HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 8/6/2013

**East Fork Millicoma River** 

# REACH 1 T24S-R11W-S25SW REACH 1

#### **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor			
Steep V-shape	0%	Constraining Terraces	0%		
Moderate V-shape	0%	Multiple Terraces	100%		
Open V-shape	0%	Wide Floodplain	0%		

Valley Width Index 2.9 VWI Range: 2.6 - 3.3

#### Channel Morphology (Percent Reach Length)

Constrained	<u></u>	Unconstrained		
Hillslope	0%	Single Channel	0%	
Bedrock	0%	Multiple Channel	0%	
Terrace	0%	Braided Channel	0%	
Alt. Terrace/Hill	100%			
Landuse	0%			

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	Dry Units
Primary	3,233	62,649	0
Secondary	305	2,380	2

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u>e</u>	Floor	<u>dprone</u> n =	: 5	First Terrace	n = 5
Width:	14.4	Width:	26.8	33.6	( 28 - 39	)	43.0 ( 32 - 56	)
Depth:	0.59	Height:	1.6	3.1	( 2.9 - 3.4	)	5.7 ( 4 - 8.7	)

W:D ratio: 17.0 Entrenchment (ACW:FPW ratio): 1.3

Stream Flow Type: MF Habitat Units/100m (total channel length): 1.8

Average Unit Gradient: 0.8% Habitat Units/100m (primary channel length): 2.0

Water temperature (°C): 64.0 - 64.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	RR
Riparian Vegetation:	D30	G

# Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	6%	Reach avg: 72%
Undercut Banks:	2%	Range: 56 - 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	147	4.5
Volume (m <sup>3</sup> ):	138	4.3
Key pieces (>=12m x 0.60m):	3	0.1

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 8/8/2013

**East Fork Millicoma River** 

# REACH 2 T25S-R11W-S01NE REACH 2

#### **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Floo	or	Broad Valley Floor	Broad Valley Floor		
Steep V-shape	0%	Constraining Terraces	0%		
Moderate V-shape	0%	Multiple Terraces	100%		
Open V-shape	0%	Wide Floodplain	0%		

Valley Width Index 2.8 VWI Range: 2.8 - 2.8

#### Channel Morphology (Percent Reach Length)

Constrained	<u></u>	Unconstrained		
Hillslope	0%	Single Channel	0%	
Bedrock	0%	Multiple Channel	0%	
Terrace	0%	Braided Channel	0%	
Alt. Terrace/Hill	100%			
Landuse	0%			

#### **Channel Characteristics**

<u>Type</u>	Length (m)	<u> Area (m2)</u>	<u>Dry Units</u>
Primary	620	12,322	0
Secondary	13	10	0

# Channel Dimensions (m)

Wetted		<u>Active</u>	<u> </u>	Floodpre	one n = 1		First Terrace n =	1
Width:	18.3	Width:	29.0	33.0 (3	33 - 33	)	37.0 ( 37 - 37 )	
Depth:	0.50	Height:	1.5	3.0 (3	3 - 3	)	6.3 ( 6.3 - 6.3 )	

W:D ratio: 19.3 Entrenchment (ACW:FPW ratio): 1.1

Stream Flow Type: MF Habitat Units/100m (total channel length): 2.2

Average Unit Gradient: 0.5% Habitat Units/100m (primary channel length): 2.3

Water temperature (°C): 65.0 - 65.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	Secondary
Land Use:	LT	ST
Riparian Vegetation:	D30	C50

#### Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 18	<u>30)</u>
Actively Eroding:	12%	Reach avg: 7	73%
Undercut Banks:	0%	Range: 56 -	100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	33	5.3
Volume (m <sup>3</sup> ):	43	7.0
Key pieces (>=12m x 0.60m):	4	0.6

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 8/8/2013

**East Fork Millicoma River** 

# **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%	
Moderate V-shape	100%	Multiple Terraces	0%	
Open V-shape	0%	Wide Floodplain	0%	

Valley Width Index 1.6 VWI Range: 1.5 - 1.7

#### Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<b>Dry Units</b>
Primary	527	7,659	0
Secondary	12	6	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u> </u>	Floo	<u>dprone</u> n =	: 2	First Terrace	n = 0
Width:	13.0	Width:	24.0	31.5	( 28 - 35	)	( -	)
Depth:	0.68	Height:	1.8	3.5	( 3.4 - 3.6	)	( -	)

W:D ratio: 13.7 Entrenchment (ACW:FPW ratio): 1.3

Stream Flow Type: MF Habitat Units/100m (total channel length): 2.6

Average Unit Gradient: 0.7% Habitat Units/100m (primary channel length): 2.7

Water temperature (°C): 62.0 - 62.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
Riparian Vegetation:	D30	C50

# Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	7%	Reach avg: 64%
Undercut Banks:	0%	Range: 47 - 81

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	8	1.5
Volume (m <sup>3</sup> ):	11	2.0
Key pieces (>=12m x 0.60m):	2	0.4

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 8/13/2013

**East Fork Millicoma River** 

# REACH 4 T25S-R11W-S01SE REACH 4

## **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor		
Steep V-shape	0%	Constraining Terraces	0%	
Moderate V-shape	0%	Multiple Terraces	100%	
Open V-shape	0%	Wide Floodplain	0%	

Valley Width Index 2.7 VWI Range: 2.6 - 2.8

#### Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	100%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<u>Dry Units</u>
Primary	1,297	20,394	0
Secondary	16	22	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u>e</u>	Floo	<u>dprone</u> n =	= 2	<u>First Terrace</u> n =	= 2
Width:	12.5	Width:	22.5	29.0	( 28 - 30	)	33.0 ( 33 - 33	)
Depth:	0.62	Height:	1.6	3.1	(3-3.2	)	4.5 ( 3.4 - 5.5	)

W:D ratio: 14.5 Entrenchment (ACW:FPW ratio): 1.3

Stream Flow Type: MF Habitat Units/100m (total channel length): 2.0 Average Unit Gradient: 0.5% Habitat Units/100m (primary channel length): 2.0

Water temperature (°C): 63.0 - 63.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	TH
Riparian Vegetation:	D30	S

#### Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of	<u>180)</u>
Actively Eroding:	13%	Reach avg:	77%
Undercut Banks:	0%	Range: 61	- 94

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	121	9.3
Volume (m <sup>3</sup> ):	86	6.6
Key pieces (>=12m x 0.60m):	1	0.1

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 8/13/2013

**East Fork Millicoma River** 

REACH	5	T25S-R11W-S12NE	REACH	5
NEACH	J	1230-K11W-31ZINL	NEAGH	J

# **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor		
Steep V-shape	0%	Constraining Terraces	0%	
Moderate V-shape	100%	Multiple Terraces	0%	
Open V-shape	0%	Wide Floodplain	0%	

Valley Width Index 2.0 VWI Range: 1.6 - 2.2

#### Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<u>Dry Units</u>
Primary	2,116	35,336	0
Secondary	68	422	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u>e</u>	<u>Floo</u>	<u>dprone</u> n =	: 4	<u>First Terrace</u>	n = 3
Width:	14.7	Width:	24.8	31.3	( 27 - 36	)	34.3 ( 32 - 37	)
Depth:	0.68	Height:	1.4	2.8	( 2.5 - 3.2	)	4.2 ( 4 - 4.4	)

W:D ratio: 18.1 Entrenchment (ACW:FPW ratio): 1.3

Stream Flow Type: MF Habitat Units/100m (total channel length): 1.7

Average Unit Gradient: 0.6% Habitat Units/100m (primary channel length): 1.8

Water temperature (°C): 60.0 - 60.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	Secondary
Land Use:	ST	LT
Riparian Vegetation:	D30	S

# Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	3%	Reach avg: 81%
Undercut Banks:	0%	Range: 61 - 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	83	3.9
Volume (m <sup>3</sup> ):	82	3.9
Key pieces (>=12m x 0.60m):	2	0.1

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 6/18/2014

**East Fork Millicoma** 

REACH 1	T25s-R10w-S06se	REACH 1
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# **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 1.8 VWI Range: 1.4 - 2.1

#### Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<b>Dry Units</b>
Primary	2,128	34,820	0
Secondary	163	595	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u>e</u>	Floo	<u>dprone</u> n =	- 6	<u>First Terrace</u> n =	= 4
Width:	14.4	Width:	26.8	33.3	( 29 - 43	)	39.5 ( 29 - 48	)
Depth:	0.54	Height:	1.1	2.2	( 1.8 - 2.6	)	3.2 ( 2.2 - 4.5	)

W:D ratio: 25.0 Entrenchment (ACW:FPW ratio): 1.3

Stream Flow Type: MF Habitat Units/100m (total channel length): 2.6

Average Unit Gradient: 1.2% Habitat Units/100m (primary channel length): 2.8

Water temperature (°C): 50.0 - 50.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	YT
Riparian Vegetation:	D30	S

# Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	5%	Reach avg: 83%
Undercut Banks:	1%	Range: 56 - 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	252	11.8
Volume (m <sup>3</sup> ):	253	11.9
Key pieces (>=12m x 0.60m):	11	0.5

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 6/18/2014

**East Fork Millicoma** 

REACH 2 T25s-R10w-S08se	REACH 2
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#### **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 1.6 VWI Range: 1.2 - 2

#### Channel Morphology (Percent Reach Length)

Constraine	<u>d</u>	Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<u>Dry Units</u>
Primary	3,060	38,279	0
Secondary	133	544	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u> </u>	Floo	<u>dprone</u> n =	- 8	<u>First Terrace</u> n	i = 3
Width:	10.9	Width:	19.9	26.6	( 17 - 31	)	27.0 ( 19 - 33	)
Depth:	0.53	Height:	1.0	2.0	( 1.8 - 2.4	)	2.2 ( 2 - 2.33	)

W:D ratio: 20.0 Entrenchment (ACW:FPW ratio): 1.3

Stream Flow Type: LF Habitat Units/100m (total channel length): 2.6

Average Unit Gradient: 0.8% Habitat Units/100m (primary channel length): 2.7

Water temperature (°C): 54.0 - 54.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	YT
Riparian Vegetation:	D30	S

#### Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of	<u>180)</u>
Actively Eroding:	2%	Reach avg:	84%
Undercut Banks:	1%	Range: 53	- 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	358	11.7
Volume (m <sup>3</sup> ):	243	8.0
Key pieces (>=12m x 0.60m):	6	0.2

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 6/18/2014

**East Fork Millicoma** 

REACH	3	T25s-R10w-S09ne	REACH :	3
NEACH	3	1235-11 10W-30311 <del>C</del>	INLACII ,	J

## **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valle	y Floor	Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 1.7 VWI Range: 1.2 - 2.3

#### Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<b>Dry Units</b>
Primary	3,537	38,713	0
Secondary	458	2,266	1

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u> </u>	<u>Floodprone</u>	n = 15	First Terrace	n = 12
Width:	9.5	Width:	17.4	21.1 (15 - 2	28 )	25.0 ( 18 - 33	)
Depth:	0.54	Height:	0.9	1.7 (1.6 -	2 )	2.5 ( 1.9 - 5.4	. )

W:D ratio: 20.0 Entrenchment (ACW:FPW ratio): 1.2

Stream Flow Type: LF Habitat Units/100m (total channel length): 3.7

Average Unit Gradient: 2.0% Habitat Units/100m (primary channel length): 4.2

Water temperature (°C): 54.0 - 54.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	Secondary
Land Use:	ST	YT
Riparian Vegetation:	D30	G

#### Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	6%	Reach avg: 90%
Undercut Banks:	2%	Range: 64 - 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	376	10.6
Volume (m <sup>3</sup> ):	481	13.6
Key pieces (>=12m x 0.60m):	20	0.6

**HABITAT INVENTORY** 7/1/2014 Report Date: 3/30/2015 Survey Date:

**East Fork Millicoma** 

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REACH	4	T25s-R10w-S02ww	REACH	4
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## **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

oor	Broad Valley Floor		
0%	Constraining Terraces	0%	
100%	Multiple Terraces	0%	
0%	Wide Floodplain	0%	
	0% 100%	0% Constraining Terraces 100% Multiple Terraces	

Valley Width Index 1.3 VWI Range: 1.2 - 1.3

#### Channel Morphology (Percent Reach Length)

Constrained	<u>d</u>	Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<b>Dry Units</b>
Primary	725	6,298	0
Secondary	59	93	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u> </u>	Floo	<u>dprone</u> n =	: 3	First Terrace	n = 0
Width:	7.6	Width:	13.5	16.2	( 15 - 18.5	)	( -	)
Depth:	0.65	Height:	1.0	2.1	(2-2.2	)	( -	)

W:D ratio: 13.1 Entrenchment (ACW:FPW ratio): Stream Flow Type: LF Habitat Units/100m (total channel length): Habitat Units/100m (primary channel length): 5.2 Average Unit Gradient: 2.9%

Water temperature (°C): 58.0 - 58.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
Riparian Vegetation:	D30	G

#### Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 18	<u>0)</u>
Actively Eroding:	2%	Reach avg: 89	9%
Undercut Banks:	0%	Range: 50 -	100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	39	5.4
Volume (m <sup>3</sup> ):	50	6.9
Key pieces (>=12m x 0.60m):	2	0.3

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 7/7/2014

**East Fork Millicoma** 

REACH	5	T25s-R10w-S02nn	REACH	5
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#### **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor		
Steep V-shape	100%	Constraining Terraces	0%	
Moderate V-shape	0%	Multiple Terraces	0%	
Open V-shape	0%	Wide Floodplain	0%	

Valley Width Index 1.4 VWI Range: 1.2 - 1.6

#### Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<u>Dry Units</u>
Primary	1,288	10,659	0
Secondary	104	124	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u> </u>	<u>Floodprone</u>	n = 6	<u>First Terrace</u>	n = 0
Width:	7.5	Width:	14.3	18.3 (15	- 22 )	( -	)
Depth:	0.57	Height:	8.0	1.7 (1.6	- 1.8 )	( -	)

W:D ratio: 17.4 Entrenchment (ACW:FPW ratio): 1.3

Stream Flow Type: LF Habitat Units/100m (total channel length): 4.9

Average Unit Gradient: 3.2% Habitat Units/100m (primary channel length): 5.3

Water temperature (°C): 57.0 - 57.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	
Riparian Vegetation:	D15	G

#### Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of	<u>180)</u>
Actively Eroding:	3%	Reach avg:	95%
Undercut Banks:	0%	Range: 78	- 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	186	14.4
Volume (m <sup>3</sup> ):	198	15.4
Key pieces (>=12m x 0.60m):	6	0.5

**HABITAT INVENTORY** 8/22/2013 Report Date: 3/30/2015 Survey Date:

Trib A of East Fork Millicoma

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# **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

	Broad Valley Floor	
100%	Constraining Terraces	0%
0%	Multiple Terraces	0%
0%	Wide Floodplain	0%
	100% 0%	100% Constraining Terraces 0% Multiple Terraces

Valley Width Index 1.3 VWI Range: 1.2 - 1.5

#### Channel Morphology (Percent Reach Length)

Constrained		Unconstrained		
Hillslope	100%	Single Channel	0%	
Bedrock	0%	Multiple Channel	0%	
Terrace	0%	Braided Channel	0%	
Alt. Terrace/Hill	0%			
Landuse	0%			

#### **Channel Characteristics**

<u>Type</u>	Length (m)	<u> Area (m2)</u>	<u>Dry Units</u>
Primary	668	1,264	0
Secondary	0	0	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u> </u>	<u>Floo</u>	<u>dprone</u> n =	3	First Terrace	n = 0
Width:	1.9	Width:	4.5	6.3	( 5.5 - 7	)	( -	)
Depth:	0.14	Height:	0.4	0.8	( 0.8 - 0.9	)	( -	)

W:D ratio: 10.8 Entrenchment (ACW:FPW ratio):

Habitat Units/100m (total channel length): Stream Flow Type: MF 4.5 Habitat Units/100m (primary channel length): 4.5 Average Unit Gradient: 11.5%

Water temperature (°C): 56.0 - 56.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
Riparian Vegetation:	D30	S

# Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	35%	Reach avg: 97%
Undercut Banks:	10%	Range: 75 - 100

	<u>l otal</u>	<u>I otal / 100m primary channel</u>
All pieces (>=3m x 0.15m):	142	21.3
Volume (m <sup>3</sup> ):	353	52.9
Key pieces (>=12m x 0.60m):	6	0.9

**Trib B of East Fork Millicoma HABITAT INVENTORY** 8/22/2013 Report Date: 3/30/2015 Survey Date:

REACH 1	T25S-R10W-S08SW	REACH 1
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## **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	100%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 1.1 VWI Range: 1.1 - 1.1

#### Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<b>Dry Units</b>
Primary	155	349	0
Secondary	0	0	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u> </u>	Flood	<u>dprone</u> n =	1	First Terrace	n = 0
Width:	2.4	Width:	4.0	5.5	( 5.5 - 5.5	)	( -	)
Depth:	0.25	Height:	0.5	0.9	( 0.9 - 0.9	)	( -	)

W:D ratio: 8.9 Entrenchment (ACW:FPW ratio): Habitat Units/100m (total channel length): Stream Flow Type: MF 8.4 Habitat Units/100m (primary channel length): 8.4 Average Unit Gradient: 14.3%

Water temperature (°C): 56.0 - 56.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
Riparian Vegetation:	D30	S

# Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	10%	Reach avg: 100%
Undercut Banks:	1%	Range: 97 - 100

#### Large Wood Debris Total

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	22	14.2
Volume (m <sup>3</sup> ):	29	18.8
Key pieces (>=12m x 0.60m):	2	1.3

**REACH** 

HABITAT INVENTORY Report Date: 3/30/2015

Trib C of East Fork Millicoma

8/26/2013

Survey Date:

1

## **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	100%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 1.6 VWI Range: 1 - 2

#### Channel Morphology (Percent Reach Length)

Constraine	<u>d</u>	Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<b>Dry Units</b>
Primary	1,271	2,253	1
Secondary	0	0	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u>!</u>	Floo	odprone n =	6	First Terrace	n = 0
Width:	1.9	Width:	4.5	7.1	( 5.5 - 8.5	)	( -	)
Depth:	0.21	Height:	0.4	0.8	( 0.6 - 0.9	)	( -	)

W:D ratio: 11.9 Entrenchment (ACW:FPW ratio): 1.6

Stream Flow Type: MF Habitat Units/100m (total channel length): 5.0

Average Unit Gradient: 8.2% Habitat Units/100m (primary channel length): 5.0

Water temperature (°C): 54.0 - 54.0

#### tomporataro ( 0): 04:0 04:0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	Secondary
Land Use:	ST	LT
Riparian Vegetation:	D15	Р

# Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	18%	Reach avg: 100%
Undercut Banks:	3%	Range: 89 - 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	129	10.1
Volume (m <sup>3</sup> ):	144	11.4
Key pieces (>=12m x 0.60m):	6	0.5

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 8/27/2013

**Trib D East Fork Millicoma** 

REACH	1	T25s-R10w-S09sw	REACH	1
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# **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

or	Broad Valley Floor		
0%	Constraining Terraces	0%	
100%	Multiple Terraces	0%	
0%	Wide Floodplain	0%	
	0% 100%	0% Constraining Terraces 100% Multiple Terraces	

Valley Width Index 1.3 VWI Range: 1.1 - 1.9

#### Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<b>Dry Units</b>
Primary	1,204	2,682	4
Secondary	0	0	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u> </u>	<u>Flood</u>	prone n =	6	First Terrace	n = 0
Width:	2.6	Width:	3.9	5.5	( 4.5 - 6.5	)	( - 0	)
Depth:	0.17	Height:	0.4	0.8	( 0.7 - 0.9	)	( - 0	)

W:D ratio: 10.0 Entrenchment (ACW:FPW ratio): 1.4
Stream Flow Type: MF Habitat Units/100m (total channel length

Stream Flow Type: MF Habitat Units/100m (total channel length): 5.7

Average Unit Gradient: 9.7% Habitat Units/100m (primary channel length): 5.7

Water temperature (°C): 55.0 - 55.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	Secondary
Land Use:	ST	LT
Riparian Vegetation:	D15	Р

# Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	41%	Reach avg: 100%
Undercut Banks:	11%	Range: 83 - 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	112	9.3
Volume (m <sup>3</sup> ):	157	13.0
Key pieces (>=12m x 0.60m):	2	0.2

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 7/28/2014

**Glenn Creek** 

REACH	1 T00a-R00a-S00aa	REACH 1	
11111	1 1000 11000 00000	112/1011	

#### **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor		
Steep V-shape	0%	Constraining Terraces	100%	
Moderate V-shape	0%	Multiple Terraces	0%	
Open V-shape	0%	Wide Floodplain	0%	

Valley Width Index 3.7 VWI Range: 3 - 4.5

#### Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	100%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<b>Dry Units</b>
Primary	943	10,704	0
Secondary	0	0	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Activ</u>	<u>e</u>	Floor	<u>dprone</u> n =	= 3	First Terrace	n = 3
Width:	11.1	Width:	14.7	17.0	( 11 - 21	)	22.3 ( 15 - 30	)
Depth:	0.58	Height:	0.9	1.8	( 1.6 - 2	)	4.9 ( 2.2 - 6.4	)

W:D ratio: 16.8 Entrenchment (ACW:FPW ratio): 1.2

Stream Flow Type: LF Habitat Units/100m (total channel length): 3.6

Average Unit Gradient: 1.4% Habitat Units/100m (primary channel length): 3.6

Water temperature (°C): 63.0 - 63.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	RR	LT
Riparian Vegetation:	M50	S

#### Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	5%	Reach avg: 83%
Undercut Banks:	0%	Range: 58 - 97

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	54	5.7
Volume (m <sup>3</sup> ):	42	4.5
Key pieces (>=12m x 0.60m):	1	0.1

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 7/29/2014

**Glenn Creek** 

REACH	2	T00a-R00a-S00aa	REACH	2
NEACH	<b>4</b>	1004-11004-30044	INLACII	_

# **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

or	Broad Valley Floor		
0%	Constraining Terraces	0%	
100%	Multiple Terraces	0%	
0%	Wide Floodplain	0%	
	0% 100%	0% Constraining Terraces 100% Multiple Terraces	

# Valley Width Index 2.3 VWI Range: 2.3 - 2.3

# Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<b>Dry Units</b>
Primary	255	3,143	0
Secondary	0	0	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u>e</u>	Flood	dprone n =	: 1	<u>First Terrace</u> $n = 1$
Width:	9.6	Width:	18.0	22.0	( 22 - 22	)	24.0 ( 24 - 24 )
Depth:	0.59	Height:	0.9	1.8	( 1.8 - 1.8	)	2.3 ( 2.3 - 2.3 )

W:D ratio: 20.0 Entrenchment (ACW:FPW ratio): 1.2

Stream Flow Type: LF Habitat Units/100m (total channel length): 3.9

Average Unit Gradient: 2.0% Habitat Units/100m (primary channel length): 3.9

# Water temperature (°C): 62.0 - 62.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	Secondary
Land Use:	YT	ST
Riparian Vegetation:	D15	C50

# Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	0%	Reach avg: 70%
Undercut Banks:	0%	Range: 61 - 86

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	13	5.1
Volume (m <sup>3</sup> ):	6	2.5
Key pieces (>=12m x 0.60m):	0	0.0

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 7/29/2014

**Glenn Creek** 

REACH	3	T00a-R00a-S00aa	REACH	3
INLACII	J	1004-11004-30044	INLACII	•

# **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	100%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width	Index 2.9	VWI Range: 2.5 - 3.5	

# Channel Morphology (Percent Reach Length)

Constrained	d	Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	100%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<b>Dry Units</b>
Primary	1,472	14,480	0
Secondary	45	223	1

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u>e</u>	Floo	<u>dprone</u> n =	= 5	<u>First Terrace</u> n	= 5
Width:	8.9	Width:	15.5	18.7	( 17 - 20	)	22.4 ( 20 - 26	)
Depth:	0.50	Height:	0.9	1.8	( 1.6 - 2	)	2.1 ( 1.8 - 2.5	)

W:D ratio: 17.8 Entrenchment (ACW:FPW ratio): 1.2

Stream Flow Type: LF Habitat Units/100m (total channel length): 3.1

Average Unit Gradient: 0.9% Habitat Units/100m (primary channel length): 3.2

Water temperature (°C): 62.0 - 62.0

#### vator temperature ( 0): 02:0 02:0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	RR	ST
Riparian Vegetation:	D30	S

#### Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of	<u>180)</u>
Actively Eroding:	2%	Reach avg:	81%
Undercut Banks:	0%	Range: 53	- 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	17	1.2
Volume (m <sup>3</sup> ):	12	0.8
Key pieces (>=12m x 0.60m):	0	0.0

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 7/29/2014

**Glenn Creek** 

REACH 4	T00a-R00a-S00aa	REACH	4
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# **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor
Steep V-shape	0%	Constraining Terraces 0%
Moderate V-shape	100%	Multiple Terraces 0%
Open V-shape	0%	Wide Floodplain 0%

Valley Width Index 1.7 VWI Range: 1.3 - 2.2

#### Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<u>Dry Units</u>
Primary	1,186	10,433	0
Secondary	51	143	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u> </u>	Floodpro	<u>ne</u> n=	4	First Terrace	n = 0
Width:	8.2	Width:	15.1	19.0 (1	6 - 22	)	( -	)
Depth:	0.52	Height:	8.0	1.6 (1	.6 - 1.6	)	( -	)

W:D ratio: 18.9 Entrenchment (ACW:FPW ratio): 1.3

Stream Flow Type: LF Habitat Units/100m (total channel length): 3.2

Average Unit Gradient: 1.5% Habitat Units/100m (primary channel length): 3.3

Water temperature (°C): 62.0 - 62.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	MT
Riparian Vegetation:	D30	S

# Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	3%	Reach avg: 73%
Undercut Banks:	0%	Range: 53 - 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	88	7.4
Volume (m <sup>3</sup> ):	72	6.1
Key pieces (>=12m x 0.60m):	2	0.2

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 8/11/2010

Hoges creek

REACH 1 TOOX-ROOX-SOOXX	REACH 1
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# **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 2.1 VWI Range: 1.2 - 3.2

#### Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

<u>Type</u>	Length (m)	<u> Area (m2)</u>	<u>Dry Units</u>
Primary	616	1,888	0
Secondary	8	12	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u> </u>	Floo	odprone n =	: 4	First Terrace	n = 0
Width:	3.3	Width:	4.3	8.7	( 5.3 - 15.3	)	( -	)
Depth:	0.25	Height:	0.4	0.8	( 0.6 - 1	)	( -	)

W:D ratio: 11.2 Entrenchment (ACW:FPW ratio): 2.0

Stream Flow Type: MF Habitat Units/100m (total channel length): 7.5

Average Unit Gradient: 1.2% Habitat Units/100m (primary channel length): 7.6

Water temperature (°C): 56.0 - 56.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	TH	LT
Riparian Vegetation:	M30	S

#### Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% o	f 180)
Actively Eroding:		Reach avg:	91%
Undercut Banks:	0%	Range: 53	3 - 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	64	10.4
Volume (m <sup>3</sup> ):	97	15.7
Key pieces (>=12m x 0.60m):	5	0.8

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 7/8/2014

**Fox Creek** 

6.5

# REACH 1 T25s-R11w-S12ne REACH 1

#### **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	100%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 2.3 VWI Range: 2.3 - 2.3

#### Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<b>Dry Units</b>
Primary	227	688	0
Secondary	3	4	0

# Channel Dimensions (m)

Wetted		<u>Active</u>	!	Floo	dprone n =	1	First Terrace	n = 1
Width:	2.9	Width:	5.5	8.0	(8-8	)	10.0 ( 10 - 10	)
Depth:	0.31	Height:	0.6	1.2	( 1.2 - 1.2	)	1.4 ( 1.4 - 1.4	)

Habitat Units/100m (primary channel length): 6.6

W:D ratio: 9.2 Entrenchment (ACW:FPW ratio): 1.5
Stream Flow Type: LF Habitat Units/100m (total channel length):

Water temperature (°C): 59.0 - 59.0

Average Unit Gradient: 3.3%

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	TH	LT
Riparian Vegetation:	D30	S

# Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	7%	Reach avg: 83%
Undercut Banks:	1%	Range: 72 - 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	33	14.6
Volume (m <sup>3</sup> ):	24	10.8
Key pieces (>=12m x 0.60m):	0	0.0

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 7/8/2014

**Fox Creek** 

# REACH 2 T25s-R11w-S12ne REACH 2

## **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley F	oor	Broad Valley Floor		
Steep V-shape	100%	Constraining Terraces	0%	
Moderate V-shape	0%	Multiple Terraces	0%	
Open V-shape	0%	Wide Floodplain	0%	

Valley Width Index 2.0 VWI Range: 1.4 - 2.4

#### Channel Morphology (Percent Reach Length)

Constrained	<u>d</u>	Unconstrained		
Hillslope	100%	Single Channel	0%	
Bedrock	0%	Multiple Channel	0%	
Terrace	0%	Braided Channel	0%	
Alt. Terrace/Hill	0%			
Landuse	0%			

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<b>Dry Units</b>
Primary	352	820	0
Secondary	0	0	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u> </u>	Floc	odprone n =	: 4	First Terrace	n = 0
Width:	2.4	Width:	5.8	8.6	( 7.5 - 11	)	( -	)
Depth:	0.23	Height:	0.5	1.0	( 0.9 - 1	)	( -	)

W:D ratio: 11.9 Entrenchment (ACW:FPW ratio): 1.6

Stream Flow Type: LF Habitat Units/100m (total channel length): 10.8 Average Unit Gradient: 3.7% Habitat Units/100m (primary channel length): 10.8

Water temperature (°C): 59.0 - 59.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	TH	YT
Riparian Vegetation:	D15	S

# Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	10%	Reach avg: 86%
Undercut Banks:	2%	Range: 61 - 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	103	29.2
Volume (m <sup>3</sup> ):	69	19.7
Key pieces (>=12m x 0.60m):	3	0.9

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 7/9/2014

Fox Creek Tributary 1

REACH	T25s-R11w-S12ne	REACH

## **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

	Broad Valley Floor		
0%	Constraining Terraces	100%	
0%	Multiple Terraces	0%	
0%	Wide Floodplain	0%	
	0%	0% Constraining Terraces 0% Multiple Terraces	

Valley Width Index 3.1 VWI Range: 3 - 3.2

#### Channel Morphology (Percent Reach Length)

Constrained	<u></u>	Unconstrained		
Hillslope	0%	Single Channel	0%	
Bedrock	0%	Multiple Channel	0%	
Terrace	100%	Braided Channel	0%	
Alt. Terrace/Hill	0%			
Landuse	0%			

#### **Channel Characteristics**

<u>Type</u>	Length (m)	<u> Area (m2)</u>	<u>Dry Units</u>
Primary	290	703	0
Secondary	0	0	0

#### Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u> </u>	Floodprone $n = 2$	First Terrace $n = 2$
Width:	2.3	Width:	4.4	6.0 (4.5 - 7.5 )	6.8 ( 5 - 8.5 )
Depth:	0.24	Height:	0.6	1.1 (1-1.2 )	1.3 ( 1.1 - 1.4 )

W:D ratio: 8.2 Entrenchment (ACW:FPW ratio): 1.3

Stream Flow Type: LF Habitat Units/100m (total channel length): 10.0 Average Unit Gradient: 1.8% Habitat Units/100m (primary channel length): 10.0

Water temperature (°C): 59.0 - 59.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	Secondary
Land Use:	MT	YT
Riparian Vegetation:	M50	S

#### Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% d	<u>ot 1</u>	80	<u>))</u>
Actively Eroding:	13%	Reach avg	:	93	3%
Undercut Banks:	3%	Range: 8	36	-	100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	50	17.3
Volume (m <sup>3</sup> ):	30	10.5
Key pieces (>=12m x 0.60m):	0	0.0

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 6/16/2014

**Matson Creek** 

REACH 1	T25S-R10W-S06EE	REACH 1
11111111	1200 KIOW COOLL	112/1011

# **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Flo	or	Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 1.6 VWI Range: 1.3 - 1.8

#### Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

<u>Type</u>	Length (m)	<u> Area (m2)</u>	<b>Dry Units</b>
Primary	1,379	18,843	0
Secondary	112	287	1

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u> </u>	Floodprone $n = 3$	First Terrace	n = 0
Width:	12.8	Width:	19.3	25.7 (25 - 27 )	( -	)
Depth:	0.59	Height:	0.9	1.8 (1.7 - 1.8 )	( -	)

W:D ratio: 21.9 Entrenchment (ACW:FPW ratio): 1.3

Stream Flow Type: MF Habitat Units/100m (total channel length): 2.5

Average Unit Gradient: 1.5% Habitat Units/100m (primary channel length): 2.8

Water temperature (°C): 50.0 - 50.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	YT	ST
Riparian Vegetation:	D15	S

# Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	2%	Reach avg: 92%
Undercut Banks:	0%	Range: 67 - 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	110	8.0
Volume (m <sup>3</sup> ):	176	12.7
Key pieces (>=12m x 0.60m):	9	0.7

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 6/16/2014

**Matson Creek** 

4.0

REACH	2	T25s-R10w-S05nw	REACH	2
INLACII	_	12351\10W-30311W	INLACII	_

#### **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	Broad Valley Floor		
Steep V-shape	0%	Constraining Terraces	0%		
Moderate V-shape	100%	Multiple Terraces	0%		
Open V-shape	0%	Wide Floodplain	0%		

Valley Width Index 1.9 VWI Range: 1.3 - 2.4

#### Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	Dry Units
Primary	1,124	12,953	0
Secondary	161	639	1

#### Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u> </u>	<u>Floo</u>	<u>dprone</u> n =	= 5	First Terrace $n = 4$
Width:	9.6	Width:	15.3	20.5	( 18 - 24	)	25.5 ( 21 - 28 )
Depth:	0.64	Height:	0.9	1.7	(1.4 - 2	)	3.1 ( 1.8 - 5.8 )

W:D ratio: 18.4 Entrenchment (ACW:FPW ratio): 1.3
Stream Flow Type: MF Habitat Units/100m (total channel length):

Average Unit Gradient: 3.4% Habitat Units/100m (primary channel length): 4.5

Water temperature (°C): 51.0 - 51.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	Secondary
Land Use:	ST	YT
Riparian Vegetation:	D30	S

#### Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of	180)
Actively Eroding:	4%	Reach avg:	92%
Undercut Banks:	2%	Range: 69	- 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	123	10.9
Volume (m <sup>3</sup> ):	249	22.1
Key pieces (>=12m x 0.60m):	12	1.1

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 8/20/2013

**Little Matson Creek** 

REACH	1	T27s-R10w-S05sw	REACH	1
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#### **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor		
Steep V-shape	100%	Constraining Terraces	0%	
Moderate V-shape	0%	Multiple Terraces	0%	
Open V-shape	0%	Wide Floodplain	0%	

Valley Width Index 1.3 VWI Range: 1.1 - 1.7

#### Channel Morphology (Percent Reach Length)

Constraine	<u>d</u>	Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<b>Dry Units</b>
Primary	2,351	9,784	0
Secondary	133	252	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u> </u>	Flood	dprone n =	9	First Terrace	n = 0
Width:	3.9	Width:	8.0	10.4	(8 - 13.5	)	( -	)
Depth:	0.39	Height:	0.6	1.1	(1-1.2	)	( -	)

W:D ratio: 14.3 Entrenchment (ACW:FPW ratio): 1.3

Stream Flow Type: MF Habitat Units/100m (total channel length): 4.0

Average Unit Gradient: 3.7% Habitat Units/100m (primary channel length): 4.2

Water temperature (°C): 56.0 - 56.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
Riparian Vegetation:	D15	Р

#### Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of	180)
Actively Eroding:	27%	Reach avg:	97%
Undercut Banks:	7%	Range: 72	- 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	425	18.1
Volume (m <sup>3</sup> ):	704	30.0
Key pieces (>=12m x 0.60m):	18	0.8

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 8/21/2013

**Little Matson Creek** 

REACH 2 T24s-R10w-S33ne REACH	2
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# **Valley and Channel Summary**

# Valley Characteristics (Percent Reach Length)

Broad Valley Floor	_
Constraining Terraces 09	%
Multiple Terraces 09	%
Wide Floodplain 09	%
	Constraining Terraces 0 Multiple Terraces 0

Valley Width Index 1.3 VWI Range: 1.3 - 1.3

#### Channel Morphology (Percent Reach Length)

Constrained	<u>d</u>	Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

<u>Type</u>	Length (m)	<u> Area (m2)</u>	Dry Units
Primary	146	526	0
Secondary	0	0	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u> </u>	Floo	<u>odprone</u>	n = 1	First Terrace	n = 0
Width:	3.8	Width:	6.0	9.0	(9-9	)	( -	)
Depth:	0.28	Height:	0.5	1.0	(1-1	)	( -	)

W:D ratio: 12.0 Entrenchment (ACW:FPW ratio): 1.5

Stream Flow Type: MF Habitat Units/100m (total channel length): 4.1

Average Unit Gradient: 13.3% Habitat Units/100m (primary channel length): 4.1

Water temperature (°C): 59.0 - 59.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	Secondary
Land Use:	ST	LT
Riparian Vegetation:	D15	Р

#### Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	14%	Reach avg: 100%
Undercut Banks:	4%	Range: 100 - 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	38	26.1
Volume (m <sup>3</sup> ):	42	28.7
Key pieces (>=12m x 0.60m):	2	1.4

HABITAT INVENTORY Report Date: 3/30/2015 Survey Date: 7/8/2014

**Beulah Creek** 

REACH

## **Valley and Channel Summary**

Valley Characteristics (Percent Reach Length)

	Broad Valley Floor		
100%	Constraining Terraces	0%	
0%	Multiple Terraces	0%	
0%	Wide Floodplain	0%	
	100% 0%	100% Constraining Terraces 0% Multiple Terraces	

Valley Width Index 1.7 VWI Range: 1.7 - 1.7

#### Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

#### **Channel Characteristics**

Type	Length (m)	<u> Area (m2)</u>	<b>Dry Units</b>
Primary	115	476	0
Secondary	21	21	0

# Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u> </u>	Floodprone $n = 1$	First Terrace	n = 0
Width:	3.9	Width:	9.5	15.0 (15 - 15 )	( -	)
Depth:	0.44	Height:	0.6	1.2 (1.2 - 1.2 )	( -	)

W:D ratio: 15.8 Entrenchment (ACW:FPW ratio): 1.6

Stream Flow Type: LF Habitat Units/100m (total channel length): 10.3 Average Unit Gradient: 9.8% Habitat Units/100m (primary channel length): 12.2

Water temperature (°C): 57.0 - 57.0

# Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	
Riparian Vegetation:	D30	S

# Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	2%	Reach avg: 94%
Undercut Banks:	1%	Range: 78 - 100

	<u>Total</u>	Total / 100m primary channel
All pieces (>=3m x 0.15m):	22	19.1
Volume (m <sup>3</sup> ):	25	21.9
Key pieces (>=12m x 0.60m):	0	0.0