet

Habitat score 3-5

Wetland Category	high Intensity	moder inten:	low intensity
I	100	75	50
II	100	75	50
III	80	60	40
IV	50	40	25

Habitat score 6-7

Wetland Category	high Intensity	moder inten:	low intensity
I	150	110	75
II	150	110	75
III	150	110	75
IV	50	40	25

Habitat score 8-9

Wetland Category	high Intensity	moder inten:	low intensity
I	300	225	150
II	300	225	150
III	300	225	150
IV	50	40	25

# Northwest Wetlands Consulting, LLC

1214 Xenia Street, Bellingham, WA | 360-510-1605 | nwckatrina@comcast.net

October 4, 2018

Ryan Ericson Whatcom County Planning  
5280 Northwest Ave  
Bellingham, WA 98226

## RE: Buffer Modification

Dear Ryan,

We reviewed 21 random wetlands rated by our firm in 2018 under the 2014 rating system.

When applying the modified chart, changes resulted in Cat II and Cat III wetlands. In "green" you will see that 3 buffers decreased and in "red" that 2 buffers increased. While I would prefer a solution with a less restrictive maximum buffer reduction at current 75% retention, based upon our review of local County and City of Bellingham wetlands we have rated, I can support the modified buffer plan.

Land Use Intensity	Category	Habitat Rating	Buffer	Modified Buffer	
High	III	LMH 6	150	150	
High	III	LLM 4	80	80	
High	IV	LMM 5	50	50	
High	III	LMM 5	150	80	
High	IV	LHH 7	50	50	
Moderate	III	LMM 5	100	60	
Moderate	II	MML 5	110	75	
Moderate	IV	LHM 6	40	40	
Moderate	III	MMH 7	100	110	
Moderate	II	MLH 6	110	110	
Moderate	III	MMM 6	100	110	
10 Mod/High	III/ IV	3 or 4			No change



Katrina Jackson

Northwest Wetlands Consulting, LLC



3 December 2018

Ryan Ericson  
Whatcom County Natural Resource Director  
5280 Northwest Drive Suite B  
Bellingham, WA 98226

Re: Ecology Buffer Update Recommendations

Dear Mr. Ericson,

Recently the Washington State Department of Ecology (Ecology) modified the Habitat Scores within the Wetland Rating System for Western Washington (Ecology 2018). They also suggested changes to recommended buffers in association with the modified habitat scores. This letter is in response to your inquiry regarding our associated recommendations.

### **Methods**

To understand the outcome of adopting changes to recommended buffers, we followed the methods described by Northwest Ecological Services (NES) in their response letter (Jackson, V. 2018). We reviewed 30 random wetland ratings performed by our firm within the last two years using the 2014 update for the Washington State Wetland Rating System for Western Washington (Hruby 2014). In Table 1 below, proposed buffers with **green highlight** are those decreasing and proposed buffers with **red highlight** are those increasing. Please note, the results provided are not statistically significant. Paired samples t tests were conducted to compare the proposed buffer results with categories of the wetlands impacted.

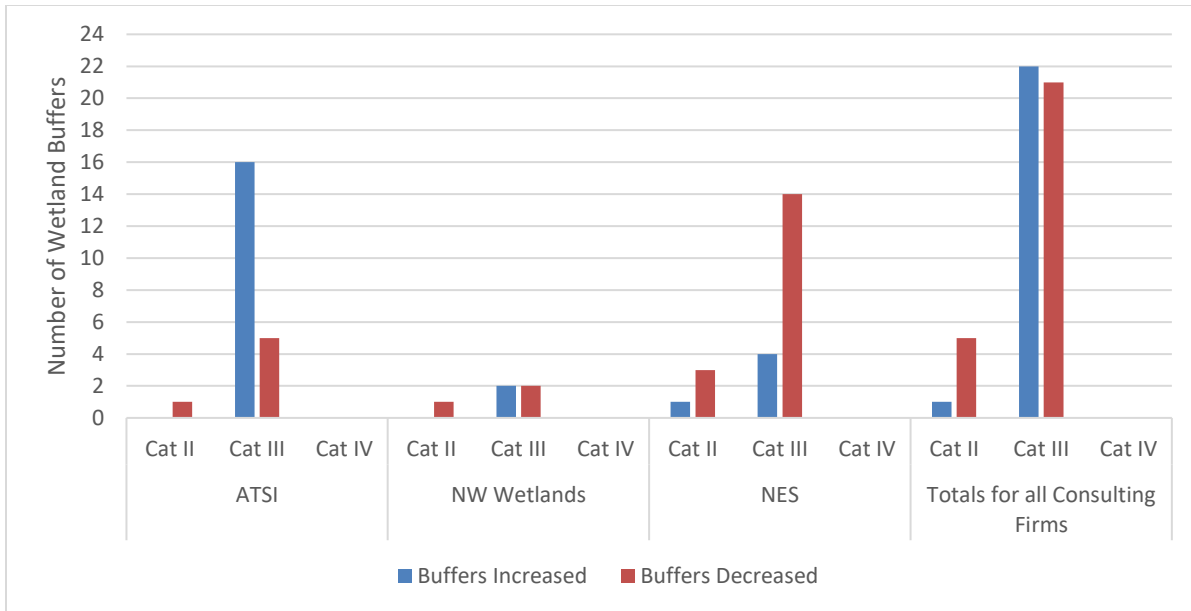
### **Results**

We observed Category III wetland buffers impacted most by the proposed update, 21 of the 23 (91%) (Table 2) Category III wetlands sampled would experience a buffer change. We noted many of our sample wetlands, 23 out of the total 29 (79%) (Table 2), were Category III and therefore compared our results with those of Northwest Wetlands Consulting (NW Wetlands) (Jackson, K. 2018) and NES (Jackson, V. 2018) (Figure 1; Table 2). NW Wetlands sampled two Category II wetlands, six Category III wetlands, and two Category IV wetlands (Jackson, K. 2018; Table 2). NES sampled eight Category II wetlands, 28 Category III wetlands, and 26 Category IV wetlands (Jackson, V. 2018; Table 2). NW Wetlands' results showed one of two (50%) Category II wetland buffers being impacted, four of six (67%) Category III wetland buffers being impacted, and zero of three (0%) Category IV wetland buffers being impacted (Jackson, K. 2018; Table 2).



NES' results showed six of 14 (43%) Category II wetland buffers being impacted, 18 of 28 (64%) Category III wetland buffers being impacted, and zero of 26 (0%) Category IV wetland buffers being impacted (Jackson, V. 2018; Table 2).

<b>Table 1. ATSI Proposed Buffer Update Analysis Results</b>					
<b>Category</b>	<b>Total Rating Score</b>	<b>Habitat Score</b>	<b>Land Use Intensity</b>	<b>Current Buffer (ft)</b>	<b>Proposed Buffer (ft)</b>
III	17	5	H	150	80
IV	15	4	M	40	40
IV	12	4	M	40	40
III	16	4	M	60	60
III	17	6	M	100	110
II	21	6	M	110	110
III	17	6	M	100	110
II	21	7	M	110	110
III	18	6	M	100	110
III	17	6	M	100	110
III	17	6	M	100	110
III	17	6	M	100	110
III	17	6	M	100	110
III	17	7	M	100	110
III	17	6	M	100	110
III	18	7	M	100	110
III	18	7	L	60	75
III	17	6	L	60	75
III	18	7	L	60	75
III	19	5	M	100	60
III	17	5	H	150	80
III	17	5	M	100	60
III	15	5	M	40	40
II	21	7	M	110	110
III	17	6	M	100	110
III	19	5	M	100	60
II	20	5	M	110	75
III	19	7	M	100	110
III	15	4	M	40	40
III	15	4	M	40	40



**Figure 1. Proposed Buffer Update Analysis Results Comparison**

	ATSI			NW Wetlands			NES			Totals for All Consulting Firms		
	Cat II	Cat III	Cat IV	Cat II	Cat III	Cat IV	Cat II	Cat III	Cat IV	Cat II	Cat III	Cat IV
<b>Buffers Increased</b>	0	16	0	0	2	0	1	4	0	1	22	0
<b>Buffers Decreased</b>	1	5	0	1	2	0	3	14	0	5	21	0
<b>Sample Size</b>	4	23	2	2	6	3	8	28	21	14	57	26

After comparing results, we concluded approximately equal portions of Category III wetland buffers will increase (22) and decrease (21) as a result of adopting the proposed recommended buffers (Figure 1; Table 2). We also concluded that a small portion (43%) of Category II wetland buffers will experience changes and that Category IV wetland buffers will experience very little change (Figure 1; Table 2).

Rather than resulting in an addition to or loss of buffer space, the recommendations set forth by Ecology result in a redistribution of buffer space with greater emphasis on habitat score. This emphasis on habitat score comes from the rearrangement of the buffer determination brackets (Ecology 2018). Rearranging the lowest bracket to include higher habitat scores moves wetlands that would have fallen into the middle bracket and received larger buffers, into the lowest bracket and therefore receive smaller buffers. Many wetlands that remain in the middle bracket will receive an increased buffer.

## **Conclusion**

Based on our results, due to the redistribution of buffer space with an emphasis on habitat function, we support Whatcom County adopting the buffers recommended by Ecology (Ecology 2018).

Please let us know if you have questions regarding our data or conclusions.

Respectfully,



Karla Gallina, BS, PWS, CERP  
President & Senior Biologist  
Qualified WSDOT BA Author  
[KarlaG@AquaTerrSystemsInc.com](mailto:KarlaG@AquaTerrSystemsInc.com)



Nicholas Denk, BS  
Associate Biologist  
[NickD@AquaTerrSystemsInc.com](mailto:NickD@AquaTerrSystemsInc.com)

## **References**

Hruby, T. 2014. Washington State Wetland Rating System for Western Washington: 2014 Update. (Publication #14-06-029). Olympia, WA: Washington Department of Ecology.

Jackson, K. October 2018. Buffer Modification. Northwest Wetlands Consulting LLC.

Jackson, V. October 2018. DOE Habitat Score and Buffer Recommendations. Northwest Ecological Services.

Washington State Department of Ecology. July 2018. Modified from Wetland Guidance for CAO Updates Western Washington Version Ecology (Publication No. 16-06-001).