

## *Quick-Silver Investment Analysis*

## *Project Description*

**Forest:** Mark Twain NF Salem Ranger District  
**Analyst:** Bryan & Massengale  
**File:** CROOKED CREEK.QSP

*USDA Forest Service*  
*NRIS-Human Dimensions Module*  
*East Lansing, MI*

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## *Description and Parameters*

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**File:** CROOKED CREEK.QSP  
**DataPath:** c:  
  
**Start Year:** 2004  
**Transactions:** 22  
**Alternatives:** 3  
**Partners:** 1

**Last Modified:** 3/1/2004  
**Discount Rate:** 4.000  
**Inflation Rate:** 2.000

## *Partners*

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USFS            USFS

## *Alternatives*

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Alternative 1    No Action  
Alternative 2    Proposed Action  
Alternative 3    Reduced Final Harvest with Natural Regeneration only

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<b>All Partners</b>	<b>Alternative 1</b>	<b>Discount Rate: 4.000</b>
Cash Flows (number)	0	
PV-Costs (\$)	NA	
PV-Benefits (\$)	NA	
Present Net Value (\$)	NA	
B/C Ratio	NA	
Investment Length (years)	NA	
Net Annual Equivalent (\$)	NA	
Composite Rate of Return (percent)	NA	
Internal Rate of Return (percent)	NA	

<b>All Partners</b>	<b>Alternative 2</b>	<b>Discount Rate: 4.000</b>
Cash Flows (number)	14	
PV-Costs (\$)	-\$1,266,245.05	
PV-Benefits (\$)	\$1,791,712.94	
Present Net Value (\$)	\$525,467.89	
B/C Ratio	1.41	
Investment Length (years)	11	
Net Annual Equivalent (\$)	\$59,981.66	
Composite Rate of Return (percent)	7.33	
Internal Rate of Return (percent)	NA	

<b>All Partners</b>	<b>Alternative 3</b>	<b>Discount Rate: 4.000</b>
Cash Flows (number)	12	
PV-Costs (\$)	-\$1,001,373.82	
PV-Benefits (\$)	\$1,647,885.88	
Present Net Value (\$)	\$646,512.06	
B/C Ratio	1.65	
Investment Length (years)	6	
Net Annual Equivalent (\$)	\$123,329.87	
Composite Rate of Return (percent)	13.00	
Internal Rate of Return (percent)	168.54	

<b>USFS</b>	<b>Alternative 1</b>	<b>Discount Rate: 4.000</b>
Cash Flows (number)	0	
PV-Costs (\$)	NA	
PV-Benefits (\$)	NA	
Present Net Value (\$)	NA	
B/C Ratio	NA	
Investment Length (years)	NA	
Net Annual Equivalent (\$)	NA	
Composite Rate of Return (percent)	NA	
Internal Rate of Return (percent)	NA	

<b>USFS</b>	<b>Alternative 2</b>	<b>Discount Rate: 4.000</b>
Cash Flows (number)	14	
PV-Costs (\$)	-\$1,266,245.05	
PV-Benefits (\$)	\$1,791,712.94	
Present Net Value (\$)	\$525,467.89	
B/C Ratio	1.41	
Investment Length (years)	11	
Net Annual Equivalent (\$)	\$59,981.66	
Composite Rate of Return (percent)	7.33	

## *Quick-Silver Investment Analysis*

## *Economic Returns Report*

**Forest:** Mark Twain NF Salem Ranger  
**Analyst:** Bryan & Massengale  
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**Title:** Crooked Creek Analysis Area EA

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*East Lansing, MI*

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Internal Rate of Return (percent) NA

### *USFS*

### *Alternative 3*

**Discount Rate:** 4.000

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Cash Flows (number)	12
PV-Costs (\$)	-\$1,001,373.82
PV-Benefits (\$)	\$1,647,885.88
Present Net Value (\$)	\$646,512.06
B/C Ratio	1.65
Investment Length (years)	6
Net Annual Equivalent (\$)	\$123,329.87
Composite Rate of Return (percent)	13.00
Internal Rate of Return (percent)	168.54

## Quick-Silver Investment Analysis

## Economic Returns Crosstab Report

**Forest:** Mark Twain NF Salem Ranger District  
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### All Partners

Discount Rate %: 4.0000

	<u>Alternative 1</u>	<u>Alternative 2</u>	<u>Alternative 3</u>
B/C Ratio	NA	1.41	1.65
Cash Flows (number)	0	14	12
Composite Rate of Return (percent)	NA	7.33	13.00
Internal Rate of Return (percent)	NA	NA	168.54
Investment Length (years)	NA	11	6
Net Annual Equivalent (\$)	NA	\$59,981.66	\$123,329.87
Present Net Value (\$)	NA	\$525,467.89	\$646,512.06
PV-Benefits (\$)	NA	\$1,791,712.94	\$1,647,885.88
PV-Costs (\$)	NA	-\$1,266,245.05	-\$1,001,373.82

### USFS

Discount Rate %: 4.0000

	<u>Alternative 1</u>	<u>Alternative 2</u>	<u>Alternative 3</u>
B/C Ratio	NA	1.41	1.65
Cash Flows (number)	0	14	12
Composite Rate of Return (percent)	NA	7.33	13.00
Internal Rate of Return (percent)	NA	NA	168.54
Investment Length (years)	NA	11	6
Net Annual Equivalent (\$)	NA	\$59,981.66	\$123,329.87
Present Net Value (\$)	NA	\$525,467.89	\$646,512.06
PV-Benefits (\$)	NA	\$1,791,712.94	\$1,647,885.88
PV-Costs (\$)	NA	-\$1,266,245.05	-\$1,001,373.82

**Quick-Silver Investment Analysis**

**List of Cash Flows**

**Forest:** Mark Twain NF Salem Ranger District  
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**NRIS-Human Dimensions Module**  
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**Alternative: Alternative 2**

<u>ar</u>	<u>CYear</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost</u>	<u>Benefit</u>	<u>Partner</u>
0	2004	road design (Roads)	8.40 miles	\$8,400.00		USFS
0	2004	road construction (Roads)	8.40 miles	\$50,400.00		USFS
0	2004	hazardous fuel reduction (fuels)	5,956.00 acres	\$208,460.00		USFS
0	2004	open woodland development (wildlife)	2,445.00 acres	\$85,575.00		USFS
1	2005	sale prep (timber sale(s))	5,904.00 acres	\$238,384.04		USFS
1	2005	oak sawtimber (timber sale(s))	12,728.00 mbf		\$1,844,821.78	USFS
2	2006	open woodland development (wildlife)	2,445.00 acres	\$91,723.23		USFS
3	2007	pine posts (timber sale(s))	1,809.00 mbf		\$20,074.15	USFS
4	2008	site prep (reforestation)	3,129.00 acres	\$377,450.25		USFS
4	2008	open woodland development (wildlife)	2,445.00 acres	\$98,313.18		USFS
5	2009	stocking survey (reforestation)	3,129.00 acres	\$18,608.30		USFS
6	2010	plant pine (reforestation)	667.00 acres	\$91,990.11		USFS
6	2010	non-sys road closure (Roads)	10.10 miles	\$3,731.13		USFS
11	2015	pine release (reforestation)	667.00 acres	\$102,575.46		USFS

**Quick-Silver Investment Analysis**

**List of Cash Flows**

**Forest:** Mark Twain NF Salem Ranger District  
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**Alternative: Alternative 3**

<u>CYear</u>		<u>Quantity</u>	<u>Cost</u>	<u>Benefit</u>	<u>Partner</u>	
0	2004	road design (Roads)	8.40 miles	\$8,400.00		USFS
0	2004	road construction (Roads)	8.40 miles	\$50,400.00		USFS
0	2004	hazardous fuels reduction (fuels)	5,956.00 acres	\$208,460.00		USFS
0	2004	open woodland development (wildlife)	2,445.00 acres	\$85,575.00		USFS
1	2005	sale prep (timber sale(s))	5,609.00 acres	\$226,472.91		USFS
1	2005	oak sawtimber (timber sale(s))	11,696.00 mbf		\$1,695,241.63	USFS
2	2006	open woodland development (wildlife)	2,445.00 acres	\$91,723.23		USFS
3	2007	pine posts (timber sale(s))	1,809.00 mbf		\$20,074.15	USFS
4	2008	site prep (reforestation)	2,167.00 acres	\$261,404.50		USFS
4	2008	open woodland development (wildlife)	2,445.00 acres	\$98,313.18		USFS
5	2009	stocking survey (reforestation)	2,167.00 acres	\$12,887.24		USFS
6	2010	non-sys road closure	10.10 miles	\$3,731.13		USFS

**Quick-Silver Investment Analysis**

**Transaction Detailst – Sorted by Partner**

**Forest:** Mark Twain NF Salem Ranger District  
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**COST**      **USFS**

<i>Alternative:</i>	<i>Alternative 2</i>	<i>Category</i>	<i>Year(s)</i>	<i>Quantity</i>	<i>Value</i>	<i>Rate(%)</i>	<i>Base</i>	<i>Update</i>
	hazardous fuel reduction <i>Notes: <u>New</u></i>	fuels	One time	0	5,956.00 acres	\$35.00	1.50	2004 3/3/2004
	pine release <i>Notes: <u>New</u></i>	reforestation	One time	11	667.00 acres	\$105.00	1.50	2004 3/17/200
	plant pine <i>Notes: <u>New</u></i>	reforestation	One time	6	667.00 acres	\$112.00	1.50	2004 3/17/200
	site prep <i>Notes: <u>New</u></i>	reforestation	One time	4	3,129.00 acres	\$105.00	1.50	2004 3/17/200
	stocking survey <i>Notes: <u>New</u></i>	reforestation	One time	5	3,129.00 acres	\$5.00	1.50	2004 3/17/200
	non-sys road closure <i>Notes: <u>New</u></i>	Roads	One time	6	10.10 miles	\$300.00	1.50	2004 3/18/200
	road construction <i>Notes: <u>New</u></i>	Roads	One time	0	8.40 miles	\$6,000.00	1.50	2004 3/3/2004
	road design <i>Notes: <u>New</u></i>	Roads	One time	0	8.40 miles	\$1,000.00	1.50	2004 3/3/2004
	sale prep <i>Notes: <u>New</u></i>	timber sale(s)	One time	1	5,904.00 acres	\$39.00	1.50	2004 3/18/200
	open woodland development <i>Notes: <u>New</u></i>	wildlife	Periodic	0-5 by 2	2,445.00 acres	\$35.00	1.50	2004 3/3/2004
<i>Alternative:</i>	<i>Alternative 3</i>	<i>Category</i>	<i>Year(s)</i>	<i>Quantity</i>	<i>Value</i>	<i>Rate(%)</i>	<i>Base</i>	<i>Update</i>
	hazardous fuels reduction <i>Notes: <u>New</u></i>	fuels	One time	0	5,956.00 acres	\$35.00	1.50	2004 3/3/2004
	site prep <i>Notes: <u>New</u></i>	reforestation	One time	4	2,167.00 acres	\$105.00	1.50	2004 3/17/200
	stocking survey <i>Notes: <u>New</u></i>	reforestation	One time	5	2,167.00 acres	\$5.00	1.50	2004 3/17/200
	non-sys road closure <i>Notes: <u>New</u></i>	Roads	One time	6	10.10 miles	\$300.00	1.50	2004 3/18/200

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**Transaction Details - Sorted by Partner**

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road construction <u>New</u>	Roads	One time	0	8.40 miles	\$6,000.00	1.50	2004	3/3/2004
road design <u>Notes: New</u>	Roads	One time	0	8.40 miles	\$1,000.00	1.50	2004	3/18/200
sale prep <u>Notes: New</u>	timber sale(s)	One time	1	5,609.00 acres	\$39.00	1.50	2004	3/17/200
open woodland development <u>Notes: New</u>	wildlife	Periodic	0-5 by 2	2,445.00 acres	\$35.00	1.50	2004	3/3/2004

**BENEFIT**      *USFS*

<i>Alternative:</i>	<i>Alternative 2</i>	<i>Category</i>		<i>Year(s)</i>	<i>Quantity</i>	<i>Value</i>	<i>Rate(%)</i>	<i>Base</i>	<i>Update</i>
oak sawtimber <u>Notes: New</u>		timber sale(s)	One time	1	12,728.00 mbf	\$140.00	1.50	2004	3/17/200
pine posts <u>Notes: New</u>		timber sale(s)	One time	3	1,809.00 mbf	\$10.00	1.50	2004	3/18/200

<i>Alternative:</i>	<i>Alternative 3</i>	<i>Category</i>		<i>Year(s)</i>	<i>Quantity</i>	<i>Value</i>	<i>Rate(%)</i>	<i>Base</i>	<i>Update</i>
oak sawtimber <u>Notes: New</u>		timber sale(s)	One time	1	11,696.00 mbf	\$140.00	1.50	2004	3/18/200
pine posts <u>Notes: New</u>		timber sale(s)	One time	3	1,809.00 mbf	\$10.00	1.50	2004	3/18/200

**Quick-Silver Investment Analysis**

**Cash Flow Summary Report**

**Forest:** Mark Twain NF Salem Ranger District  
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0	2004	USFS	-\$352,835.00	\$0.00	-\$352,835.00
<b>Year Total:</b>			<b>-\$352,835.0</b>	<b>\$0.00</b>	<b>-\$352,835.0</b>
1	2005	USFS	-\$238,384.04	\$1,844,821.78	\$1,606,437.74
<b>Year Total:</b>			<b>-\$238,384.0</b>	<b>\$1,844,821.78</b>	<b>\$1,606,437.74</b>
2	2006	USFS	-\$91,723.23	\$0.00	-\$91,723.23
<b>Year Total:</b>			<b>-\$91,723.23</b>	<b>\$0.00</b>	<b>-\$91,723.23</b>
3	2007	USFS	\$0.00	\$20,074.15	\$20,074.15
<b>Year Total:</b>			<b>\$0.00</b>	<b>\$20,074.15</b>	<b>\$20,074.15</b>
4	2008	USFS	-\$475,763.44	\$0.00	-\$475,763.44
<b>Year Total:</b>			<b>-\$475,763.44</b>	<b>\$0.00</b>	<b>-\$475,763.44</b>
5	2009	USFS	-\$18,608.30	\$0.00	-\$18,608.30
<b>Year Total:</b>			<b>-\$18,608.30</b>	<b>\$0.00</b>	<b>-\$18,608.30</b>
6	2010	USFS	-\$95,721.24	\$0.00	-\$95,721.24
<b>Year Total:</b>			<b>-\$95,721.24</b>	<b>\$0.00</b>	<b>-\$95,721.24</b>
11	2015	USFS	-\$102,575.46	\$0.00	-\$102,575.46
<b>Year Total:</b>			<b>-\$102,575.46</b>	<b>\$0.00</b>	<b>-\$102,575.46</b>
0	2004	USFS	-\$352,835.00	\$0.00	-\$352,835.00
<b>Year Total:</b>			<b>-\$352,835.0</b>	<b>\$0.00</b>	<b>-\$352,835.0</b>
1	2005	USFS	-\$226,472.91	\$1,695,241.63	\$1,468,768.72
<b>Year Total:</b>			<b>-\$226,472.91</b>	<b>\$1,695,241.63</b>	<b>\$1,468,768.72</b>
2	2006	USFS	-\$91,723.23	\$0.00	-\$91,723.23
<b>Year Total:</b>			<b>-\$91,723.23</b>	<b>\$0.00</b>	<b>-\$91,723.23</b>
3	2007	USFS	\$0.00	\$20,074.15	\$20,074.15
<b>Year Total:</b>			<b>\$0.00</b>	<b>\$20,074.15</b>	<b>\$20,074.15</b>
4	2008	USFS	-\$359,717.69	\$0.00	-\$359,717.69
<b>Year Total:</b>			<b>-\$359,717.69</b>	<b>\$0.00</b>	<b>-\$359,717.69</b>

### *Quick-Silver Investment Analysis*

**Forest:** Mark Twain NF Salem Ranger District  
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### *Cash Flow Summary Report*

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#### *Alternative: Alternative 3*

<i>Year</i>	<i>CYear</i>	<i>Partner</i>	<i>Cost</i>	<i>Benefit</i>	<i>Net</i>
5	2009	USFS	-\$12,887.24	\$0.00	-\$12,887.24
<b>Year Total:</b>			<b>-\$12,887.24</b>	<b>\$0.00</b>	<b>-\$12,887.24</b>
6	2010	USFS	-\$3,731.13	\$0.00	-\$3,731.13
<b>Year Total:</b>			<b>-\$3,731.13</b>	<b>\$0.00</b>	<b>-\$3,731.13</b>

**Quick-Silver Investment Analysis**

**Cash Flows by Category Report**

**Forest:** Mark Twain NF Salem Ranger District  
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		<u>Alternative 2</u>	<u>Alternative 3</u>	
0	2004	-\$208,460.00	-\$208,460.00	
<b>USFS</b>		<b>COST</b>		<b>reforestation</b>

<u>Year</u>		<u>Alternative 2</u>	<u>Alternative 3</u>	
4	2008	-\$377,450.25	-\$261,404.50	
5	2009	-\$18,608.30	-\$12,887.24	
6	2010	-\$91,990.11	\$0.00	
11	2015	-\$102,575.46	\$0.00	
<b>USFS</b>		<b>COST</b>		<b>Roads</b>

<u>Year</u>		<u>Alternative 2</u>	<u>Alternative 3</u>	
0	2004	-\$58,800.00	-\$58,800.00	
6	2010	-\$3,731.13	-\$3,731.13	
<b>USFS</b>		<b>COST</b>		<b>timber sale(s)</b>

<u>Year</u>		<u>Alternative 2</u>	<u>Alternative 3</u>	
1	2005	-\$238,384.04	-\$226,472.91	
<b>USFS</b>		<b>COST</b>		<b>wildlife</b>

<u>Year</u>		<u>Alternative 2</u>	<u>Alternative 3</u>	
0	2004	-\$85,575.00	-\$85,575.00	
2	2006	-\$91,723.23	-\$91,723.23	
4	2008	-\$98,313.18	-\$98,313.18	
<b>USFS</b>		<b>BENEFIT</b>		<b>timber sale(s)</b>

<u>Year</u>		<u>Alternative 2</u>	<u>Alternative 3</u>	
1	2005	\$1,844,821.7	\$1,695,241.6	
3	2007	\$20,074.15	\$20,074.15	