

PLANNING AGENCY DISCUSSION TOPICS AUGUST 7, 2006 MEETING

Wetland and Stream Buffers

Should wetland buffers be revised?

Status: The current wetland buffer widths cannot meet Best Available Science (BAS) because they are based on an outdated classification system (King County three-tier system). Additionally, the buffer widths are below those recommended by Ecology.

BAS Recommendation: Ecology provides several alternatives for establishing buffers as described below (Tables 1-3). Based on the findings of the critical areas inventory, Ecology's Alternative 3 for buffer widths would provide the City with the most flexibility.

Alternative 1 – based only on rating; simplest but most restrictive.

Table 1. Alternative 1 Buffer Widths based on Wetland Category.

Category of Wetland	Width of Buffer (feet)
IV	50
III	150
II	300
I	300

April 2005, Appendix 8C.2.3, Ecology Publication #05-06-008

Alternative 2 – based on rating and intensity of impacts from proposed activity.

Table 2. Alternative 2 Buffer Widths based on Wetland Category and Intensity of Land Use Impacts.

Category of Wetland	Low Impact	Moderate Impact	High Impact
IV	25	40	50
III	75	110	150
II	150	225	300
I	150	225	300

Alternative 3 – based on the rating, intensity of impacts, and functions or sensitivity of wetland to disturbance. Alternative 3 includes criteria to increase, decrease and average buffers.

Table 3. Alternative 3 Buffer Widths based on Wetland Category, Intensity of Land Use Impacts and Degree of Wetland Function or Special Characteristics.

Category IV Wetlands	Width of Buffer (feet)
Low functions	25-50
Category III Wetlands	
Moderate Habitat function	75-150
None of the above characteristic	40-80
Category II Wetlands	
High Habitat function	150-300
Moderate Habitat function	75-150
Estuarine, Interdunal*	75-150
High Water Quality function and Low Habitat function	50-100
None of the above characteristics	50-100
Category I Wetlands	
Natural Heritage Wetlands, Bogs*	125-250
Estuarine, Wetlands in Coastal Lagoons	100-200
High Habitat function	150-300
Moderate Habitat function	75-150
High Water Quality function and Low Habitat function	50-100
None of the above characteristics	50-100

*There are no interdunal wetlands in the City of Des Moines; bogs are extremely unlikely.

Planning Agency Recommendation:

Council Environment Committee Recommendation:

City Council Recommendation:

Should stream buffers be revised?

Status: Existing stream protection provided by the DMMC is in two categories: “Significant” streams (Types 1, 2, 3) have 100-ft buffers, while “Important” streams (Type 4, 5) have 35-ft buffers. Under the Forest Practices Board stream typing system, “Significant” corresponds to Types S and F, and “Important” corresponds to Types Np and Ni. Mapped Type U streams are most likely non-fish bearing, and would have a 35-ft buffer (Table 4).

Table 4. City of Des Moines streams as mapped by the State Forest Practices Board.

Stream (North to South)	Permanent DNR Stream Type	Current Buffer (ft)
Des Moines Creek	F	100
Massey Creek		
Main Stem	F, N	100 (type F reach), 35 (type N reach)
South Fork	F, N	
North Fork (Barnes Creek)	U	100, 35 likely 35
Unnamed Creek 1 (Zenith)	N	35
McSorley Creek		
Main Stem	F	100
Small Tributaries	N	35
South Fork	F	100
North Fork	N, U	35, likely 35
Unnamed Creek 2	N	35
Unnamed Creek 3	N	35
Woodmont Creek		
Lower Creek	F	100
Upper Creek	N	35
Unnamed Creek 4	U	likely 35
Redondo Creek		
Main Stem	F	100
Tributaries	N, U	35, likely 35
Cold Creek		
Mainstem	F	100
Tributary	U	likely 35

Because streams are not regulated technically as critical areas, State BAS guidance (CTED et al. 2003) does not specifically address buffer function and effective widths. However, King County reviewed this issue during their 2004 CAO update (King County, 2004). Buffer functions considered in that document included sediment removal/erosion control, pollutant removal, large woody debris recruitment, water temperature protection, wildlife habitat, microclimate protection, organic litter production, and bank stabilization.

The buffers adopted by King County were dependent on stream type, urban vs. rural area, and whether a specific stream was considered highly functioning and therefore eligible for additional protections. King County’s landscape is developed far less than

the City of Des Moines', with large areas of completely undeveloped land, therefore only the urban buffer requirements are comparable to the City (Table 5).

Table 5. King County CAO Aquatic Environments (Stream) Buffers for Urban Environments.

Stream Type	Buffer, standard (ft)	Buffer, high quality (ft)
S	115	165
F	115	165
N	65	65
O¹	25	25

¹ Aquatic environment with no surface water connection to fish bearing streams.

BAS Recommendation: The King County stream buffers would be reasonable for the City to adopt. The current City stream buffer widths are below or at the low-end of effective widths for various buffer functions as reviewed by King County during its Critical Areas Ordinance update (King County 2004), and below the buffer widths adopted by the County for urban areas. However, most streams within the City flow through ravines or below steep slopes, and include habitat and/or wetlands areas, providing them with additional critical areas protections. The steep topography surrounding many of the streams has many developments more than 100 ft away. Large reaches of Des Moines Creek, Massey and Barnes Creeks, McSorley Creek, Woodmont Creek, and Redondo Creek are located within public parks that provide additional protection from encroachment. In the remaining, built-out areas of the City, many stream buffer areas outside of the ravines and parks have already been developed to the edge or inside of the buffer.

In lieu of adopting the King County stream buffers, the City could evaluate their streams on a stream-by-stream and reach-by-reach basis. Another option would be to research work done in other communities to determine measures that could be adapted for the City of Des Moines. Both of these options are time and cost intensive.

Planning Agency Recommendation:

Council Environment Committee Recommendation:

City Council Recommendation: