Evaluation of different riparian area widths on number of intersecting parcels and changes to housing capacity within Urban Unincorporated King County.
March 26, 2025

PURPOSE AND OVERVIEW

The Executive has proposed updates to the Critical Areas Ordinance (CAO). Council Central Staff requested additional information and analysis of potential development impacts of proposed updates to riparian area widths in Urban Unincorporated King County (UUKC), including comparison of current widths for type Shoreline (S) and Fish Bearing (F) streams (115 feet), the Executive Proposal to increase riparian area widths for Type S and F streams in UUKC to 180 feet, and the 200 foot width generally indicated for riparian area widths in the updated BAS Review. (The 200-foot width is proposed outside the Urban Growth Area but is not proposed for UUKC).

Based on a meeting with Council Central Staff, Executive Staff committed to doing additional GIS analysis to determine the numbers of parcels in UUKC that would be newly impacted by the proposed increase in riparian area widths, and to break out the results by subarea planning geographies. A key caveat is that actual impacts on development capacity can only be determined through the permitting process at a property scale, considering zoning, the presence of other critical areas on the property, as well as code allowances for buffer averaging and provisions for Reasonable Use Exceptions that are required by law. Further, it's important to note that this analysis is using current, proposed, and BAS-indicated riparian area widths for Type S and F streams where the widest width is applied; Executive staff made this conservative assumption for the analysis because Types S and F are the most prevalent stream types. In actual application of the code, if streams were determined to be Type N or O during the critical areas review, smaller riparian area widths would apply. In other words, this analysis will tend to **overestimate** the number of parcels newly impacted.

RESULTS

Based on the GIS analysis, the following table includes the numbers and percentages of parcels that would be newly impacted by an increase in riparian areas widths from 115 feet to 180 feet, or to 200 feet:

Table 1. Number of Parcels in Urban Unincorporated KC Intersected by Existing, Proposed, and Best Available Science-Suggested Riparian Areas Widths

Community Service Area (CSA) or Potential Annexation Area (PAA)	Stream miles	115 ft riparian (Existing)	180 ft riparian (Proposed)	200 ft riparian (BAS suggested)	Additional # of parcels affected by increasing from 115 ft to 180 ft	Additional # of parcels affected by increasing from 115 ft to 200 ft	Additional # of parcels affected by increasing from 180 ft to 200 feet
Bear Creek/Sammamish Area CSA	7.2	74	150	186	76	112	36
East Federal Way PAA	16.3	880	1,197	1,314	317	434	117
East Renton PAA	8.1	386	521	558	135	172	37
Fairwood PAA	12.7	658	904	994	246	336	90
Greater Maple Valley/Cedar River CSA	0.1	7	9	12	2	5	3
North Highline PAA	4.8	188	244	266	56	78	22
Other Urban UKC PAAs	22.8	523	733	818	210	295	85
SE King County CSA	3.3	125	137	143	12	18	6
Skyway West Hill PAA	4.3	336	484	557	148	221	73
Snoqualmie Valley NE King County CSA	15.4	508	572	602	64	94	30
Grand Total	**95.0**	**3,685**	**4,951**	**5,450**	**1,266**	**1,765**	**499**

For reference, 1,266 parcels newly impacted by increasing the riparian area under the Executive Proposed riparian-area width in UUKC from 115 feet to 180 feet represents 3.4 percent of the 37,178 parcels in the area analyzed.

Additionally, Executive Staff committed to provide additional analysis of changes in riparian area widths on housing capacity and to put in context overall housing capacity and housing targets for the urban unincorporated area, consistent with the 2024 Comprehensive Plan land capacity analysis, to estimate the residential development capacity potentially affected by the previously specified riparian buffer widths.

Table 2. Potential Housing Unit Capacity in Urban Unincorporated KC Impacted by Current, Proposed, and Best Available Science-Suggested Riparian Area Widths

Community Service Area (CSA) or Potential Annexation Area (PAA)	Stream miles	Capacity potentially affected by 115 ft riparian area	Capacity potentially affected by 180 ft riparian area	Capacity potentially affected by 200 ft riparian area (BAS suggested)	Potential decrease in housing units by increasing riparian widths from 115ft to 180 ft	Potential decrease in housing units by increasing riparian widths from 115ft to 200 ft	Potential decrease in housing units by increasing riparian widths from 180 to 200 feet
Bear Creek/Sammamish Area CSA	7.2	0	0	0	0	0	0
East Federal Way PAA	16.3	1,726	1,963	2,003	237	277	40
East Renton PAA	8.1	721	800	817	79	96	17
Fairwood PAA	12.7	704	887	894	183	190	7
Greater Maple Valley/Cedar River CSA	0.1	0	0	0	0	0	0
North Highline PAA	4.8	188	230	233	42	45	3
Other Urban UKC PAAs	22.8	708	845	903	137	195	58
SE King County CSA	3.3	53	53	53	0	0	0
Skyway West Hill PAA	4.3	781	939	950	158	169	11
Snoqualmie Valley NE King County CSA	15.4	45	46	46	1	1	0
Grand Total	**95.0**	**4,926**	**5,763**	**5,899**	**837**	**973**	**136**

KEY TAKEAWAYS

1. **These are high-level, conservative estimates that likely overstate the impact to residential capacity.**
2. The ***existing*** riparian area width for Type S and F streams of 115 feet impacts 3,685 parcels. Increasing the width to 180 feet (Executive Proposal) is conservatively estimated to newly impact an additional 1,266 parcels. Increasing to 200 feet would newly impact and estimated 1,765 parcels (difference of 499 from 180 feet). This analysis applies to a total of 37,178 parcels in the UUKC.
3. Varying the riparian area width has a relatively small estimated impact on residential capacity (see Table 2). The ***existing*** riparian width of 115 feet affects 4,926 units of residential capacity. Increasing to the 180-foot riparian area width could affect 837more units of residential capacity. Increasing to the 200-foot riparian area width could affect an additional 136 units of capacity.
4. Overall, the riparian area's estimated impact on UUKC residential capacity overall (regardless of riparian width) will not significantly affect King County's ability to accommodate planned growth in UUKC. The land capacity analysis from the 2024 Comprehensive Plan estimated approximately 29,000 units of residential capacity in UUKC, sufficient to accommodate the projected 5,412 units of housing growth 2019-2044.

OTHER FACTORS AFFECTING DEVELOPMENT

Being newly impacted by a riparian area width has the practical effect of triggering additional critical areas review for permits for new development, redevelopment, and remodels. Additionally, depending on how much of the property is constrained by the riparian area, it could limit the ability to achieve zoned density, though in some cases the presence of other critical areas (e.g. wetlands, frequently flooded areas, steep slopes, landslide hazard areas) may already effectively limit the potential to meet zoned density. It's not uncommon for development proposals to have more than one critical area and critical areas permit conditions applied to the permit. For the period from

2019 to 2021, 40 percent of development permits included a critical areas condition. Nine percent of permits had conditions related to both riparian areas and wetlands. Below is a table from Best Available Science (BAS) Report, p. 203, summarizing percentages of permit applications from 2019-2021 for which critical areas conditions were applied for all critical areas, riparian areas, and/or wetlands.

Table B.1 Critical Areas screening trends and housing development.

	Count	Percent
Processed Housing Permits (2019-2021)	933	100%
Any Critical Area Condition on Permit	370	40%
Riparian Area *or* Wetland Buffer Condition	270	29%
Wetland Buffer Condition	197	21%
Riparian Area Condition	158	17%
Riparian Area *and* Wetland	85	9%

ADDITIONAL INFORMTION ON METHODOLOGY

The first analysis evaluates how many parcels within UUKC are intersected by a 115ft, 180ft and 200 ft riparian buffer. "Intersected" means any part of a parcel touching any part of a riparian area; so, there will be a range of how much of a parcel's area intersects, from almost none, to an entire parcel. For ease of analysis, Executive Staff assumed all urban streams were Type F/S streams. This will slightly ***overstate*** the potential impact of number of parcels and housing capacity.

The second analysis uses the data from the first analysis to evaluate how development potential would be affected.

Both Analysis 1 and 2 focused on UUKC to be consistent with: housing targets, which only apply to the Urban Growth Area (UGA); allocated housing needs in the Countywide Planning Policies (CPPs), which only apply to the UGA; housing capacity analysis in the Comp Plan, which only applies to the UGA, and Growth Management Act, VISION, CPP, and Comp Plan requirements to focus development in the UGA.

Analysis 1: Number of parcels affected by riparian buffers

Process:

1. Generate stream buffers of 115', 180' and 200' using GIS data for double banked major rivers and the most current streams layer.
2. Select all parcels in UUKC where any portion of the parcel intersects the riparian buffers.
3. Generate tallies using subarea planning geographies (urban Potential Annexation Areas and the urban portions of applicable rural Community Service Areas). Other urban unincorporated areas not in a subarea planning geography were also included to address the remainder of UUKC. Two rural Community Service Area subarea planning geographies were not included in the capacity analysis because they do not have urban unincorporated areas: Four Creeks/Tiger Mountain, and Vashon/Maury Island.

Parameters: Excludes public parcels, golf courses, tracts, greenbelts, and Rights-of-Way consistent with the 2024 Comprehensive Plan land capacity analysis.

Analysis 2: Capacity Analysis

Process:

1. Obtain the parcel size and number of existing units on affected parcels (i.e. parcels intersecting a riparian area).
2. Overlay the affected parcels with current zoning.
3. Multiply each parcel's area by the base density for each zone. For each parcel, calculate potential number of units by rounding to the nearest whole number.
4. Compare the existing units to maximum units (under zoning). Where a non-vacant parcel has a maximum / existing >=2, consider this parcel as "redevelopable." Subtract the number of existing units from the potential number of units to assign net capacity.
5. Sum the net capacity of affected vacant and redevelopable parcels by the same geographies in Analysis 1.

Sources of existing number of units and zoning allowance:

- Existing number of units: Assessor's extracts for residential, condo, and apartment buildings.
- The following base zoned densities were applied in non-residential zones:
    - CB -48 units/ac
    - I – 0 units/ac
    - NB – 8 units/ac
    - UR – 1 unit / 5 acres
- Mobile Home (Present Use): 1 unit
- Mobile Home Park (Present Use): zero capacity

Caveats:

- Parcels are considered redevelopable regardless of improvement value. Some vacant parcels may have low development viability due to other constraints, e.g. presence of steep slopes, wetlands, etc.
- Excludes parcels in current use taxation, consistent with the 2024 Comprehensive Plan land capacity analysis.