

## **Appendix D – Economic Analysis**

**Alternative 1 - Proposed Action**

Clear-cut: 40 acres  
 Clear-cut with reserves: 20 acres  
 Commercial Thin: 17 acres  
 Visual Cut: 26 acres

Year	Item	Units: Proposed Action	Cost/Unit
2001	NEPA – EA	Each	15,000 each
2002	Sale recon, design, layout, prep	500 MBF/ 103 ac	33.71/MBF
2003	Temporary road construction	.25 miles	12,000/mile
2003	Fiddlers Lake Pullout Reconstruction	.1 mile	12,000/mile
2003,2004	Sale Administration	250 MBF/ year	35.00/MBF
2003,2004	Road Maintenance	13 miles	135.00/mile
2005	Broadcast burn cc units	40 ac	120.00/acre
2005	Hand pile & burn slash: cc w/reserve units, Visual Cuts, Thin, 100 feet from Loop Road	63 ac	170.00/acre
2005	Plant cc, reserve, visual cuts	33 ac	230.00/acre
2006,2008,2010	Planting survival surveys	67 ac	4.00/acre
2006	Aspen Coppice/Road Clearing	14 ac	170.00/acre
2028	Pre-commercial thin	67 ac	170.00/acre

**Alternative 2 - No Action**

Year	Item	Units: Proposed Action	Cost/Unit
2001	NEPA – EA	Each	15,000

**Alternative C - Address Visuals**

Clear-cut: 33 ac

Clear-cut with reserves: 27 ac

Commercial Thin: 17 ac

Visual Cuts: 46 acres

Year	Item	Units: Proposed Action	Cost/Unit
2001	NEPA – EA	Each	15,000
2002	Sale recon, design, layout, prep	525 MBF / 123 ac	33.71/MBF
2003	Temporary road construction	.25 miles	12,000/mile
2003	Fiddlers Lake Pullout Reconstruction	.1 mile	12,000/mile
2003,2004	Sale Administration	262.5 MBF/year	35.00/MBF
2003,2004	Road Maintenance	13 miles	135.00/mile
2005	Broadcast burn cc units	33 ac	120.00/acre
2005	Hand pile & burn slash: cc w/reserve and thin units, 100 feet from Loop Road	90 ac	175.00/acre
2005	Plant cc, reserve and visual units	36 ac	230.00/acre
2006,2008,2010	Planting survival surveys	72 ac	4.00/acre
2006	Aspen Coppice/Road Clearing	14 ac	170.00/acre
2028	Precommercial thin	72 ac	170.00/acre

**Notes**

Quicksilver version: 5.004.45

Regional QSS: qss\_r2\_072001.qss.QS

- Copied original QSSystem.qss to QSSystem\_bu.qss
- Deleted original QSSystem.qss.
- Renamed qss\_r2\_072001.qss.QS to QSSystem.qss. Added unit costs as obtained from draft Fiddler’s economic run where different from regional costs.

Fill-in planting:

- Used clear-cut, clear-cut with reserves, and ¼ of the acreage for visual cuts. Approximately ½ of this acreage was assumed to need fill-in planting.

Planting survival surveys and precommercial thin:

- Used clear-cut, clear-cut with reserves, and ¼ of the acreage for visual cuts.

Aspen coppice/road clearing:

- Used acreage estimate for aspen release unit (12 acres), and estimated ½ mile of road clearing, converted to acres (2 acres).

**Description and Parameters**

**Project Description**

**File:** FIDDLERS.QSP  
**DataPath:** j:\fsfiles\office\nepa\_work\timber\fiddlers\idt\_reports\econ

**Start Year:** 2001  
**Transactions:** 28  
**Alternatives:** 4  
**Partners:** 1

**Last Modified:** 5/7/2002  
**Discount Rate:** 4.000  
**Inflation Rate:** 0.000

**Partners**

USFS USFS

**Alternatives**

Control Default Control Alternative  
 Alternative 1 Proposed Action  
 Alternative 2 No Action  
 Alternative 3 Visual Considerations

**Economic Returns Crosstab Report**

**All Partners**

	<u>Alternative 1</u>	<u>Alternative 2</u>	<u>Alternative 3</u>	<u>Control</u>
B/C Ratio	1.08	0.00	1.05	NA
Cash Flows (number)	18	1	18	0
Composite Rate of Return (percent)	4.28	NA	4.20	NA
Internal Rate of Return (percent)	NA	NA	NA	NA
Investment Length (years)	27	0	27	NA
Net Annual Equivalent (\$)	\$385.52	NA	\$293.46	NA
Present Net Value (\$)	\$6,295.36	-\$15,000.00	\$4,792.07	NA
PV-Benefits (\$)	\$89,317.46	\$0.00	\$93,783.34	NA
PV-Costs (\$)	-\$83,022.10	-\$15,000.00	-\$88,991.27	NA

**USFS**

	<u>Alternative 1</u>	<u>Alternative 2</u>	<u>Alternative 3</u>	<u>Control</u>
B/C Ratio	1.08	0.00	1.05	NA
Cash Flows (number)	18	1	18	0
Composite Rate of Return (percent)	4.28	NA	4.20	NA
Internal Rate of Return (percent)	NA	NA	NA	NA
Investment Length (years)	27	0	27	NA
Net Annual Equivalent (\$)	\$385.52	NA	\$293.46	NA
Present Net Value (\$)	\$6,295.36	-\$15,000.00	\$4,792.07	NA
PV-Benefits (\$)	\$89,317.46	\$0.00	\$93,783.34	NA
PV-Costs (\$)	-\$83,022.10	-\$15,000.00	-\$88,991.27	NA

**Cash Flows by Category Report**

<b>USFS</b>		<b>COST</b>		<b>Timber Sales-Shoshone</b>	
<u>Year</u>		<u>Alternative 1</u>	<u>Alternative 2</u>	<u>Alternative 3</u>	
0	2001	-\$15,000.00	-\$15,000.00	-\$15,000.00	
1	2002	-\$16,855.00	\$0.00	-\$17,697.75	
2	2003	-\$14,705.00	\$0.00	-\$15,142.50	
3	2004	-\$10,505.00	\$0.00	-\$10,942.50	
4	2005	-\$23,100.00	\$0.00	-\$27,540.00	
5	2006	-\$2,648.00	\$0.00	-\$2,668.00	
7	2008	-\$268.00	\$0.00	-\$288.00	
9	2010	-\$268.00	\$0.00	-\$288.00	
27	2028	-\$11,390.00	\$0.00	-\$12,240.00	

<b>USFS</b>		<b>BENEFIT</b>		<b>Timber Sales-Shoshone</b>	
<u>Year</u>		<u>Alternative 1</u>	<u>Alternative 3</u>		
2	2003	\$49,250.00	\$51,712.50		
3	2004	\$49,250.00	\$51,712.50		

*List of Cash Flows**Alternative: Alternative 1*

<u>Year</u>	<u>CYear</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost</u>	<u>Benefit</u>	<u>Partner</u>
0	2001	NEPA (Timber Sales-Shoshone)	1.00 each	\$15,000.00		USFS
1	2002	Sale Preparation (Timber Sales-Shoshone)	500.00 MBF	\$16,855.00		USFS
2	2003	Temporary Road Construction (Timber Sale)	0.25 miles	\$3,000.00		USFS
2	2003	Road maintenance (Timber Sales-Shoshone)	13.00 miles	\$1,755.00		USFS
2	2003	Road Reconstruction (Timber Sales-Shoshon)	0.10 miles	\$1,200.00		USFS
2	2003	Revenues-All Sales (Timber Sales-Shoshone)	250.00 MBF		\$49,250.00	USFS
2	2003	Harvest Admin-Timber Comm (Timber Sale)	250.00 MBF	\$8,750.00		USFS
3	2004	Road maintenance (Timber Sales-Shoshone)	13.00 miles	\$1,755.00		USFS
3	2004	Revenues-All Sales (Timber Sales-Shoshone)	250.00 MBF		\$49,250.00	USFS
3	2004	Harvest Admin-Timber Comm (Timber Sale)	250.00 MBF	\$8,750.00		USFS
4	2005	Broadcast burn cc units (Timber Sales-Shos)	40.00 acres	\$4,800.00		USFS
4	2005	Hand pile; burn slash reserve tree, etc. (Ti	63.00 acres	\$10,710.00		USFS
4	2005	Plant cc, reserve, visual units (Timber Sale)	33.00 acres	\$7,590.00		USFS
5	2006	Survival surveys-planting (Timber Sales-Sh	67.00 acres	\$268.00		USFS
5	2006	Aspen Coppice/Road Clearing (Timber Sale)	14.00 acres	\$2,380.00		USFS
7	2008	Survival surveys-planting (Timber Sales-Sh	67.00 acres	\$268.00		USFS
9	2010	Survival surveys-planting (Timber Sales-Sh	67.00 acres	\$268.00		USFS
27	2028	Precommercial Thinning (Timber Sales-Sho	67.00 acres	\$11,390.00		USFS

*Alternative: Alternative 2*

<u>Year</u>	<u>CYear</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost</u>	<u>Benefit</u>	<u>Partner</u>
0	2001	NEPA (Timber Sales-Shoshone)	1.00 each	\$15,000.00		USFS

**Alternative: Alternative 3**

<u>Year</u>	<u>CYear</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost</u>	<u>Benefit</u>	<u>Partner</u>
0	2001	NEPA (Timber Sales-Shoshone)	1.00 each	\$15,000.00		USFS
1	2002	Sale Preparation (Timber Sales-Shoshone)	525.00 MBF	\$17,697.75		USFS
2	2003	Temporary Road Construction (Timber Sale)	0.25 miles	\$3,000.00		USFS
2	2003	Harvest Admin-Timber Comm (Timber Sale)	262.50 MBF	\$9,187.50		USFS
2	2003	Road Reconstruction (Timber Sales-Shoshon)	0.10 miles	\$1,200.00		USFS
2	2003	Road maintenance (Timber Sales-Shoshone)	13.00 miles	\$1,755.00		USFS
2	2003	Revenues-All Sales (Timber Sales-Shoshone)	262.50 MBF		\$51,712.50	USFS
3	2004	Harvest Admin-Timber Comm (Timber Sale)	262.50 MBF	\$9,187.50		USFS
3	2004	Road maintenance (Timber Sales-Shoshone)	13.00 miles	\$1,755.00		USFS
3	2004	Revenues-All Sales (Timber Sales-Shoshone)	262.50 MBF		\$51,712.50	USFS
4	2005	Broadcast burn cc units (Timber Sales-Shos)	33.00 acres	\$3,960.00		USFS
4	2005	Hand pile; burn slash reserve tree, etc. (Ti	90.00 acres	\$15,300.00		USFS
4	2005	Plant cc, reserve, visual units (Timber Sale	36.00 acres	\$8,280.00		USFS
5	2006	Survival surveys-planting (Timber Sales-Sh	72.00 acres	\$288.00		USFS
5	2006	Aspen Coppice/Road Clearing (Timber Sale	14.00 acres	\$2,380.00		USFS
7	2008	Survival surveys-planting (Timber Sales-Sh	72.00 acres	\$288.00		USFS
9	2010	Survival surveys-planting (Timber Sales-Sh	72.00 acres	\$288.00		USFS
27	2028	Precommercial Thinning (Timber Sales-Sho	72.00 acres	\$12,240.00		USFS

## Transaction Details - Sorted by Partner

## COST USFS

<i>Alternative:</i>	<i>Alternative 1</i>	<i>Category</i>	<i>Year(s)</i>	<i>Quantity</i>	<i>Value</i>	<i>Rate(%)</i>	<i>Base</i>	<i>Update</i>
		Aspen Coppice/Road Clearing	Timber Sales-Shoshone	One time 5	14.00 acres	\$170.00	0.00	2001 9/17/200
<i>Notes:</i> <u>Aspen coppice and road side clearing for safety-noncommercial material. Costs based on precommercial thinning based on the similarity of work.</u>								
		Broadcast burn cc units	Timber Sales-Shoshone	One time 4	40.00 acres	\$120.00	0.00	2001 9/17/200
<i>Notes:</i> <u>Costs based on actual costs from similar projects</u>								
		Hand pile; burn slash reserve tree, etc.	Timber Sales-Shoshone	One time 4	63.00 acres	\$170.00	0.00	2001 9/17/200
<i>Notes:</i> <u>Hand pile and burn reserve tree/visual cuts/thins/100 feet from Loop Road.</u>								
		Harvest Admin-Timber Comm	Timber Sales-Shoshone	Periodic 2-3 by 1	250.00 MBF	\$35.00	0.00	2001 9/21/200
<i>Notes:</i> <u>FY98 TSPIRS 3-yr avg w/o GA</u>								
		NEPA	Timber Sales-Shoshone	One time 0	1.00 each	\$15,000.00	0.00	2001 9/21/200
<i>Notes:</i> <u>Cost based on actual expenditures for projects of this type.</u>								
		Plant cc, reserve, visual units	Timber Sales-Shoshone	One time 4	33.00 acres	\$230.00	0.00	2001 9/21/200
<i>Notes:</i> <u>Fill in plant cc, reserve tree, visual units if necessary. It is estimated that natural regeneration will be sufficient on 50% of the acres harvested. Estimate 1/4 of visual cuts will need fill-in planting.</u>								
		Precommercial Thinning	Timber Sales-Shoshone	One time 27	67.00 acres	\$170.00	0.00	2001 9/21/200
<i>Notes:</i> <u>Costst based on actual costs of recent precommercial thinning projects. Acreage for cc, reserve, and 1/4 acreage of visual cuts.</u>								
		Road maintenance	Timber Sales-Shoshone	Periodic 2-3 by 1	13.00 miles	\$135.00	0.00	2001 9/17/200
<i>Notes:</i> <u>Cost based on engineer's estimate</u>								
		Road Reconstruction	Timber Sales-Shoshone	One time 2	0.10 miles	\$12,000.00	0.00	2001 1/24/200
<i>Notes:</i> <u>Cost includes necessary drainage structures, erosion control and obliteration of existing road. Costs based on appraised value</u>								
		Sale Preparation	Timber Sales-Shoshone	One time 1	500.00 MBF	\$33.71	0.00	2001 9/17/200
<i>Notes:</i> <u>FY98 TSPIRS 3-yr avg w/o GA</u>								
		Survival surveys-planting	Timber Sales-Shoshone	Periodic 5-9 by 2	67.00 acres	\$4.00	0.00	2001 9/21/200
<i>Notes:</i> <u>First, third, and fifth year seedling survival surveys for cc, reserves 1/4 acreage of visual cuts.</u>								
		Temporary Road Construction	Timber Sales-Shoshone	One time 2	0.25 miles	\$12,000.00	0.00	2001 9/17/200
<i>Notes:</i> <u>Cost includes necessary drainage structures, erosion control and obliteration following project completion. Cost based on appraised value from similar projects.</u>								

<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>
NEPA		Timber Sales-Shoshone	One time	0	1.00 each	\$15,000.00	0.00	2001 9/21/200
		<i>Notes:</i> <u>Cost based on actual expenditures for projects of this type.</u>						
<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>
Aspen Coppice/Road Clearing		Timber Sales-Shoshone	One time	5	14.00 acres	\$170.00	0.00	2001 9/17/200
		<i>Notes:</i> <u>Aspen coppice and road side clearing for safety-noncommercial material. Costs based on precommercial thinning based on the similarity of work.</u>						
Broadcast burn cc units		Timber Sales-Shoshone	One time	4	33.00 acres	\$120.00	0.00	2001 9/17/200
		<i>Notes:</i> <u>Costs based on actual costs from similar projects</u>						
Hand pile; burn slash reserve tree, etc.		Timber Sales-Shoshone	One time	4	90.00 acres	\$170.00	0.00	2001 9/17/200
		<i>Notes:</i> <u>Hand pile and burn reserve tree/visual cuts/thins/100 feet from Loop Road.</u>						
Harvest Admin-Timber Comm		Timber Sales-Shoshone	Periodic	2-3 by 1	262.50 MBF	\$35.00	0.00	2001 9/21/200
		<i>Notes:</i> <u>FY98 TSPIRS 3-yr avg w/o GA</u>						
NEPA		Timber Sales-Shoshone	One time	0	1.00 each	\$15,000.00	0.00	2001 9/21/200
		<i>Notes:</i> <u>Cost based on actual expenditures for projects of this type.</u>						
Plant cc, reserve, visual units		Timber Sales-Shoshone	One time	4	36.00 acres	\$230.00	0.00	2001 9/21/200
		<i>Notes:</i> <u>Fill in plant cc, reserve tree, visual units if necessary. It is estimated that natural regeneration will be sufficient on 50% of the acres harvested. Estimate 1/4 of visual cut will need fill-in planting.</u>						
Precommercial Thinning		Timber Sales-Shoshone	One time	27	72.00 acres	\$170.00	0.00	2001 9/21/200
		<i>Notes:</i> <u>Costst based on actual costs of recent precommercial thinning projects. Acreage from cc, reserve tree and 1/4 acreage of visual cuts.</u>						
Road maintenance		Timber Sales-Shoshone	Periodic	2-3 by 1	13.00 miles	\$135.00	0.00	2001 9/17/200
		<i>Notes:</i> <u>Cost based on engineer's estimate</u>						
Road Reconstruction		Timber Sales-Shoshone	One time	2	0.10 miles	\$12,000.00	0.00	2001 1/24/200
		<i>Notes:</i> <u>Cost includes necessary drainage structures, erosion control and obliteration of existing road. Costs based on appraised value</u>						
Sale Preparation		Timber Sales-Shoshone	One time	1	525.00 MBF	\$33.71	0.00	2001 9/17/200
		<i>Notes:</i> <u>FY98 TSPIRS 3-yr avg w/o GA</u>						
Survival surveys-planting		Timber Sales-Shoshone	Periodic	5-9 by 2	72.00 acres	\$4.00	0.00	2001 9/21/200
		<i>Notes:</i> <u>First, third, and fifth year seedling survival surveys for cc, reserve cuts, and 1/4 acreage of visual cuts.</u>						
Temporary Road Construction		Timber Sales-Shoshone	One time	2	0.25 miles	\$12,000.00	0.00	2001 9/17/200
		<i>Notes:</i> <u>Cost includes necessary drainage structures, erosion control and obliteration following project completion. Cost based on appraised value from similar projects.</u>						

**BENEFIT**      ***USFS***

*Alternative:    Alternative 1*

	<i>Category</i>		<i>Year(s)</i>	<i>Quantity</i>	<i>Value</i>	<i>Rate(%)</i>	<i>Base</i>	<i>Update</i>
Revenues-All Sales <i>Notes: <u>FY98 TPSIRS 3-yr avg</u></i>	Timber Sales-Shoshone	Periodic	2-3 by 1	250.00 MBF	\$197.00	0.00	2001	9/17/200

*Alternative:    Alternative 2*

	<i>Category</i>		<i>Year(s)</i>	<i>Quantity</i>	<i>Value</i>	<i>Rate(%)</i>	<i>Base</i>	<i>Update</i>
Revenues-All Sales <i>Notes: <u>FY98 TPSIRS 3-yr avg</u></i>	Timber Sales-Shoshone	One time	0	0.00 MBF	\$197.00	0.00	2001	9/17/200

*Alternative:    Alternative 3*

	<i>Category</i>		<i>Year(s)</i>	<i>Quantity</i>	<i>Value</i>	<i>Rate(%)</i>	<i>Base</i>	<i>Update</i>
Revenues-All Sales <i>Notes: <u>FY98 TPSIRS 3-yr avg</u></i>	Timber Sales-Shoshone	Periodic	2-3 by 1	262.50 MBF	\$197.00	0.00	2001	9/17/200