### Worksheet for Western Hemlock-Subalpine Fir (WHSF) Forest Type - Option 1 (60/30)

	E													_	
	Stream	Length	n Surveyed	=	200	Χ		25' (inne	er z	one width)	=		0.115	Acr	es
								43560 (s	q.	ft. per acre)					
	WHSF														Retained RS
	RS/Tree				RS value					RS per DBH			ree RS		per DBH
DBH Class	values		Acres		per tree		Trees S	urveyed		Class			lue		Class
4-7.9	0.123	÷	0.115		1.072		<u> </u>		=	7.501	-	cut 1	1.072		6.429
8-11.9	0.267	÷	0.115	=	2.326				=	9.304	-	cut 1	2.326	=	6.978
12-15.9	0.442	÷		=	3.851			2	=	7.701	-			=	7.70
16-19.9	0.644	÷	0.115	=	5.611	Χ		2	=	11.221	-			=	11.22
20-23.9	0.87	÷	0.115	=	7.579			2	=	15.159	-	cut 1	7.579	=	7.579
24-27.9	1.117	÷	0.115	=	9.731	Χ		1	=	9.731	-			=	9.73
28 +	1.385	÷	0.115	=	12.066	Χ		1	=	12.066	-			=	12.066
								Total RS *	=	72.68		Retaine	ed RS**	=	61.70
								(sum of	RS/	DBH Class)	•	(sum of	Retaine	ed R	S/DBH Class
* Total RS m	oust be > 60	or no	inner zone	hai	vest may oc	cur									
** Dotained	DC must be														
		e > or :	= 60 RS follo	iiwc	ng harvest										
	E			-										<u> </u>	
	E		= 60 RS follo	-		Х				one width)	=		0.23	Acr	es
	<b>E</b> Stream			-		X				one width) ft. per acre)	=		0.23	Acr	
	Stream WHSF			-	200	х				ft. per acre)	=			Acr	Retained RS
OUTER ZON	Stream  WHSF RS/Tree		n Surveyed	-	200 RS value	Х		43560 (s		ft. per acre)  RS per DBH	=		ree RS	Acr	Retained RS per DBH
OUTER ZON	Stream  WHSF RS/Tree values	Length	n Surveyed Acres	=[	200 RS value per tree		Trees S	43560 (s urveyed	sq.	ft. per acre)  RS per DBH  Class	•	Va	ree RS lue		Retained RS per DBH Class
DBH Class 4-7.9	Stream  WHSF RS/Tree values 0.123	Length ÷	Acres	= [	RS value per tree	X	Trees S	43560 (s urveyed	= =	ft. per acre)  RS per DBH  Class  3.751		Va	ree RS lue	=	Retained RS per DBH Class
DBH Class 4-7.9 8-11.9	Stream WHSF RS/Tree values 0.123 0.267	Length	n Surveyed Acres	= [	200 RS value per tree 0.536 1.163	X X	Trees S	43560 (s urveyed	= =	RS per DBH Class 3.751 11.631	•	Va	ree RS lue 1.072 4.652	=	Retained RS per DBH Class
DBH Class 4-7.9 8-11.9 12-15.9	Stream WHSF RS/Tree values 0.123 0.267 0.442	Length ÷	Acres 0.230 0.230	= [	200 RS value per tree 0.536 1.163 1.925	X X X	Trees S	43560 (s urveyed	= =	ft. per acre)  RS per DBH  Class  3.751	•	Va	ree RS lue 1.072 4.652	=	Retained RS per DBH Class 2.679 6.978
DBH Class 4-7.9 8-11.9	Stream WHSF RS/Tree values 0.123 0.267	Length ÷	Acres 0.230 0.230	= [ = = = =	200 RS value per tree 0.536 1.163	X X X	Trees S	43560 (s urveyed 7 10	= =	RS per DBH Class 3.751 11.631	•	Va	ree RS lue 1.072 4.652	= = =	Retained RS per DBH Class 2.679 6.978
DBH Class 4-7.9 8-11.9 12-15.9	Stream WHSF RS/Tree values 0.123 0.267 0.442	Length ÷ ÷	Acres 0.230 0.230 0.230 0.230	= [ = = = =	200 RS value per tree 0.536 1.163 1.925	X X X	Trees S	43560 (s urveyed 7 10	= = =	RS per DBH Class 3.751 11.631 17.328	•	Va cut 2 cut 4 cut 4	ree RS lue 1.072 4.652 7.7	= = = =	Retained RS per DBH Class 2.679 9.620 2.805
DBH Class 4-7.9 8-11.9 12-15.9 16-19.9	Stream  WHSF RS/Tree values  0.123  0.267  0.442  0.644	tength ÷ ÷ ÷	Acres 0.230 0.230 0.230 0.230	= = = = = = = = = = = = = = = = = = = =	200 RS value per tree 0.536 1.163 1.925 2.805	X X X X X	Trees S	43560 (s	= = = =	RS per DBH Class 3.751 11.631 17.328 14.026	•	cut 2 cut 4 cut 4 cut 4	ree RS lue 1.072 4.652 7.7 11.2	= = = =	Retained RS per DBH Class 2.679 6.978 9.627 2.805 3.790
DBH Class 4-7.9 8-11.9 12-15.9 16-19.9 20-23.9	WHSF RS/Tree values 0.123 0.267 0.442 0.644 0.87	÷ ÷ ÷ ÷	Acres 0.230 0.230 0.230 0.230 0.230	= = = = = = = = = = = = = = = = = = = =	200 RS value per tree 0.536 1.163 1.925 2.805 3.790	X X X X X	Trees S	43560 (s	= = = = =	RS per DBH Class 3.751 11.631 17.328 14.026 11.369	•	cut 2 cut 4 cut 4 cut 4 cut 4	ree RS lue 1.072 4.652 7.7 11.2 7.579	= = = =	Retained RS per DBH Class 2.679 6.978 9.620 2.803 3.790 4.866
DBH Class 4-7.9 8-11.9 12-15.9 16-19.9 20-23.9 24-27.9	Stream  WHSF RS/Tree values 0.123 0.267 0.442 0.644 0.87 1.117	: : : :	Acres 0.230 0.230 0.230 0.230 0.230 0.230 0.230	= = = = = = = = = = = = = = = = = = = =	200 RS value per tree 0.536 1.163 1.925 2.805 3.790 4.866	X X X X X	Trees S	43560 (s urveyed 7 10 9 5 3	= = = = = = =	RS per DBH Class 3.751 11.631 17.328 14.026 11.369 9.731	•	va  cut 2  cut 4  cut 4  cut 4  cut 2  cut 2  cut 1  cut 1	ree RS lue 1.072 4.652 7.7 11.2 7.579 4.866	= = = = =	Retained RS per DBH Class 2.679 6.978 9.627 2.805 3.790 4.866 0.000
DBH Class 4-7.9 8-11.9 12-15.9 16-19.9 20-23.9 24-27.9	Stream  WHSF RS/Tree values 0.123 0.267 0.442 0.644 0.87 1.117	: : : :	Acres 0.230 0.230 0.230 0.230 0.230 0.230 0.230	= = = = = = = = = = = = = = = = = = = =	200 RS value per tree 0.536 1.163 1.925 2.805 3.790 4.866	X X X X X	Trees S	43560 (s urveyed 7 10 9 5 3 2 1 Total RS *	= = = = = = = = = = = = = = = = = = =	RS per DBH Class 3.751 11.631 17.328 14.026 11.369 9.731 6.033	- - - - -	va cut 2 cut 4 cut 4 cut 4 cut 2 cut 1 cut 1 Retaine	ree RS lue 1.072 4.652 7.7 11.2 7.579 4.866 6.033 ed RS**	= = = = = =	Retained RS per DBH Class 2.679 6.978 9.627 2.803 3.790 4.866 0.000
DBH Class 4-7.9 8-11.9 12-15.9 16-19.9 20-23.9 24-27.9 28 +	E Stream WHSF RS/Tree values 0.123 0.267 0.442 0.644 0.87 1.117 1.385	÷ ÷ ÷ ÷	Acres 0.230 0.230 0.230 0.230 0.230 0.230 0.230	= [	200 RS value per tree 0.536 1.163 1.925 2.805 3.790 4.866	X X X X X X		43560 (s urveyed 7 10 9 5 3 2 1 Total RS *	= = = = = = = = = = = = = = = = = = =	ft. per acre)  RS per DBH Class 3.751 11.631 17.328 14.026 11.369 9.731 6.033	- - - - -	va cut 2 cut 4 cut 4 cut 4 cut 2 cut 1 cut 1 Retaine	ree RS lue 1.072 4.652 7.7 11.2 7.579 4.866 6.033 ed RS**	= = = = = =	Retained RS per DBH Class 2.679 6.978 9.620 2.800 3.790 4.860 0.000

#### INSTRUCTIONS:

- 1) Measure "Stream Length Surveyed" by measuring the length (in feet) of the stream that is adjacent to the Stream Protection Zone being considered for harvest. When harvesting both sides of a stream measure them separately
- considered for harvest. When harvesting both sides of a stream measure them seperately.
  2) Calculate "Acres" by multiplying the "Stream Length Surveyed" by the width of the zone being measured (25 or 50 feet) and dividing by 43,560 square feet per acre.
- 3) Input the "Acres" number into each of the lines in the table under the "Acres" category.
- 4) Divide the "WHSF RS/ac values" by the "Acres" in each row this will give you a "Relative Stocking value per tree" which you fill in under that category.
- 5) Count the number of live trees in each "Diameter Breast Height Class," and fill in the number on the table according to the DBH Class under the "Trees Surveyed" column.
- 6) In each row multiply "RS value per tree" X "Trees Surveyed" this gives you "RS per DBH Class," fill in those values under the column "RS per DBH Class."
- 7) Add the values in the "RS per DBH Class" column this will give you your "Total RS". NOTE: If this number is less than the minimum requirement for tree retention under the FPA rules you may not harvest any trees in that zone.
- 8) Using the "RS value per tree" numbers you may now calculate how many trees from each "DBH Class" may be harvested while ensuring that the "Retained RS" will be greater than or equal to the minimum RS required for that zone.

# Worksheet for Western Hemlock-Subalpine Fir (WHSF) Forest Type - Option 1 (60/30)

INNER ZONE										
	Stream l	_ength	n Surveyed	=		Χ	25' (inner zone width)		=	Acres
							43560 (sq. ft. per acre)			_
	WHSF									Retained RS
	RS/Tree				RS value			RS per DBH	Cut Tree RS	per DBH
DBH Class	values		Acres		per tree		Trees Surveyed	Class	Value	Class
4-7.9	0.123	÷		=		Χ	=		-	=
8-11.9	0.267	÷		=		Χ	=		-	=
12-15.9	0.442	÷		=		Χ	=		-	=
16-19.9	0.644	÷		=		Χ	=		-	=
20-23.9	0.87	÷		=		Χ	=		-	=
24-27.9	1.117	÷		=		Χ	=		-	=
28 +	1.385	÷		=		Χ	=		-	=
							Total RS * =		Retained RS**	=
							(sum of RS/DBH Class)		(sum of Retain	ed RS/DBH Class)
* Total RS m					•	cu	r			
** Retained		: > or :	= 60 RS follo	win	g harvest					
OUTER ZONI				_					_	
	Stream I	_ength	n Surveyed	= [		Χ	50' (outer zone width)		=	Acres
							43560 (sq. ft. per acre)			
	WHSF									Retained RS
	RS/Tree				RS value			RS per DBH	Cut Tree RS	per DBH
DBH Class	values		Acres		per tree		Trees Surveyed	Class	Value	Class
4-7.9	0.123	÷		=		Χ	=		-	=
8-11.9	0.267	÷		=		Χ	=		-	=
12-15.9	0.442	÷		=		Χ	=		-	=
16-19.9	0.644	÷		=		Χ	=		-	=
20-23.9	0.87	÷		=		Χ	=		-	=
24-27.9	1.117	÷		=		Χ	=		-	=
28 +	1.385	÷		=		Χ	=		-	=
							Total RS * =		Retained RS**	=
							/aum of DC/DDII Class)		Isum of Botain	ad DC/DDII Class)
							(sum of RS/DBH Class)		(Sulli of Retail)	ed RS/DBH Class)
* Total RS m ** Retained					•	ccu			(Sulli of Netalli	ed KS/DBH Class)

### INSTRUCTIONS:

- 1) Measure "Stream Length Surveyed" by measuring the length (in feet) of the stream that is adjacent to the Stream Protection Zone being considered for harvest. When harvesting both sides of a stream measure them separately.
- 2) Calculate "Acres" by multiplying the "Stream Length Surveyed" by the width of the zone being measured (25 or 50 feet) and dividing by 43,560 square feet per acre.
- 3) Input the "Acres" number into each of the lines in the table under the "Acres" category.
- 4) Divide the "WHSF RS/ac values" by the "Acres" in each row this will give you a "Relative Stocking value per tree" which you fill in under that category.
- 5) Count the number of live trees in each "Diameter Breast Height Class", fill in the number on the table according to the DBH Class under the "Trees Surveyed" column.
- 6) In each row multiply "RS value per tree" X "Trees Surveyed" this gives you "RS per DBH Class", fill in those values under the column "RS per DBH Class".
- 7) Add the values in the "RS per DBH Class" column this will give you your "Total RS". NOTE: If this number is less than the minimum requirement for tree retention under the FPA rules you may not harvest any trees in that zone.
- 8) Using the "RS value per tree" numbers you may now calculate how many trees from each "DBH Class" may be harvested while ensuring that the "Retained RS" will be greater than or equal to the minimum RS required for that zone.

# Worksheet for Western Hemlock-Subalpine Fir (WHSF) Forest Type - Option 2 (60/10)

INNER ZONI	E								
	Stream l	ength Surv	veyed =		X _	50' (inner zone width)		=	Acres
			_		-	43560 (sq. ft. per acre)	_	'	•
	WHSF								Retained RS
	RS/Tree			RS value			RS per DBH	Cut Tree RS	per DBH
DBH Class	values	Acı	res	per tree		Trees Surveyed	Class	Value	Class
4-7.9	0.123	÷	=		Χ	=		-	=
8-11.9	0.267	÷	=		Χ	=		-	=
12-15.9	0.442	÷	=		Χ	=		-	=
16-19.9	0.644	÷	=		Χ	=		-	=
20-23.9	0.87	÷	=		Χ	=		-	=
24-27.9	1.117	÷	=		Χ	=		-	=
28 +	1.385	÷	=		Χ	=		-	=
						Total RS * =		Retained RS**	=
						(sum of RS/DBH Class)	•	(sum of Retaine	ed RS/DBH Class)
* Total RS m	ust be > 60	or no inne	r zone har	vest may oc	cur				
** Retained	RS must be	e > or = 60 l	RS followir	ng harvest					
<b>OUTER ZON</b>	E								_
	Stream I	ength Surv	veyed =		X	25' (outer zone width)		=	Acres
			_		-	43560 (sq. ft. per acre)			•
	WHSF								Retained RS
	RS/Tree			RS value			RS per DBH	Cut Tree RS	per DBH
DBH Class	values	Acı	res	per tree		Trees Surveyed	Class	Value	Class
4-7.9	0.123	÷	=		Χ	=		-	=
8-11.9	0.267	÷	=		Χ	=		-	=
12-15.9	0.442	÷	=		Χ	=		-	=
16-19.9	0.644	÷	=		Χ	=		-	=
20-23.9	0.87	÷	=		Χ	=		-	=
24-27.9	1.117	÷	=		Χ	=		-	=
28 +	1.385	÷	=		Χ	=		-	=
						Total RS * =		Retained RS**	=
						(sum of RS/DBH Class)		(sum of Retaine	ed RS/DBH Class)
* Total RS m	ust be > 10	or no oute	er zone hai	rvest may oc	cur	•			

### INSTRUCTIONS:

- 1) Measure "Stream Length Surveyed" by measuring the length (in feet) of the stream that is adjacent to the Stream Protection Zone being considered for harvest. When harvesting both sides of a stream measure them seperately.
- 2) Calculate "Acres" by multiplying the "Stream Length Surveyed" by the width of the zone being measured (25 or 50 feet) and dividing by 43,560 square feet per acre.
- 3) Input the "Acres" number into each of the lines in the table under the "Acres" category.

\*\* Retained RS must be > or = 10 RS following harvest

- 4) Divide the "WHSF RS/ac values" by the "Acres" in each row this will give you a "Relative Stocking value per tree" which you fill in under that category.
- 5) Count the number of live trees in each "Diameter Breast Height Class", fill in the number on the table according to the DBH Class under the "Trees Surveyed" column.
- 6) In each row multiply "RS value per tree" X "Trees Surveyed" this gives you "RS per DBH Class", fill in those values under the column "RS per DBH Class".
- 7) Add the values in the "RS per DBH Class" column this will give you your "Total RS". NOTE: If this number is less than the minimum requirement for tree retention under the FPA rules you may not harvest any trees in that zone.
- 8) Using the "RS value per tree" numbers you may now calculate how many trees from each "DBH Class" may be harvested while ensuring that the "Retained RS" will be greater than or equal to the minimum RS required for that zone.