

Appendix A

Sample Template for Estimating Tree Clearing Impacts

Diameter of Tree at Breast Height (DBH) (inches)	Number of Trees of this DBH	Estimated Tree Basal Area Alteration (square feet) ⁽¹⁾	Estimated Tree Canopy Alteration (square feet) ⁽²⁾	Total Wetland Alteration (square feet) ⁽³⁾
4	1	0.09	133.3	133.3
5	1	0.14	133.3	133.4
6	1	0.20	133.3	133.4
7	1	0.27	133.3	133.5
8	2	0.70	266.5	267.2
9	2	0.88	266.5	267.4
10	2	1.09	266.5	267.6
11	2	1.32	266.5	267.8
12	2	1.57	266.5	268.1
13	2	1.84	266.5	268.3
14	2	2.14	266.5	268.6
15	2	2.45	266.5	269.0
16	2	2.79	266.5	269.3
17	2	3.15	266.5	269.7
18	2	3.53	266.5	270.0
19	2	3.94	266.5	270.4
20	2	4.36	266.5	270.9
22	1	2.64	133.3	135.9
23	1	2.88	133.3	136.1
24	1	3.14	133.3	136.4
25	2	6.81	266.5	273.3
30	1	4.91	133.3	138.2
Totals	36	50.83	4797.00	4847.83

Table Notes:

(1) Spreadsheet Formula: $=((3.14/4)*((A2/12)^2))*B2$

(2) Spreadsheet formula $=205*B2*0.65$. Tree canopy estimates should be determined in the field based on an assessment of the average drip line radius associated with the trees proposed to be selectively cut. In this example, if the average tree line drip radius of the trees proposed to be selectively removed is approximately 10 feet per tree (diameter 20 feet per tree), this translates to an approximate total canopy area of approximately 315 square feet per tree ($A = \pi r^2$). Then, based on visual observations made in the field, estimate the total percent cover of the tree layer to be altered by the selective tree removal using the methodology prescribed in MassDEP's BVW Delineation Handbook. For example, if the total estimated percent cover is 65% this would result in a refined canopy area impact estimate of approximately 205 s.f per tree (0.65×315 s.f.). Percent cover is the percent of the ground surface that would be covered if the foliage from a particular species or layer were projected onto the ground, ignoring small gaps between the leaves and branches. This methodology assumes the understory and shrub/sapling layers remain substantially intact and undisturbed as a result of selective tree removal, with mechanized equipment operating in the adjoining uplands and reaching into the wetlands or work is otherwise conducted by hand operated equipment (chainsaws, etc). This methodology does not apply to clear cuts or equipment operating in wetlands on construction mats that would disturb the surface of the wetland and understory vegetation.

(3) Total wetland alteration estimate includes the estimated basal area and percentage of tree canopy to be removed. This impact estimate is limited to the selective tree removal and does not take into account other wetland impacts that might be associated with a particular project.