



WASHINGTON STATE DEPARTMENT OF
Natural Resources

Peter Goldmark - Commissioner of Public Lands

Small Forest Landowner

Template #3

Thinning Strategy for Riparian Management Zones in Western Washington

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Thinning Strategy for Riparian Management Zones in Western Washington

- Uses Template #2 *Fixed Width Riparian Buffers for Small Forest Landowners in Western Washington.*
- Contains a No Harvest Zone and a Thinning Zone.
- Requires a minimum number of trees in the No Harvest Zone to be eligible.
- Requires a minimum number of trees to be left in the Thinning Zone.



Thinning Strategy for Riparian Management Zones in Western Washington

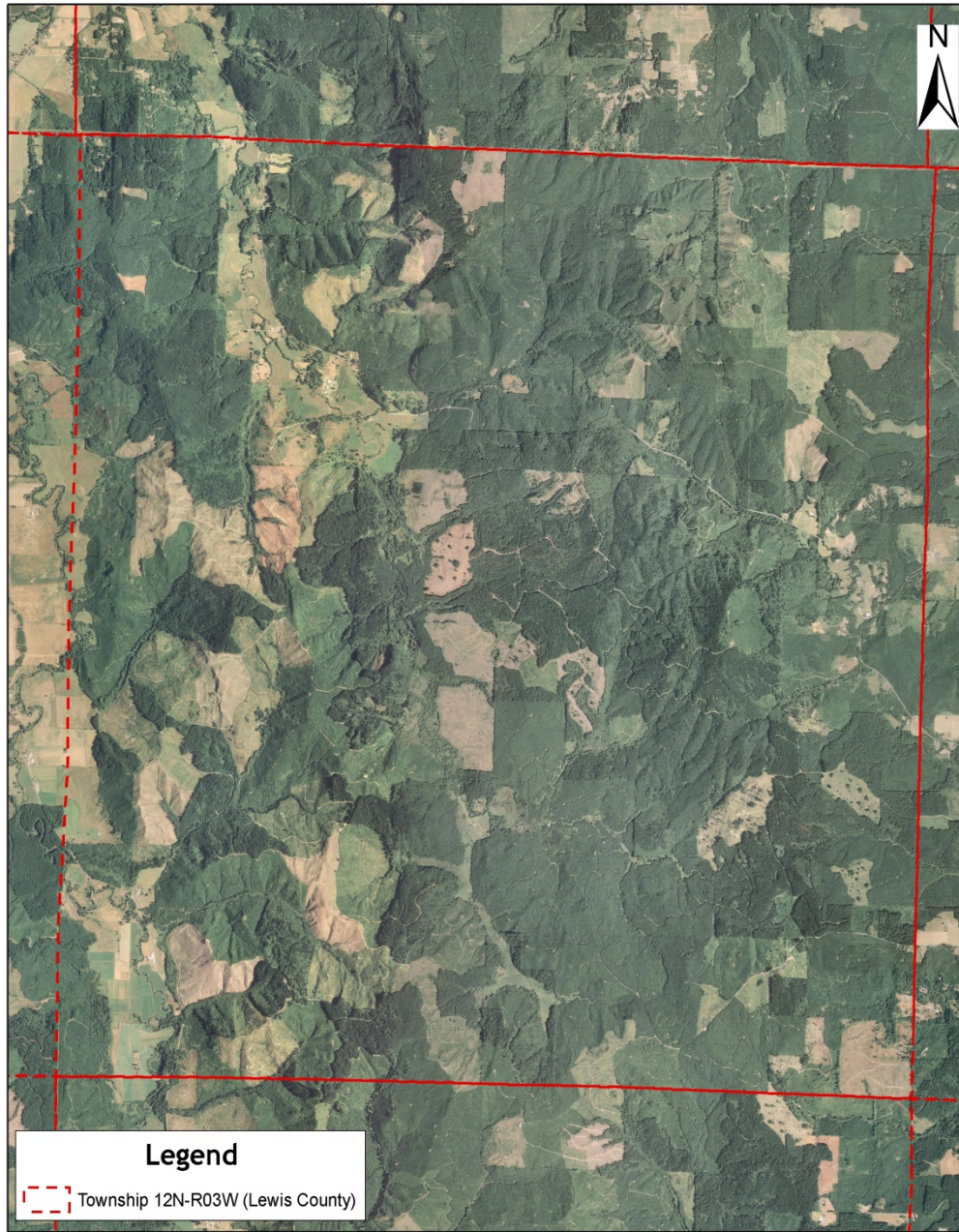
- Does not require leave trees to be retained in the Outer Zone.
- Much less complex than Standard Rules. No in-depth analysis is required.
- This template is not a requirement. It is merely a tool for the small forest landowner to use.



Thinning Strategy for Riparian Management Zones in Western Washington

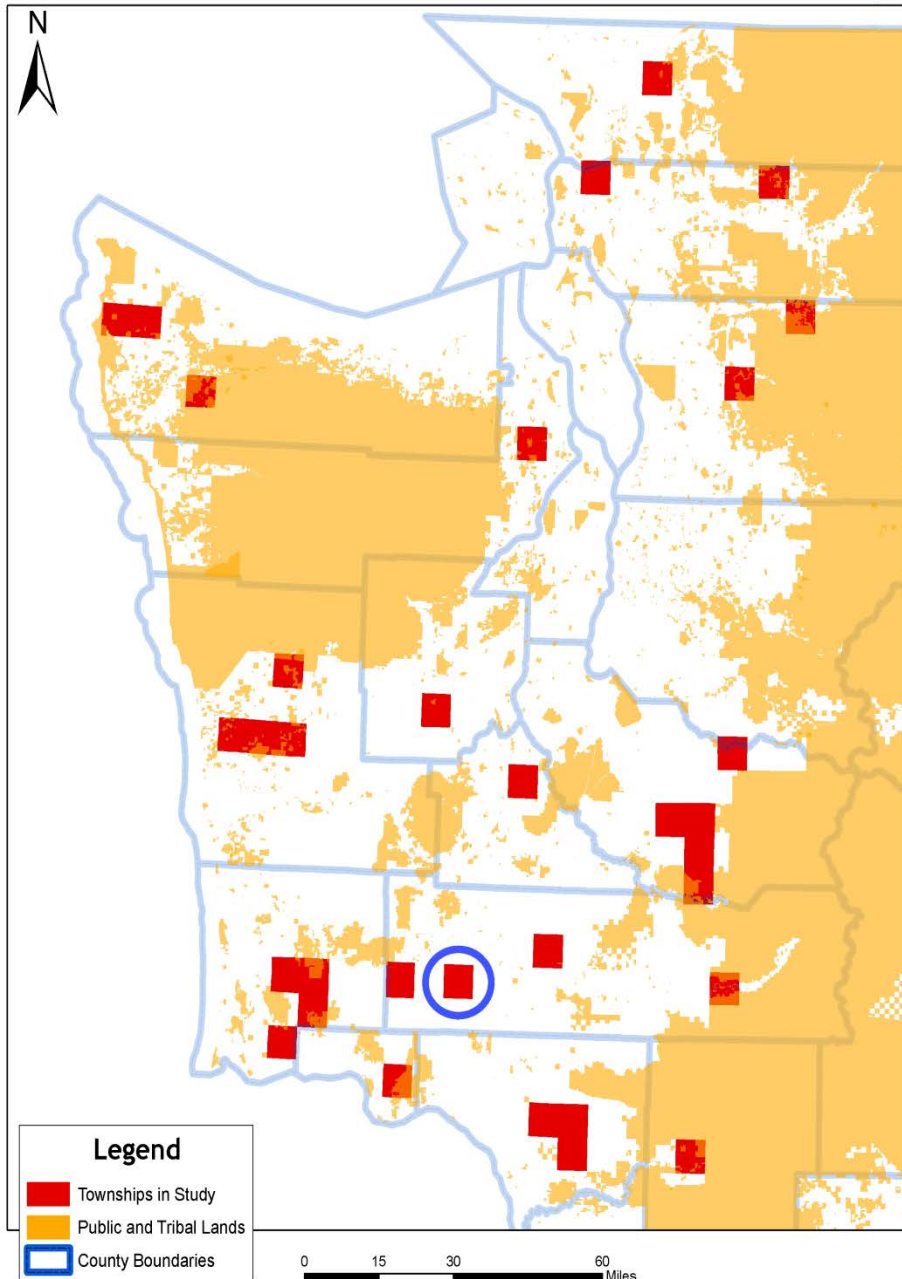
- Allows harvest activities to be conducted throughout the Thinning Zone.
- Landowners have the option to submit an Alternate Plan at any time.
- This is a field oriented, Table driven Template.





Sample of Township and Range Used in this Analysis





DFC Stand Data Distribution

Sample size:
212 stands

- ▶ Pacific Cascade Region
– 78 stands
- ▶ S. Puget Sound Region
– 49 stands
- ▶ Olympic Region
– 52 stands
- ▶ Northwest Region
– 33 stands



No Harvest and Thinning Zone DFC Stand Data Collected

Distribution of Site Classes Analyzed

- Site Class I stands = 10
- Site Class II stands = 92
- Site Class III stands = 93
- Site Class IV stands = 14
- Site Class V stands = 3



No Harvest and Thinning Zone DFC Stand Data Collected

- Stand Age
 - Ranged from age 32 to age 75
 - Average age = 49.5 years
- Diameter of Trees
- Trees Species (hardwood or conifer)
- Number of Trees in 2 inch Diameter Classes
- Acres within the No Harvest and Thinning Zones
- Total Number of Trees per Acre



SITE CLASS	T/R	AGE	DBH	CONIFER	HDWD	AC	TPA
2	12N 03W	50	6	2	8	.17	186
2	12N 03W	50	8	1	4	.17	186
2	12N 03W	50	10	1	4	.17	186
2	12N 03W	50	12	7	3	.17	186
2	12N 03W	50	14	4	0	.17	186
2	12N 03W	50	16	4	0	.17	186
2	12N 03W	50	18	2	0	.17	186
2	12N 03W	50	20	1	0	.17	186
2	12N 03W	50	22	1	0	.17	186

Example of DFC Stand Data



DFC Stand Data Analyzed

Applying the Riparian Thinning Template:

- Does the No Harvest Zone Meet Eligibility Requirements?
- Are There Enough Conifer Trees to Harvest in the Thinning Zone?



No Harvest Zone Eligibility

Table 3. No-Harvest Zone must meet the required number of trees per acre by diameter class (all species) to be eligible for timber harvest within the Western Washington tree thinning zone.

Average Stand Diameter at Breast Height	Trees per Acre All Species	Average Tree Spacing
≤16	115	19
17	104	20
18	96	21
19	88	22
20	82	23
21	76	24
22	71	25
23	66	26
24	62	27
25	58	27
26	55	28
27	52	29
≥28	50	30



Results

Does Stand Meet Eligibility Requirements in the No-Harvest Zone?

A total of 203 of the 212 stands (96%) contained stands in the No-Harvest Zone that met the eligibility requirements.



Thinning Zone Eligibility

Number of Live Conifer Trees to be Left After Harvest (RD 50)	
Average Stand Diameter	Trees per Acre
≤12	221
13	196
14	175
15	159
16	143
17	131
18	120
19	111
20	103
21	95
22	89
23	83
24	78
25	74
26	69

Table 5. Total conifer trees per acre to be left unharvested in the Western Washington Thinning Zone.



Results

Were There Enough Conifer Trees per Acre in the Thinning Zone to be left unharvested?

112 of 203 eligible stands (55%) contained enough trees in the Thinning Zone to be left unharvested, and thus were able to thin.



Are the Stands Actually Viable to Thin?

- Is there enough volume of timber to be removed to have a viable thinning activity?
- Is there enough value of timber to be removed to have a viable thinning activity?



Results

The average volume/acre of
timber to be removed was:

7.713 MBF



Results

Current range of delivered domestic and delivered export is:

Export: \$540/MBF

Domestic: \$490/MBF

For our analysis, we used delivered domestic and values which showed the average value/acre of timber to be removed was:

\$3,671.27/ acre





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Use of Long Term Applications

From December 2007 to September 2011:

