

# A COMPARISON OF FVS/SUPPOSE COMPUTED VOLUME WITH USDA FOREST SERVICE CRUISE VOLUME ON THE MONONGAHELA NATIONAL FOREST

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**Abstract**—Summarized plot data from Forest Service stand inventory for four separate stands was entered in FVS/Suppose. The tree data, collected in 1984 and 1989, was grown to the common year 1997 in FVS using NE-Twigs. Either a clearcut or two-age harvest was applied to each stand depending on the prescription given in the environmental assessment. The resulting removal volume in board feet by species was compared to volumes calculated by the National Cruise program from a standard timber sale cruise conducted by district personnel.

Tables 1a and 1b show the total volume by species for each stand and the absolute differences between the two. Differences in removal volumes by species ranged from 1 to 76 MBF. Comparisons of volumes by species within each stand were not made because the range of differences was so great and variable. Only raw data is reported here.

The FVS/Suppose program used here has not been calibrated with either local data or Forest Inventory and Analysis plot data. This is needed before volumes created from the growth model in FVS/Suppose can be applied to individual stands. Schuler and others (1993) found NE-Twigs to be suitable for predicting basal area per acre, medial stand diameter, number of trees, and percentage of basal area in the primary species group for transition hardwood and oak-hickory forest types for West Virginia. However, the authors caution that these reasonable estimates were based on an average of numerous stands.

## REFERENCES

- Schuler, T.M.; Marquis, D.A.; Ernst, R.L.; Simpson, B.T. 1993. Test of four stand growth simulators for the Northeastern United States. Res. Pap. NE-676. Radnor, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station.

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Table 1a—Total volumes from cruise data and FVS

Payment unit (acres)	Comp Stand	Chestnut oak MBF cruise MBF FVS	Hickory MBF cruise MBF FVS	Pine MBF cruise MBF FVS	Red Maple MBF cruise MBF FVS
2	58	20	0	2	2
(14)	5	19	0	18	0
Diff.		1	0	16	2
3	58	23	2	4	1
(17)	30	94	6	0	0
Diff.		71	4	4	1
4	58	5	1	0	1
(9)	30	50	3	0	0
Diff.		45	2	0	1
5	58	18	3	2	5
(17)	30	94	6	0	0
Diff.		76	3	2	5
6	58	13	2	8	1
(18)	46	33	3	35	0
Diff.		20	1	27	1
8	60	15	1	0	3
(12)	21	56	21	0	1
Diff.		41	20	0	2

Table 1b—Total volumes from cruise data and FVS

Payment unit (acres)	Comp Stand	N. red oak MBF cruise MBF FVS	White oak MBF cruise MBF FVS	Yellow-poplar MBF cruise MBF FVS	Other hdwds. MBF cruise MBF FVS
2	58	29	2	1	0
(14)	5	3	0	0	20
Diff.		26	2	1	20
3	58	17	2	0	0
(17)	30	56	7	0	17
Diff.		39	5	0	17
4	58	26	9	0	0
(9)	30	30	4	0	9
Diff.		4	5	0	9
5	58	60	0	3	0
(17)	30	56	7	0	17
Diff.		4	7	3	17
6	58	20	10	1	0
(18)	46	21	13	0	19
Diff.		1	3	1	19
8	60	54	3	1	0
(12)	21	11	15	2	2
Diff.		43	12	1	2