

FOREST PLAN

APPENDIX J

THE MARK TWAIN NATIONAL FOREST LANDOWNERSHIP CONSOLIDATION CONCEPT

INTRODUCTION

Two issues being treated by Forest Land Management Planning are (1) Landownership adjustment, and (2) Reduction of administrative problems and costs. The Forest has developed a concept which consolidates landownership and eliminates significant administrative problems and costs. This concept emphasizes the exchange of scattered National Forest lands for private lands in areas of substantial National Forest ownership.

BACKGROUND

The landownership pattern of the Mark Twain is one of the more complex in Region Nine, and perhaps the nation. Much of this complexity is due to the Forest being in nine units spread across the south half of Missouri. This is a result of the original enabling legislation which limited the number of acres that could be acquired in each county. To have management areas of adequate size, purchase units were designated in suitable areas where two to six counties came together. The acreage limitations were later removed, but the purchase units were set. Although Forest boundaries have been pulled in during the intervening years, there are still parts of 29 counties within the Mark Twain's boundaries.

The division of these units into 13 Ranger Districts and the scattered National Forest ownership within them adds to the complexity. Most of these National Forest acres were acquired in the mid-1930's on a willing seller basis and consisted of mostly rough, cut-over ridge lands. The more level to rolling uplands and stream bottoms with agricultural utility remained primarily in private ownership. They can be identified on Forest maps today by the general absence of National Forest ownership.

The resulting ownership pattern varies significantly between areas of predominant National Forest ownership to those having very little. The Mark Twain has a gross area of 3,081,606 acres, and a net area of 1,463,144 acres, or a 48% net ownership. District net ownerships, however, range from 16 to 72%.

CURRENT SITUATION

Lands in scattered ownership create higher management costs and administrative impacts than similar acreages in consolidated ownerships. These impacts include: More property lines and corners to be surveyed, more road rights-of-way to be acquired, and higher incidences of occupancy trespass and special use requests.

These management impacts and their estimated cost to administer are as follows:

<u>Management Impact</u>	<u>Estimated Number</u>	<u>Estimated Cost of Each to Administer</u>	<u>Total Financial Impact</u>
Property Corners	18,400	(included with property lines)	-
Property Lines (Miles)	6,730	\$5,000	\$33,650,000
Road Rights-of-Way (Cases)	250	\$7,300	\$ 1,825,000
Occupancy Trespass (Known Cases)	700*	\$3,000	\$ 2,100,000
Special Uses (Existing Cases)	740	\$ 500	\$ 370,000
Total Financial Impact			\$37,945,000

* These are only known trespass cases making this a conservative estimate. It has been estimated that 3 trespass cases will be identified per mile of new property line established. At that rate, the Forest would have an estimated 20,890 cases costing \$62,670,000.

The elimination of all these impacts, or even most of them is not feasible. Significant reduction in their numbers however will provide real savings in the management of the Forest. The most effective means of reducing their number is through consolidation of current ownerships into more efficient holdings.

Most of the land acquisition activities on the Forest over the past 15 years have contributed to its consolidation. The Weeks Law, Land and Water Conservation Fund purchases, and tripartite the land for land exchange programs have all been used. Since 1965 and the initiation of the Land and Water Conservation Fund, the Mark Twain has acquired 87,725 acres of land or an average of 5,483 acres per year, much of it with L&WCF funds. It would require another 155 years to consolidate Forest landownership to a net ownership of 75%. This is a totally unrealistic length of time. Current reductions in land acquisition dollars and escalating land prices will extend it even further, while the costs of administering the scattered lands also continue to rise.

Funds available for tripartite exchange are being reduced by increased KV, wildlife, and road construction payments from timber receipts. The purchase of land through appropriations and tripartite exchanges can no longer provide the ownership consolidation needed to reduce land management costs and to improve operational efficiency. The only readily available means of landownership consolidation remaining, is land for land exchange. To be effective, it must be used aggressively with areas of consolidation and elimination specifically delineated. With this in mind, maps outlining consolidation areas and National Forest lands eligible for exchange were developed for each District.

EVALUATION

The consolidation lines are not intended to be new district boundaries. They are a management tool to guide landownership adjustment from areas of minimal ownership to those of maximum ownership, and from areas less desirable for National Forest purposes to those more suited. They also eliminate small protrusions from larger ownerships that unduly lengthen landlines. The Willow Springs Ranger District is used as an example to illustrate the effects of the consolidation line concept. The effects will vary considerably from District to District. The Willow Springs District with a net area of 102,330 acres and a gross areas of 194,617 acres has, at 53%, a net ownership similar to that of the Forest average.

The land management impacts on the Willow Springs District, both inside and outside the consolidation lines are shown in the following table. Also shown are the estimated number that could be eliminated through land for land exchange.

Management Impact	Outside Line	Inside Line	Total for District	Estimated No. Eliminated	Percent Reduction
Property Corners	73	1,017	1,090	110	10%
Property Lines (Miles)	96	417	513	144	28%
Road Rights-of-Way (Cases)	7	20	27	11	39%
Occupancy Trespass (Cases)	7	20	27	11	39%
Special Uses (Cases)	19	121	140	29	20%

By exchanging National Forest lands outside the consolidation line for those inside, all the management impacts outside the line will be eliminated. Also, a number equal to at least half the number outside will be eliminated inside the consolidation area. For example, exchanging an isolated National Forest tract with one mile of property line for a similar private tract surrounded by National Forest land would eliminate two miles of property line. Not all situations will permit elimination of one impact inside for each similar impact outside the consolidation line. The elimination of at least half the number inside that are eliminated outside is felt to be realistic.

The number and percentage of impacts eliminated will vary widely from District to District, but using the percent reduction indicated above for an "average" unit, the following reduction is estimated for the Forest.

Management Impact	Estimated Number	Estimated \$ Impact	Estimated % Reduction	Number Reduced	Estimated Savings
Property Corners	18,400	(with lines)	10%	1,840	(see property lines)
Property Lines (Miles)	6,730	\$33,656,000	28%	1,884	\$ 9,422,000
Road Rights-of-Way (Cases)	250	\$ 1,825,000	39%	98	\$ 711,750
Occupancy Trespass (Known Cases)	700	\$ 2,100,000	39%	273	\$ 819,000
Special Uses (Existing Cases)	740	\$ 370,000	20%	148	\$ 74,000
Total		\$37,945,000			\$11,026,750

The data indicates the most costly land management impacts could be reduced by 25% to 40% in numbers and 30% in cost under an aggressive land exchange program.

Land for land exchange requires an appraisal on both federal and non-federal lands, cultural resource and endangered species surveys, and environmental analysis. This is an expensive process. The question of whether the savings in administering a more consolidated ownership will equal or exceed the cost consolidation must be addressed.

Exchanging a 40-acre parcel of isolated National Forest land for a similar private 40-acre tract surrounded by National Forest land provides the following costs.

Exchange Cost Items	Estimated Cost
Process preliminary proposals	\$ 170
Write Environmental Report: 5 days @ \$110	550
Type Environmental Report: 3 days @ \$ 60	180
Cultural Resource Survey: 40 acres @ \$ 7.50	300
Endangered Species, floodplain, prime soils, minerals reviews	500
Appraisal of properties: 15 days @ \$110	1,650
Type and assemble appraisals: 1 day @ \$60	300
Process exchange and title work	+ 500
 Total Estimated Cost for Land for Land Exchange	 \$4,150

In comparison to these costs of carrying out the exchange, the following administrative costs would be eliminated:

Management Impact	Number Eliminated	Cost Each to Administer	Estimated Savings
Property Corners	8	(with property lines)	
Property Lines	2 miles	+6,500*	\$13,000
Roads Rights-of-Way	1	7,300	7,300
Occupancy Trespass	4	3,000	12,000
Special Use Permits	1	500	500
Total Estimated Savings from Consolidated by Exchange			\$32,800

* Since it requires more tie lines to subdivide a section into smaller tracts the most favorable cost benefit per acre is achieved when exchanging small tracts.

If the non-federal tract was purchased with allocated funds and the isolated federal tract remained in National Forest ownership, the following acquisition costs result.

Purchase Cost Items	Estimated Cost
Process preliminary proposals	\$ 100
Appraisal of property: 10 days @ \$110	1,100
Type and assemble appraisal: 3 days @ \$ 60	180
Process purchase and title work	500
Title insurance	+ 150
Subtotal processing costs	\$ 2,030
Purchase price: 40 acres @ \$300	+ 12,000
Total Estimated Cost of Land Acquisition	\$ 14,030

In comparison the following costs would be eliminated:

Management Impact	Number Eliminated	Cost Each to Administer	Estimated Savings
Property Corners	4	(with property lines)	-
Property Lines	1 mile	\$5,000	\$5,000
Roads Rights-of-Way	0	7,300	-
Occupancy Trespass	0	3,000	-
Special Use Permits	1	500	500
Total estimated savings from consolidation by purchase			\$5,500

With an isolated federal 40 still in National Forest ownership, purchase of the non-federal tract does not eliminate the 4 property corners and 1 mile of property line (\$5,000) around the federal tract. Nor does it remove the right-of-way (\$7,300) needed for access to the federal tract and the occupancy trespass (\$3,000) on it. Theoretically, an additional \$15,300 in administrative costs plus a \$12,000 purchase price, totaling \$27,300 could have been saved by exchanging the isolated National Forest tract for the private parcel.

The processing of a land exchange costs approximately twice as much as the direct purchase of non-federal land (\$4,150 vs. \$2,030 in the above example). This is due primarily to legislative and policy constraints. However, the savings in administrative costs realized in exchanging isolated federal tracts and federal lands in areas of sparse ownership will more than offset the cost of the exchange. It will net more administrative savings than direct purchase of the non-federal tract and when the purchase price is added, will cost significantly less than direct purchase. The figures in this example can be compared as follows:

<u>Cost/Benefits</u>	<u>Exchange</u>	<u>Purchase</u>
Case Processing	- \$ 4,150	- \$ 2,030
Land Purchase	-	- 12,000
Total Costs	- \$ 4,150	- \$14,030
Administrative Benefits	+ 20,800	+ 5,500
Net Savings to USA	+ \$16,650	- \$ 8,530

These examples show how effective land exchange can be in reducing land management costs. To be effective, it is necessary to delineate consolidation and trade out areas and to establish exchange criteria defining the types of non-federal lands that will be accepted. An effective exchange program must have direction and purpose.

Development of the consolidation lines started with a Forest map for each of the 9 units making up the Forest. National Forest land ownership was brought up to date on each map. Non-federal lands designated as suitable for purchase in recreation composite areas were shaded in to emphasize their need.

High Level Land Use and Data Analysis photography developed by the United States Geological Survey and the Missouri Department of Natural Resources was then used to shade in other non-federal acreages, primarily wooded areas, suitable for National Forest purposes. The remaining non-federal acreages were essentially open farm and pasture lands, or residential developments.

The Forest Supervisor and Staff reviewed these base maps, sketching in the first draft of the consolidation lines. Each map was then sent to the respective Ranger District for review. Each Ranger returned the map of his District in person, and discussed any changes he believed necessary with the Forest Supervisor. Once the Ranger review was completed and final alignment determined, Forest Land Management Planning maps were compiled showing the consolidation line, and National Forest and non-federal acreages inside and outside the line for each District. Copies of these maps were furnished to the respective Districts and the Forest Land Management Planning Team for use in developing the Forest Land Management Plan. Copies were also furnished to the Land Acquisition Section in the Supervisor's Office and the field appraisers so that current and future land ownership adjustment negotiations and activities will have the benefit of this information.

The following is a summary of the consolidation line data:

District	N.F. Inside Consol. Area	Suitable For N.F. Inside	Other Inside	N.F. Outside	Other Outside	Total
AVA	131,560	44,322	18,860	11,126	82,458	288,326
CASSVILLE	56,413	20,811	6,546	12,883	150,294	246,947
CEDAR CREEK	12,726	40,594	13,118	None	23,571	90,009
DONIPHAN	122,100	16,293	15,468	3,356	42,938	200,335
FREDERICKTOWN	76,559	39,544	14,674	11,185	84,234	226,196
HOUSTON	59,533	40,993	26,676	6,554	72,529	206,285
POPLAR BLUFF	152,864	57,697	57,410	2,817	64,485	335,273
POTOSI	196,257	67,204	45,848	6,446	53,514	369,269
ROLLA	114,167	16,418	62,804	8,827	98,320	300,536
SALEM	181,035	38,289	58,292	3,410	26,096	307,122
VAN BUREN	79,290	11,947	15,733	354	4,109	111,433
WILLOW SPRINGS	95,980	24,177	6,317	6,889	61,255	194,618
WINONA	118,239	27,845	17,153	855	43,321	207,413
FOREST	1,396,723	446,134	359,079	74,702	807,124	3,083,762