

Calculating Riparian Vegetation Structure

These calculations refer to 1 field method – **TransectWithRiparian**

GIVEN:

TransectName (i.e. A0, B0,C0,D0,E0,F0,G0,H0,I0,J0, or K0)

ChannelNum (0) The shade method will be limited to ChannelNum = 0 (main channel)

DirectionObserved (Left Bank = LB or Right Bank = RB)

Layer (Canopy, Middle, Ground) – *Middle otherwise known as understory*

LifeForm (Woody,Herbs,Bare) – *Herbs otherwise known as non-woody*

PercentCoverCode – (0,1,2,3,4)

Type (C,D,E,M,N)

1. Create a mental matrix of riparian vegetation observations as in Table 1.

Table 1. Field observations of riparian vegetation structure

Transect+ Direction Observed	Canopy Large	Canopy Small	Middle Woody	Middle Herbs	Ground Woody	Ground Herbs	Ground Bare
AOLB							
AORB							
BOLB							
BORB							
COLB							
CORB							
DOLB							
DORB							
EOLB							
EORB							
FOLB							
FORB							
GOLB							
GORB							
HOLB							
HORB							
IOLB							
IORB							
JOLB							
JORB							
KOLB							
KORB							

Count							
Sum							
Average							
Count of Values > 0							
Proportion							

2. Replace **PercentCoverCodes** with **PercentCover** numerical values.

PercentCoverCode	PercentCover
0	0
1	5
2	25
3	57.5
4	87.5

3. Count observations for each column
4. Sum observations for each column
5. Averages are calculated as sum/count

Resulting Variables are:

AvgCanopyLarge
AvgCanopySmall
AvgMiddleWoody
AvgMiddleHerbs
AvgGroundWoody
AvgGroundHerbs
AvgGroundBare

New columns are created as follows:

Canopy = (CanopyLarge+CanopySmall)
Middle = (MiddleWoody+MiddleHerbs)
Ground = (GroundWoody+GroundHerbs)
CanopyMiddle = (Canopy+Middle)
CanopyMWood = (Canopy+MiddleWoody)

CanopyMiddleGround = (Canopy+Middle+Ground)

CanMWoodGWood = (Canopy+MiddleWoody+GroundWoody)

- Repeat steps 3-5 for these new columns to generate these variables

AvgCanopy

AvgMiddle

AvgGround

AvgCanopyMiddle

AvgCanopyMWood

AvgCanopyMiddleGround

AvgCanMWoodGWood

- Calculate proportions for these columns: Canopy, Middle, Ground, CanopyMiddle, CanopyMiddleGround by counting non-zero values and dividing by count. Resulting variables are these:

ProportionOfSiteWithCanopy

ProportionOfSiteWithMiddle

ProportionOfSiteWithGroundVeg

ProportionOfSiteWithCanopyMiddle

ProportionOfSiteWithCanopyMiddleGround

- Create Table 2. Type code lookup values are as follows:

D = deciduous

C = coniferous

E = broadleaf evergreen (e.g. *Arbutus menziesii*)

M = mixed

N = none

Table 2. Table for calculating proportion of site by VegType in canopy or middle.

Transect+ Direction Observed	Canopy	Type	Middle	Type
AOLB				
AORB				
BOLB				
BORB				
COLB				
CORB				
DOLB				
DORB				
EOLB				
EORB				
FOLB				
FORB				
GOLB				
GORB				
HOLB				
HORB				
IOLB				
IORB				
JOLB				
JORB				
KOLB				
KORB				
Count				
CountConiferous				
CountDeciduous				
CountBroadleafEvergreen				
CountMixed				
Proportion				

9. Calculate proportions for Canopy and Middle for each category by counting values of each code and dividing by count. Resulting variables are these:

ProportionOfSiteWithConiferousCanopy

ProportionOfSiteWithDeciduousCanopy

ProportionOfSiteWithBroadleafEvergreenCanopy

ProportionOfSiteWithMixedCanopy

ProportionOfSiteWithConiferousMiddle

ProportionOfSiteWithDeciduousMiddle

ProportionOfSiteWithBroadleafEvergreenMiddle

ProportionOfSiteWithMixedMiddle

Metric	SourceFile	Operation
AvgCanopyLarge	TransectWithRiparian	Sum percent values, divide by count
AvgCanopySmall	TransectWithRiparian	Sum percent values, divide by count
AvgMiddleWoody	TransectWithRiparian	Sum percent values, divide by count
AvgMiddleHerbs	TransectWithRiparian	Sum percent values, divide by count
AvgGroundWoody	TransectWithRiparian	Sum percent values, divide by count
AvgGroundHerbs	TransectWithRiparian	Sum percent values, divide by count
AvgGroundBare	TransectWithRiparian	Sum percent values, divide by count
AvgCanopy	TransectWithRiparian	Sum percent values, divide by count
AvgMiddle	TransectWithRiparian	Sum percent values, divide by count
AvgGround	TransectWithRiparian	Sum percent values, divide by count
AvgCanopyMiddle	TransectWithRiparian	Sum percent values, divide by count
AvgCanopyMWood	TransectWithRiparian	Sum percent values, divide by count
AvgCanopyMiddleGround	TransectWithRiparian	Sum percent values, divide by count
AvgCanMWoodGWood	TransectWithRiparian	Sum percent values, divide by count
ProportionOfSiteWithCanopy	TransectWithRiparian	Count presence/count of plots
ProportionOfSiteWithMiddle	TransectWithRiparian	Count presence/count of plots
ProportionOfSiteWithGroundVeg	TransectWithRiparian	Count presence/count of plots
ProportionOfSiteWithCanopyMiddle	TransectWithRiparian	Count presence/count of plots
ProportionOfSiteWithCanopyMiddleGround	TransectWithRiparian	Count presence/count of plots
ProportionOfSiteWithConiferousCanopy	TransectWithRiparian	Count presence/count of plots
ProportionOfSiteWithDeciduousCanopy	TransectWithRiparian	Count presence/count of plots
ProportionOfSiteWithBroadleafEvergreenCanopy	TransectWithRiparian	Count presence/count of plots
ProportionOfSiteWithMixedCanopy	TransectWithRiparian	Count presence/count of plots
ProportionOfSiteWithConiferousMiddle	TransectWithRiparian	Count presence/count of plots
ProportionOfSiteWithDeciduousMiddle	TransectWithRiparian	Count presence/count of plots
ProportionOfSiteWithBroadleafEvergreenMiddle	TransectWithRiparian	Count presence/count of plots
ProportionOfSiteWithMixedMiddle	TransectWithRiparian	Count presence/count of plots