

Appendix 5. Riparian Vegetation Plot Data and Research Methods

An inventory of the riparian units was begun in July 2007. This work is preliminary and further data need to be collected prior to the recommendation and implementation of management actions. During initial vegetation survey work, we established 12 cross-riparian step transects.¹

Using this methodology, we walked 8 of the 12 transects and counted our steps within each clearly defined cover type (e.g., disturbed logging, active (perennial) or seasonally dry channel, road surface, etc.) or plant habitat or community type. We were then able to estimate the area occupied by each unique cover or habitat/community type within each unit by dividing the number of steps taken within that type by the total number of steps. ²

We also began a more in-depth vegetation data collection effort within certain cover or habitat types throughout both riparian units. This methodology involves establishing a 10 meter by 10 meter plot within a previously defined cover type (e.g., disturbed logging) or habitat type (e.g., Engelmann spruce-field horsetail). We recorded all tree species within this plot, as well as cover, density,

age class distribution, and diameter at breast height (dbh) for each tree species.

Within the larger 10m x 10m plot, we then established a 5m x 5m plot in which we recorded shrub species cover and age class distribution. Finally, we randomly placed four 0.5m x 1m quadrats within the larger 10m x 10m plot to record cover of herbaceous species (graminoid, forb, and fern or fern-like species), as well as shrub sprouts or seedlings. We made every attempt to place the 10m x 10m plot in an area that captured the tree, shrub, and herbaceous characteristics of the larger cover or habitat type.

¹ The step transect method is based on protocols described in: Winward, A.H. 2000. Monitoring the vegetation resources in riparian areas. Gen. Tech. Rep. RMRS-GTR-47. Ogden, UT. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 49 p.

² Plant community and habitat types are based on classification by: Hansen, P.L., R.D. Pfister, K. Boggs, B.J. Cook, J. Jay, and D.K. Hinckly. 1995. Classification and management of Montana's riparian and wetland sites. Miscellaneous Publication No. 54. Missoula, MT. Montana Forest and Conservation Experiment Station, School of Forestry, The University of Montana. 646 p.

RIPARIAN VEGETATION PLOT DATA	
DATE	7/27/2007
DATA COLLECTORS	R. Sydnor
TRANSECT NUMBER	6
COVER TYPE NUMBER (from X-Section Data Form)	CT #9 (Picea/Equisetum arvense HT)

10M X 10M TREE PLOT						
Species	% Cover	% Age Class Delineation within Species				
		Seedling / Decadent	Sapling / Decadent	Pole / Decadent	Mature / Decadent	Dead
Abilas	15				100 / 0	
Piceng	30				100 / 0	
Total	45					
Species		Density & DBH by Age Class				
		Seedling	Sapling	Pole	Mature	Dead
Abilas (dbh)					15", 12"	
Abilas (density)					2	
Piceng (dbh)					25", 9"	
Piceng (density)					2	

5M X 5M SHRUB PLOT						
Species ¹	% Cover	% Age Class Delineation within Species				
		Seed / Sap / Decadent	Mature / Decadent	Dead		
Alninc	3	0	100 / 0	0		
Corsto	5	0	100 / 0	0		
Rhaaln	15	20 / 0	80 / 0	0		
Ribes spp.	1	0	100 / 0	0		
Rubida	1	100 / 0	0	0		
Rubpar	20	20 / 0	80 / 0	0		
Symocc	30	60 / 0	30 / 10	10		
Total	75					

1 - Incidental species include: Spibet, Pruvir, Roswoo, Samrac, Corcan, Berrep

HERBACEOUS PLOTS (2 m ² total area)						
Species	% Cover by Quadrat (0.5 m X 1.0 m)					
	Q1	Q2	Q3	Q4	Mean Cover	Constancy
Aranud	8	7	40	0	13.75	0.75
Athfel	0	0	0	6	1.5	0.25
Berrep	0	0	2	2	1	0.5
Carex spp.	0	0	2	0	0.5	0.25
Elygla	4	2	3	0	2.25	0.75
Equarv	55	35	0	40	32.5	0.75
Galium spp.	1	4	3	1	2.25	1
Gymdry	12	15	5	16	12	1
Poa spp.	3	0	0	0	0.75	0.25
Pruvir	0	2	0	0	0.5	0.25
Roswoo	0	0	1	0	0.25	0.25
Rubpar	0	5	1	8	3.5	0.75
Senecio spp.	0	0	0	10	2.5	0.25
Smiste	1	1	0	0	0.5	0.5
Spibet	0	2	0	0	0.5	0.25
Symocc	5	6	15	6	8	1
Thaocc	1	1	0	0	0.5	0.5
Unknown forb(s)	3	2	4	5	3.5	1
Unknown grass	0	0	1	1	0.5	0.5
Vegetation Subtotal	93	82	77	95	86.75	
Bare soil	0	0	0	0	0	
Dead wood (>4 inches)	0	0	0	6	1.5	
Litter / Duff	85	85	70	70	77.5	
Rock / Gravel / Cobble	0	0	0	0	0	
Ground Cover Subtotal	85	85	70	76	79	

RIPARIAN VEGETATION PLOT DATA	
DATE	7/30/2007
DATA COLLECTORS	R. Sydnor, A. Boetsch
TRANSECT NUMBER	3
COVER TYPE NUMBER (from X-Section Data Form)	CT #2 (Disturbed logging)

10M X 10M TREE PLOT						
Species	% Cover	% Age Class Delineation within Species				
		Seedling / Decadent	Sapling / Decadent	Pole / Decadent	Mature / Decadent	Dead
Abilas	4	0	0	100 / 0	0	0
Piceng	8	0	13 / 0	85 / 0	0	2
Total	12					
Species		Density & DBH by Age Class				
		Seedling	Sapling	Pole	Mature	Dead
Abilas (dbh)		0	0	4.25", 5"	0	0
Abilas (density)		0	0	2	0	0
Piceng (dbh)		0	1"	6.75", 4.5"	0	18"
Piceng (density)		0	1	2	0	3

5M X 5M SHRUB PLOT						
Species ¹	% Cover	% Age Class Delineation within Species				
		Seed / Sap / Decadent	Mature / Decadent	Dead		
Alninc	1	100 / 0	0	0		
Pruvir	3	100 / 0	0	0		
Rubida	1	100 / 0	0	0		
Rubpar	1	100 / 0	0	0		
Symocc	45	Oct-00	90 / 10	0		
Total	51					
1 - Incidental species include: Spibet, Ribes spp., Rhaaln						

HERBACEOUS PLOTS (2 m ² total area)						
Species	% Cover by Quadrat (0.5 m X 1.0 m)					
	Q1	Q2	Q3	Q4	Mean Cover	Constancy
Cirarv	60	45	10	35	37.5	1
Elygla	15	4	60	15	23.5	1
Fravir	0	1	0	0	0.25	0.25
Gymdry	0	0	3	0	0.75	0.25
Phaarau	0	40	0	0	10	0.25
Phlpra	0	0	4	0	1	0.25
Pruvir	0	0	0	1	0.25	0.25
Rubida	0	0	1	3	1	0.5
Smiste	0	0	2	0	0.5	0.25
Symocc	2	7	8	20	9.25	1
Unknown forb(s)	1	0	0	1	0.5	0.5
Vegetation Subtotal	78	97	88	75	84.5	
Bare soil	0	0	0	5	1.25	
Dead wood (>4 inches)	0	0	0	0	0	
Litter / Duff	70	75	75	45	66.25	
Moss	0	0	0	20	5	
Rock / Gravel / Cobble	0	0	0	0	0	
Ground Cover Subtotal	70	75	75	70	72.5	
Incidental herb spp. Include: Chrleu, Achmil, Epilobium spp., Herlan, Galium spp., Aranud, Desces						