

FOREST PLAN

APPENDIX K

COST EFFECTIVE TRACT ACQUISITION STUDY

The land acquisition activities on the Mark Twain were analyzed to determine what size and amounts of commonly available nonfederal lands can be acquired for less than the cost of the administrative impacts they create on adjacent National Forest lands. The study first estimated the average price per acre for tracts in the 10, 20, 40, 80, 120, and 160-acre size classes. The costs of surveying and establishing ownership lines around the various size non-federal tracts, processing of encroachment cases revealed by the surveys, and the acquisition of road right-of-way over the tracts were computed on a per acre basis. This cost of administration was compared to the average price per acre for the tracts. The results of the analysis demonstrate that tracts in the 10, 20, and 40 acre size classes (or 0 to 60 acres in size) can be purchased cheaper than surveying the property lines around them and processing the encroachments discovered. Tracts in the 80 and 120-size classes (or 61 to 140 acres in size) can also be acquired cheaper than administering around them if their purchase would preclude the purchase of a road right-of-way over the tract. The essential findings of the study are shown in the following table:

Size Class	Tract Size (Acres)					
	10	20	40	80	120	160
Sale Size Range	0-15	16-30	31-60	61-100	101-140	141-180
Average Price Per Acre	\$ 550	\$ 420	\$ 290	\$ 260	\$ 250	\$ 250
Total LLL/Ac.	676*	333	171	89	66	44
Encroachment Cost/Ac.	300	150	150	113	100	75
Subtotal	976	483*	321*	202	166	119
Road ROW Cost/Ac.	730	365	183	91	122	91
TOTAL	1,706	848	504	293*	288*	210

* Point at which management impact costs equal or exceed land values.

The analysis was intentionally conservative and the findings are significant, but on the conservative side. The land values per acre are weighted averages based on 1979-1982 sales which had been sorted to eliminate all sales (1) with more than 25% openland, (2) located in a high value market area such as Cedar Creek or a river corridor, (3) improved or with a highest and best use for residence. The sales considered were typical; unimproved, primarily wooded tracts, suited for National Forest purposes.

Property line survey costs included corner search, corner monumentation, tie lines, true lines (ownership lines), survey plats and overhead. Maintenance costs of property lines were not included. All section corners were assumed to be monumented (often they are not). Only the minimum number of corners and lines were counted to calculate the typical landline location costs.

Encroachment costs were based on \$3,000 per case, and two cases per mile of true line. Road rights-of-way costs per case were based on a cost of \$7,300 and length of 1/4 mile.

The analysis demonstrates that it is cost effective to acquire nonfederal tracts up to at least 40 acres in size and frequently up to 120 acres in size based on the administrative costs eliminated by the transaction. The number of acres on the Mark Twain National Forest which would be cost effective to acquire is estimated as follows:

Cost Effective Land Opportunity By District

Ava	21,271
Cassville	4,479
Cedar Creek	555
Fredericktown	8,035
Doniphan	4,520
Van Buren	4,069
Winona	3,154
Poplar Bluff	24,087
Rolla	4,719
Houston	5,865
Potosi	15,218
Salem	10,459
Willow Springs	<u>9,602</u>
Total	116,033*

* These figures do not include acreage currently in the Approved Exchange Program which approximates 10,000 acres.

Cost Effective Land by District and Consolidation Unit

Ava:

Unit 1	7,157
Unit 2	962
Unit 3	12,605
Unit 4	341
Unit 5	200
Total	<u>21,271</u>

Rolla:

Unit 1	3,966
Inside Blueline	60
Inside Blueline	640
Inside Blueline	<u>53</u>
Total	<u>4,719</u>

Cassville:

Unit 1	1,120
Unit 2	1,770
Unit 3	<u>1,589</u>
Total	<u>4,479</u>

Houston:

Unit 1 (2 areas)	2,337
Unit 1	1,370
Unit 2	160
Unit 3	1,379
Inside Blueline	40
Inside Blueline	40
Inside Blueline	200
Inside Blueline	<u>339</u>
Total	<u>5,865</u>

Cedar Creek:

Total	555
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Fredericktown:

Unit 1	164
Unit 2	6,881
Unit 3	<u>990</u>
Total	<u>8,035</u>

Potosi:

Unit 1	14,472
Inside Blueline	<u>746</u>
Total	<u>15,218</u>

Fristoe:

Doniphan	4,520
Van Buren	4,069
Winona	<u>3,154</u>
Total	<u>11,743</u>

Salem:

Unit 1	10,179
Inside Blueline	40
Inside Blueline	<u>240</u>
Total	<u>10,459</u>

Poplar Bluff:

Unit 1	21,184
Inside Blueline	<u>2,903</u>
Total	<u>24,087</u>

Willow Springs:

Unit 1	9,472
Unit 2	<u>130</u>
Total	<u>9,602</u>