Appendix 10
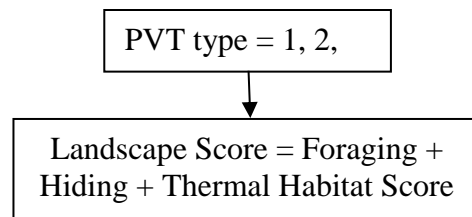
Habitat model for the Mule Deer

Mule Deer Modeling Zones:
- Oregon East Cascades   =
- Oregon West Cascades = N/A
- Blue Mountains

Purshia tridentata shrub layer cover:
- Given in %

For all modeling zones:

First, PVTs are used to classify habitat into three general types: good (3), fair (2), and poor (1). Then, within each of those three types, each observational unit of habitat is given a landscape score based on plant species and structure.

PVT type = 1, 2,

↓

Landscape Score = Foraging + Hiding + Thermal Habitat Score

NOTE: PVT types not listed as 1, 2, or 3 OR size class Barren, Developed, or Agriculture are designated as Not Capable and given a foraging, hiding, thermal and landscape score of -1.

The Landscape score is the addition of the following 3 scores:

- Foraging habitat score (range 5-20)
- Hiding habitat score (range 2-10)
- Thermal habitat score (range 0-11)

Table A10.1 Description of how the Landscape score and PVT are combined

	Sum of foraging, hiding, and thermal based on stand characteristics		
PVT score	41-31	30-19	18-7
3	9	6	3
2	8	5	2
1	7	4	1

Habitat ranking of 9-1 in matrix is based on PVT versus stand characteristics scores. Rank of 9 is the highest, indicated by a PVT value of "3" that corresponds with the highest 30% of stand characteristics scores. Rank of 1 is the lowest, indicated by a PVT value of "1" that corresponds with the lowest 30% of stand characteristics scores. Within each category of stand characteristics (columns), higher PVT scores correspond to higher rankings.

Table A 10.2. Habitat model for mule deer: scoring system for <u>foraging</u> habitat. (Note: QMD is quadratic mean diameter.)

Vegetation characteristic	Class	Score
	Development	0
	Agriculture	0
Cover type	Bare ground	0
	Remnant	1
	Barren	0
	Development (low, medium and high density residential)	3
	Meadow	4
	Shrub	4
Size class	Seedling/sapling	4
	Pole (QMD = 12.5-25 cm)	2
	Small (QMD = 25-38 cm)	1
	Medium (QMD = 38-51 cm)	1
	Large (QMD = 51-76 cm)	1
	Giant (QMD > 76 cm)	1
	None (0-10%)	10
	Low (10-40%)	6
Canopy cover	Medium (40-60%)	2
	High (> 60%)	1
	Post-disturbance	0
	None	1
Canopy layers	Single	1
	Multi	0
Cover of bitterbrush	0-10%	2
(*Purshia tridentata*)	>10%	4

Table A10.3. Habitat model for mule deer: scoring system for <u>hiding</u> habitat. (Note: QMD is quadratic mean diameter.)

Vegetation characteristic	**Class**	**Score**
	Ponderosa pine, lodgepole pine, Douglas-fir,	1
Cover type	Oregon white oak, western juniper	1
	Remnant	0
	Barren	0
	Development (low, medium and high density residential)	1
Size class	Meadow	3
	Shrub	3
	Seedling/sapling	3

	Pole (QMD* = 12.5-25 cm)	3
	Small (QMD = 25-38 cm)	3
	Medium (QMD = 38-51 cm)	3
	Large (QMD = 51-76 cm)	2
	Giant (QMD > 76 cm)	2
	None (0-10%)	0
	Low (10-40%)	2
Canopy cover	Medium (40-60%)	4
	High (> 60%)	4
	Post-disturbance	0
	None	0
Canopy layers	Single	1
	Multi	1

Table A10.4. Habitat model for mule deer: scoring system for thermal habitat.

Vegetation characteristic	Class	Score
Cover type	Ponderosa pine, lodgepole pine, Douglas-fir,	1
	Oregon white oak, western juniper	1
	Remnant	0
	Barren	0
	Development (low, medium and high density residential)	1
	Meadow	0
	Shrub	0
Size class	Seedling/sapling	0
	Pole (QMD* = 12.5-25 cm)	1
	Small (QMD = 25-38 cm)	1
	Medium (QMD = 38-51 cm)	1
	Large (QMD = 51-76 cm)	2
	Giant (QMD > 76 cm)	2
	None (0-10%)	0
	Low (10-40%)	2
Canopy cover	Medium (40-60%)	4
	High (> 60%)	6
	Post-disturbance	0
	None	0
Canopy layers	Single	1
	Multi	2

*If the grid cell is a 90 meter pixel, then no averaging is attempted since the 90 meter pixel contains the whole female daily home range which is the 9-cells with an 8-cell neighborhood.

Table A10.5 Mule Deer PVT Lookup table

Region	PVT	PVT code	Score
17	1	OBM_gfk	1
17	3	OBM_gpp	1
17	5	OBM_sln	1
17	6	OBM_slw	2
17	7	OBM_smb	2
17	10	OBM_spt	3
17	11	OBM_srs	1
17	14	OBM_swb	2
17	15	OBM_swj	3
17	16	OBM_swn	1
7	6	OBM_fcd	1
7	5	OBM_fcm	3
7	12	OBM_fdp	3
7	16	OBM_fmh	2
7	16	OBM_fmz	2
7	7	OBM_fsw	1
7	13	OBM_fxp	2
18	3	OSE_sln	1
18	4	OSE_slw	2
18	5	OSE_smb	2
18	6	OSE_smm	3
18	8	OSE_spt	3
18	9	OSE_srs	1
18	10	OSE_ssd	1
18	12	OSE_swb	2
18	13	OSE_swj	3
18	14	OSE_swn	1
19	1	OEC_gfk	1
19	2	OEC_gfv	2
19	3	OEC_gpp	1
19	5	OEC_sln	1
19	6	OEC_slw	2
19	7	OEC_smb	2
19	8	OEC_smm	3
19	9	OEC_sms	3
19	10	OEC_spt	3
19	11	OEC_srs	1

19	12	OEC_ssd	1
19	14	OEC_swb	2
19	15	OEC_swj	3
19	16	OEC_swn	1
9	9	OEC_fal	1
9	13	OEC_fld	2
9	12	OEC_flw	2
9	16	OEC_fmd	3
9	18	OEC_fmh	2
9	6	OEC_fmi	2
9	7	OEC_fmm	2
9	11	OEC_fmx	3
9	17	OEC_fmz	3
9	8	OEC_fop	3
9	15	OEC_fpd	3
9	20	OEC_fpl	3
9	10	OEC_frf	3
9	5	OEC_fsi	3
9	4	OEC_fsw	3
9	3	OEC_fwc	3
9	2	OEC_fwi	3
9	1	OEC_fww	3
9	19	OEC_fxp	3
11	1	OSW_fal	1
11	5	OSW_fcw	2
11	13	OSW_fdd	3
11	12	OSW_fdm	3
11	6	OSW_fiw	2
11	2	OSW_fmh	2
11	22	OSW_fpd	3
11	3	OSW_frm	3
11	17	OSW_fwo	3