Current Condition of Streams on the Glenwood Ranger District,
George Washington - Jefferson National Forest, Virginia

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**User's Guide** - Stream Summaries are organized alphabetically by U. S. Geological Survey Topographic Quadrangle. Each Stream Summary contains: 1) synopsis of stream characteristics, 2) percent pools and riffles graph, 3) LWD size graph, 4) LWD distribution graph, and 5) boxplot of riparian measurements.
Stream: Chestnut Run
District: Glenwood
Quadrangle: Arnold Valley
Sample Date: 06/20/96
Downstream Starting Point: USFS Boundary along Rt. 618

Total Distance Surveyed: 0.46 miles

Percent of Total Area - Pools: 20.8%
Number of Pools: 55
Number of Pools per mile: 120
Total Pool Area: 3,827.3 sq. ft.
Mean Pool Area: 103.4 sq. ft.
Correction Factor: 1.05
Mean Maximum Depth: 1.0'
Mean Average Depth: 0.8'

Percent of Total Area - Riffles: 79.2%
Number of Riffles: 54
Number of Riffles per mile: 117
Total Riffle Area: 14,603.6 sq. ft.
Mean Riffle Area: 310.7 sq. ft.
Correction Factor: 1.06
Mean Maximum Depth: 0.6'
Mean Average Depth: 0.3'

Number of Large Woody Debris Pieces per Mile: 291.3

Wood < 15' and < 14": 121.7
Wood < 15' and > 14": 39.1
Wood > 15' and < 14": 84.8
Wood > 15' and > 14": 45.7

Mean Channel Width: 16.2'

Mean Riparian Width: 66.2'

Mean Maximum Riparian Distance (either side): 41.2'
Mean Minimum Riparian Distance (either side): 8.8'
Maximum Riparian Width (Total): 88.0'
Minimum Riparian Width (Total): 39.5'
Chestnut Run
DFC: 30 - 70% of the Total Stream Area in Pool Habitat

Pool Area 20.8%

Riffle Area 79.2%

70% 30%
Large Woody Debris Distribution

![Graph showing distribution of large woody debris](image)

- **All Size Classes Combined**
- **Wood Class > 15' > 14''**
- **Chestnut Run**

*Note: Graph depicts the number of pieces per stream length (miles) for different classes of large woody debris.*
Riparian Width
Stream: Chestnut Run
Number of measurements: 3
Mean width: 66.2  Std Dev: 24.6
Max: 88.0       Min: 39.5

Box plot of total riparian width. The box encloses the middle 50% of the observations, the bar in the center of the box represents the median, and the capped lines extending above and below the box represent the 90% and 10% quantiles.
Stream: Middle Creek
District: Glenwood
Quadrangle: Arnold Valley
Sample Date: 07/02/96
Downstream Starting Point: Confluence with Jennings Creek

Total Distance Surveyed: 1.07 miles

Percent of Total Area - Pools: 26.2%
Number of Pools: 68
Number of Pools per mile: 64
Total Pool Area: 19,700.76 sq. ft.
Mean Pool Area: 289.7 sq. ft.
Correction Factor: 1.01
Mean Maximum Depth: 1.7'
Mean Average Depth: 1.1'

Percent of Total Area - Riffles: 73.8%
Number of Riffles: 105
Number of Riffles per mile: 101
Total Riffle Area: 55,533.9 sq. ft.
Mean Riffle Area: 528.9 sq. ft.
Correction Factor: 1.02
Mean Maximum Depth: 0.7'
Mean Average Depth: 0.3'

Number of Large Woody Debris Pieces per Mile: 87.9

- Wood < 15' and < 14": 30.8
- Wood < 15' and > 14": 6.5
- Wood > 15' and < 14": 34.6
- Wood > 15' and > 14": 15.9

Mean Channel Width: 26.1'
Mean Riparian Width: 50.0'

- Mean Maximum Riparian Distance (either side): 13.9'
- Mean Minimum Riparian Distance (either side): 10.0'
- Maximum Riparian Width (Total): 65.3'
- Minimum Riparian Width (Total): 35.0'
Middle Creek

DFC: 30 - 70% of the Total Stream Area in Pool Habitat

Pool Area
26.2%

Riffle Area
73.8%

70%

30%
Middle Creek

- Total: 87.9
- >15' >14": 15.9
- >15' <14": 34.6
- <15' >14": 6.5
- <15' <14": 30.8

Number of Pieces / Mile
Large Woody Debris Distribution

All Size Classes Combined

Middle Creek

Wood Class > 15' > 14''

Number of pieces

Stream Length (miles)
Riparian Width
Stream: Middle Creek
Number of measurements: 5
Mean width: 50.0  Std Dev: 11.6
Max: 65.3  Min: 35.0

Box plot of total riparian width. The box encloses the middle 50% of the observations, the bar in the center of the box represents the median, and the capped lines extending above and below the box represent the 90% and 10% quantiles.
Stream: Sprouts Run
District: Glenwood
Quadrangle: Arnold Valley
Sample Date: 08/05/96
Downstream Starting Point: USFS Bound. @ Wilson Mtn. Trail

Total Distance Surveyed: 1.25 miles

Percent of Total Area - Pools: 24.2%
Number of Pools: 140
Number of Pools per mile: 112
Total Pool Area: 15,953.2 sq. ft. ± 844.7
Mean Pool Area: 114.0 sq. ft.
Correction Factor: 0.99
Mean Maximum Depth: 1.2'
Mean Average Depth: 0.8'

Percent of Total Area - Riffles: 75.8%
Number of Riffles: 147
Number of Riffles per mile: 118
Total Riffle Area: 49,838.9 sq. ft. ± 2,178.8
Mean Riffle Area: 339.0 sq. ft.
Correction Factor: 1.04
Mean Maximum Depth: 0.7'
Mean Average Depth: 0.3'

Number of Large Woody Debris Pieces per Mile: 170.4
Wood < 15' and < 14": 68
Wood < 15' and > 14": 6.4
Wood > 15' and < 14": 72.8
Wood > 15' and > 14": 23.2

Mean Channel Width: 15.9'

Mean Riparian Width: 62.5'
Mean Maximum Riparian Distance (either side): 31.7'
Mean Minimum Riparian Distance (either side): 14.9'
Maximum Riparian Width (Total): 113.6'
Minimum Riparian Width (Total): 38.8'
Sprouts Run
DFC: 30 - 70% of the Total Stream Area in Pool Habitat

- Pool Area: 24.2%
- Riffle Area: 75.8%
Sprouts Run

Number of Pieces / Mile

<table>
<thead>
<tr>
<th>Large Woody Debris</th>
<th>Number of Pieces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>170.4</td>
</tr>
<tr>
<td>&gt;15' / &gt;14&quot;</td>
<td>23.2</td>
</tr>
<tr>
<td>&gt;15' / &lt;14&quot;</td>
<td>72.8</td>
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<tr>
<td>&lt;15' / &gt;14&quot;</td>
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<tr>
<td>&lt;15' / &lt;14&quot;</td>
<td>68.0</td>
</tr>
</tbody>
</table>
Large Woody Debris Distribution

- All Size Classes Combined
- Wood Class > 15' > 14"
- Sprouts Run

Number of pieces vs. Stream Length (miles)
Riparian Width
Stream: Sprouts Run
Number of measurements: 7
Mean width: 62.5  Std Dev: 26.2
Max: 113.6       Min: 38.8

Box plot of total riparian width. The box encloses the middle 50% of the observations, the bar in the center of the box represents the median, and the capped lines extending above and below the box represent the 90% and 10% quantiles.
Stream: Yellowstone Creek
District: Glenwood
Quadrangle: Arnold Valley
Sample Date: 07/03/96
Downstream Starting Point: USFS Boundary

Total Distance Surveyed: 0.65 miles

Percent of Total Area - Pools: 52.2%
  Number of Pools: 84
  Number of Pools per mile: 129
  Total Pool Area: 11,337.65 sq. ft.
  Mean Pool Area: 135.0 sq. ft.
  Correction Factor: 0.99
  Mean Maximum Depth: 1.1'
  Mean Average Depth: 0.8'

Percent of Total Area - Riffles: 47.8%
  Number of Riffles: 86
  Number of Riffles per mile: 132
  Total Riffle Area: 10,386.7 sq. ft.
  Mean Riffle Area: 120.8 sq. ft.
  Correction Factor: 0.97
  Mean Maximum Depth: 0.4'
  Mean Average Depth: 0.2'

Number of Large Woody Debris Pieces per Mile: 101.5
  Wood < 15' and < 14": 24.6
  Wood < 15' and > 14": 12.3
  Wood > 15' and < 14": 33.8
  Wood > 15' and > 14": 30.8

Mean Channel Width: 12.9'

Mean Riparian Width: 27.3'
  Mean Maximum Riparian Distance (either side): 12.8'
  Mean Minimum Riparian Distance (either side): 1.5'
  Maximum Riparian Width (Total): 109.0'
  Minimum Riparian Width (Total): 21.0'
Yellowstone Creek

DFC: 30 - 70% of the Total Stream Area in Pool Habitat

- **Riffle Area**: 47.8%
- **Pool Area**: 52.2%
Large Woody Debris Distribution

All Size Classes Combined

Yellowstone Creek

Wood Class > 15' > 14"

Number of pieces

Stream Length (miles)
Riparian Width
Stream: Yellowstone Creek
Number of measurements: 4
Mean width: 27.3  Std Dev: 7.1
Max: 35.1        Min: 21.0

Box plot of total riparian width. The box encloses the middle 50% of the observations, the bar in the center of the box represents the median, and the capped lines extending above and below the box represent the 90% and 10% quantiles.
Stream: Cove Creek
District: Glenwood
Quadrangle: Buchanan
Sample Date: 07/30/96
Downstream Starting Point:

Total Distance Surveyed: 0.57 miles

Percent of Total Area - Pools: 64.4%
Number of Pools: 82
Number of Pools per mile: 144
Total Pool Area: 14,898.6 sq. ft.
Mean Pool Area: 181.7 sq. ft.
Correction Factor: 1.07
Mean Maximum Depth: 0.9'
Mean Average Depth: 0.6'

Percent of Total Area - Riffles: 35.6%
Number of Riffles: 70
Number of Riffles per mile: 123
Total Riffle Area: 8,212.4 sq. ft.
Mean Riffle Area: 122.6 sq. ft.
Correction Factor: 1.02
Mean Maximum Depth: 0.3'
Mean Average Depth: 0.1'

Number of Large Woody Debris Pieces per Mile: 28.1
Wood < 15' and < 14": 10.5
Wood < 15' and > 14": 3.5
Wood > 15' and < 14": 5.3
Wood > 15' and > 14": 8.8

Mean Channel Width: 19.6'

Mean Riparian Width: 86.0'
Mean Maximum Riparian Distance (either side): 45.0'
Mean Minimum Riparian Distance (either side): 21.4'
Maximum Riparian Width (Total): 117.2'
Minimum Riparian Width (Total): 25.5'
Cove Creek
DFC: 30 - 70% of the Total Stream Area in Pool Habitat

Pool Area 64.4%
Riffle Area 35.6%
70%
30%
Large Woody Debris Distribution

All Size Classes Combined  Cove Creek

Wood Class > 15' > 14''

Number of pieces

Stream Length (miles)
Riparian Width
Stream: Cove Creek
Number of measurements: 3
Mean width: 86.0   Std Dev: 52.4
Max: 117.2       Min: 25.5

Box plot of total riparian width. The box encloses the middle 50% of the observations, the bar in the center of the box represents the median, and the capped lines extending above and below the box represent the 90% and 10% quantiles.
Stream: Little Cove Creek
District: Glenwood
Quadrangle: Buchanan
Sample Date: 07/26/96
Downstream Starting Point:
Total Distance Surveyed: 0.73 miles
  Percent of Total Area - Pools: 40.6%
  Number of Pools: 127
  Number of Pools per mile: 174
  Total Pool Area: 7,553.2 sq. ft.
  Mean Pool Area: 59.5 sq. ft.
  Correction Factor: 1.01
  Mean Maximum Depth: 0.7'
  Mean Average Depth: 0.4'
  Percent of Total Area - Riffles: 59.4%
  Number of Riffles: 125
  Number of Riffles per mile: 171
  Total Riffle Area: 11,019.5 sq. ft.
  Mean Riffle Area: 91.1 sq. ft.
  Correction Factor: 1.01
  Mean Maximum Depth: 0.2'
  Mean Average Depth: 0.1'
Number of Large Woody Debris Pieces per Mile: 53.4
  Wood < 15' and < 14": 24.7
  Wood < 15' and > 14": 5.5
  Wood > 15' and < 14": 15.0
  Wood > 15' and > 14": 8.2
Mean Channel Width: 11.0'
Mean Riparian Width: 58.8'
  Mean Maximum Riparian Distance (either side): 34.9'
  Mean Minimum Riparian Distance (either side): 12.9'
  Maximum Riparian Width (Total): 72.8'
  Minimum Riparian Width (Total): 38.8'
Little Cove Creek
DFC: 30 - 70% of the Total Stream Area in Pool Habitat

Pool Area 40.6%
Riffle Area 59.4%

70%
30%
Little Cove Creek

Number of Pieces / Mile

Large Woody Debris

Total: 53.4

>15" >14": 8.2

>15" <14": 15.0

<15" >14": 5.5

<15" <14": 24.7

DFC
Large Woody Debris Distribution

All Size Classes Combined

Little Cove Creek

Wood Class $>15' > 14''$

Stream Length (miles)
Riparian Width
Stream: Little Cove Creek
Number of measurements: 5
Mean width: 58.8  Std Dev: 13.2
Max: 72.8  Min: 38.8

Box plot of total riparian width. The box encloses the middle 50% of the observations, the bar in the center of the box represents the median, and the capped lines extending above and below the box represent the 90% and 10% quantiles.
Stream: McCoglin Branch
District: Glenwood
Quadrangle: Montvale
Sample Date: 07/1/96
Downstream Starting Point: Confluence with McFalls Creek

Total Distance Surveyed: 0.3 miles

Percent of Total Area - Pools: 22.2%
Number of Pools: 31
Number of Pools per mile: 107
Total Pool Area: 1,665.4 sq. ft.
Mean Pool Area: 55.5 sq. ft.
Correction Factor: 0.97
Mean Maximum Depth: 0.9'
Mean Average Depth: 0.7'

Percent of Total Area - Riffles: 77.8%
Number of Riffles: 40
Number of Riffles per mile: 138
Total Riffle Area: 5,814.7 sq. ft.
Mean Riffle Area: 153.0 sq. ft.
Correction Factor: 0.99
Mean Maximum Depth: 0.4'
Mean Average Depth: 0.2'

Number of Large Woody Debris Pieces per Mile: 243.4
- Wood < 15' and < 14": 100.0
- Wood < 15' and > 14": 30.0
- Wood > 15' and < 14": 66.7
- Wood > 15' and > 14": 46.7

Mean Channel Width: 14.7'
Mean Riparian Width: 85.4'
- Mean Maximum Riparian Distance (either side): 49.8'
- Mean Minimum Riparian Distance (either side): 20.9'
- Maximum Riparian Width (Total): 108.6'
- Minimum Riparian Width (Total): 62.1'
McCoglin Branch
DFC: 30 - 70% of the Total Stream Area in Pool Habitat
McCoglin Branch

Number of Pieces / Mile

Large Woody Debris

- Total: 243.4
- >15' >14": 46.7
- >15' <14": 66.7
- <15' >14": 30.0
- <15' <14": 100.0
Large Woody Debris Distribution

All Size Classes Combined

McCoglin Branch

Wood Class > 15' > 14"

Number of pieces

Stream Length (miles)
Riparian Width
Stream: McCoglin Branch
Number of measurements: 2
Mean width: 85.4  Std Dev: 32.9
Max: 108.6  Min: 62.1
Stream: McFalls Creek  
District: Glenwood  
Quadrangle: Montvale  
Sample Date: 07/1/96  
Downstream Starting Point: USFS Boundary off Rt.618  

Total Distance Surveyed: 0.68 miles  
  Percent of Total Area - Pools: 28.6%  
  Number of Pools: 47  
  Number of Pools per mile: 69  
  Total Pool Area: 16,549.8 sq. ft.  
  Mean Pool Area: 376.1 sq. ft.  
  Correction Factor: 1.05  
  Mean Maximum Depth: 1.3'  
  Mean Average Depth: 1.1'  

Percent of Total Area - Riffles: 71.4%  
  Number of Riffles: 54  
  Number of Riffles per mile: 79  
  Total Riffle Area: 41,272.8 sq. ft.  
  Mean Riffle Area: 793.7 sq. ft.  
  Correction Factor: 0.97  
  Mean Maximum Depth: 0.6'  
  Mean Average Depth: 0.3'  

Number of Large Woody Debris Pieces per Mile: 103.0  
  Wood < 15' and < 14": 32.4  
  Wood < 15' and > 14": 7.4  
  Wood > 15' and < 14": 42.6  
  Wood > 15' and > 14": 20.6  

Mean Channel Width: 27.0'  
Mean Riparian Width: 155.5'  
  Mean Maximum Riparian Distance (either side): 120.0'  
  Mean Minimum Riparian Distance (either side): 8.5'  
  Maximum Riparian Width (Total): 160.0'  
  Minimum Riparian Width (Total): 151.0'
McFalls Creek
DFC: 30 - 70% of the Total Stream Area in Pool Habitat

- Pool Area: 28.6%
- Riffle Area: 71.4%
Large Woody Debris Distribution

All Size Classes Combined

Wood Class > 15' > 14''

McFalls Creek

Number of pieces

Stream Length (miles)
Riparian Width
Stream: McFalls Creek
Number of measurements: 2
Mean width: 155.5  Std Dev: 6.4
Max: 151.0  Min: 160.0

Box plot of total riparian width. The box encloses the middle 50% of the observations, the bar in the center of the box represents the median, and the capped lines extending above and below the box represent the 90% and 10% quantiles.
Stream: East Fork of Elk Creek
District: Glenwood
Quadrangle: Snowden/Arnold Valley
Sample Date: 07/09/96
Downstream Starting Point: USFS Boundary

Total Distance Surveyed: 4.24 miles

Percent of Total Area - Pools: 36.7%
  Number of Pools: 378
  Number of Pools per mile: 89.0
  Total Pool Area: 80,667.99 sq. ft.
  Mean Pool Area: 213.4 sq. ft.
  Correction Factor: 1.01
  Mean Maximum Depth: 1.2'
  Mean Average Depth: 0.7'

Percent of Total Area - Riffles: 63.3%
  Number of Riffles: 394
  Number of Riffles per mile: 93
  Total Riffle Area: 139,131 sq. ft.
  Mean Riffle Area: 353.1 sq. ft.
  Correction Factor: 0.95
  Mean Maximum Depth: 0.6'
  Mean Average Depth: 0.3'

Number of Large Woody Debris Pieces per Mile: 50.0
  Wood < 15' and < 14": 17.9
  Wood < 15' and > 14": 5.7
  Wood > 15' and < 14": 17.7
  Wood > 15' and > 14": 8.7

Mean Channel Width: 26.1'
Mean Riparian Width: 73.7'
  Mean Maximum Riparian Distance (either side): 35.2'
  Mean Minimum Riparian Distance (either side): 12.4'
  Maximum Riparian Width (Total): 197.0'
  Minimum Riparian Width (Total): 31.8'
East Fork of Elk Creek

**DFC:** 30 - 70% of the Total Stream Area in Pool Habitat

- **Pool Area:** 36.7%
- **Riffle Area:** 63.3%

70% versus 30%
East Fork of Elk Creek

Number of Pieces / Mile

- Total: 50.0
- >15'/>14" : 8.7
- >15'/<14" : 17.7
- <15'/>14" : 5.7
- <15'/<14" : 17.9
Large Woody Debris Distribution

All Size Classes Combined

East Fork of Elk Creek

Wood Class > 15' > 14''

Number of pieces

Stream Length (miles)
Riparian Width
Stream: East Fork of Elk Creek
Number of measurements: 19
Mean width: 73.7  Std Dev: 48.7
Max: 197.0      Min: 31.8

Box plot of total riparian width. The box encloses the middle 50% of the observations, the bar in the center of the box represents the median, and the capped lines extending above and below the box represent the 90% and 10% quantiles.