

## 3.2.10 Lower Bull Run Group Summary

### 3.2.10.1 Little Rocky Run Watershed

**Description.** Little Rocky Run Watershed is a medium-sized watershed, with approximately 13 miles of stream assessed. It is located along the middle of the southwestern boundary of the County. The watershed is entirely contained within the County Boundaries, and drains directly to Bull Run, which eventually discharges to the Potomac River.

**Habitat.** The habitat assessment results for Little Rocky Run Watershed are summarized by stream in Table 3-43. Habitat scores for each reach are depicted in Figure 3-66. Based on a length weighted habitat score of 102 (Table 3-2), Little Rocky Run Watershed is in the lower middle range of quality, compared to the rest of the County. Approximately 2 miles of stream were categorized as having “poor” habitat conditions, 8 miles as “fair,” 2 miles as “good,” and less than 1 mile as “excellent.”

**CEM.** Based on the CEM evaluations approximately half of the channels assessed in Little Rocky Run Watershed are in Evolutionary Stage 3 (Table 3-3) and the remainder are split between Stages 2 and 4. Figure 3-67 summarizes the CEM results for Little Rocky Run Watershed.

**Infrastructure.** The infrastructure inventory resulted in 153 inventory points. The most significant problem was related to an erosional area, which was given an impact score of 8. The infrastructure inventory results are summarized in Table 3-44. Figures 3-68, 3-69, 3-70, 3-71, and 3-72 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

### 3.2.10.2 Johnny Moore Creek Watershed

**Description.** Johnny Moore Creek Watershed is a medium-sized watershed, with approximately 12 miles of stream assessed. It is located along the middle of the southwestern boundary of the County. The watershed is entirely contained within the County Boundaries, and drains directly to Bull Run, which eventually discharges to the Potomac River.

**Habitat.** The habitat assessment results for Johnny Moore Creek Watershed are summarized by stream in Table 3-45. Habitat scores for each reach are depicted in Figure 3-66. Based on a length weighted habitat score of 104 (Table 3-2), Johnny Moore Creek Watershed is in the middle range of quality, compared to the rest of the County. Approximately 2 miles of stream were categorized as having “poor” habitat conditions, 7 miles as “fair,” and nearly 3 miles as “good.”

**CEM.** Based on the CEM evaluations approximately 97 percent of the channels assessed in Johnny Moore Creek Watershed are in Evolutionary Stage 3 (Table 3-3). Figure 3-67 summarizes the CEM results for Johnny Moore Creek Watershed.

**Infrastructure.** The infrastructure inventory resulted in 127 inventory points. The most significant problem was related to an erosional area, which was given an impact score of 9. The infrastructure inventory results are summarized in Table 3-46. Figures 3-68, 3-69, 3-70,

3-71, and 3-72 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

### 3.2.10.3 Popes Head Creek Watershed

**Description.** Popes Head Creek Watershed is a large watershed, with approximately 50 miles of stream assessed. It is located along the middle of the southwestern boundary of the County. The watershed is entirely contained within the County Boundaries, and drains directly to Bull Run, which eventually discharges to the Potomac River.

**Habitat.** The habitat assessment results for Popes Head Creek Watershed are summarized by stream in Table 3-47. Habitat scores for each reach are depicted in Figure 3-66. Based on a length weighted habitat score of 103 (Table 3-2), Popes Head Creek Watershed is in the middle range of quality, compared to the rest of the County. Approximately 1 mile of stream was categorized as having “very poor” habitat conditions, 8 miles as “poor,” 27 miles as “fair,” and 13 miles as “good.”

**CEM.** Based on the CEM evaluations approximately 60 percent of the channels assessed in Popes Head Creek Watershed are in Evolutionary Stage 3 (Table 3-3), with most of the remainder of the watershed in Stage 4. Figure 3-67 summarizes the CEM results for Popes Head Creek Watershed.

**Infrastructure.** The infrastructure inventory resulted in 382 inventory points. The most significant problem was related to a pipe, which was given an impact score of 9. The infrastructure inventory results are summarized in Table 3-48. Figures 3-68, 3-69, 3-70, 3-71, and 3-72 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

TABLE 3-43  
Habitat Assessment Summary for Little Rocky Run Watershed  
*Fairfax County Stream Physical Assessment*

Stream	Linear Feet (Percent) of Stream					Total
	Very Poor	Poor	Fair	Good	Excellent	
Little Rocky Run	0 (0.00)	5,030 (10.84)	28,153 (60.64)	9,659 (20.81)	3,581 (7.71)	46,424
Tributary to Bull Run	0 (0.00)	0 (0.00)	656 (100.00)	0 (0.00)	0 (0.00)	656
Tributary to Little Rocky Run	0 (0.00)	7,880 (76.03)	2,484 (23.97)	0 (0.00)	0 (0.00)	10,365
Willow Springs Branch	0 (0.00)	0 (0.00)	12,090 (100.00)	0 (0.00)	0 (0.00)	12,090
<b>Watershed Total</b>	<b>0 (0.00)</b>	<b>12,911 (18.57)</b>	<b>43,383 (62.39)</b>	<b>9,659 (13.89)</b>	<b>3,581 (5.15)</b>	<b>69,534</b>

TABLE 3-44  
Infrastructure Assessment Summary for Little Rocky Run Watershed  
*Fairfax County Stream Physical Assessment*

<b>Impact Score</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>&gt;10</b>	<b>Total</b>
Deficient Buffers	0	0	0	3	5	3	1	7	0	0	0	N/A	19
Crossings	13	17	21	9	3	2	0	1	0	0	0	N/A	66
Ditches and Pipes	24	10	10	2	0	1	1	0	0	0	0	N/A	48
Erosion	0	0	0	0	0	1	2	0	1	0	0	N/A	4
Head Cut	0	0	0	0	1	0	0	0	0	0	0	N/A	1
Obstruction	6	1	0	0	3	2	0	2	0	0	0	N/A	14
Utility	0	0	0	1	0	0	0	0	0	0	0	0	1
<b>Total</b>	<b>43</b>	<b>28</b>	<b>31</b>	<b>15</b>	<b>12</b>	<b>9</b>	<b>4</b>	<b>10</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>153</b>

TABLE 3-45  
Habitat Assessment Summary for Johnny Moore Creek Watershed  
*Fairfax County Stream Physical Assessment*

<b>Stream</b>	<b>Linear Feet (Percent) of Stream</b>					<b>Total</b>
	<b>Very Poor</b>	<b>Poor</b>	<b>Fair</b>	<b>Good</b>	<b>Excellent</b>	
Johnny Moore Creek	0 (0.00)	0 (0.00)	12,811 (52.93)	11,393 (47.07)	0 (0.00)	24,204
Polecat Branch	0 (0.00)	1,570 (35.02)	2,914 (64.98)	0 (0.00)	0 (0.00)	4,484
Tributary to Bull Run	0 (0.00)	0 (0.00)	0 (0.00)	2,110 (100.00)	0 (0.00)	2,110
Tributary to Johnny Moore Creek	677 (2.34)	8,007 (27.66)	19,136 (66.10)	1,131 (3.91)	0 (0.00)	28,951
Tributary to Polecat Branch	0 (0.00)	0 (0.00)	2,344 (100.00)	0 (0.00)	0 (0.00)	2,344
<b>Watershed Total</b>	<b>677 (1.09)</b>	<b>9,577 (15.42)</b>	<b>37,204 (59.92)</b>	<b>14,634 (23.57)</b>	<b>0 (0.00)</b>	<b>62,092</b>

TABLE 3-46  
Infrastructure Assessment Summary for Johnny Moore Creek Watershed  
*Fairfax County Stream Physical Assessment*

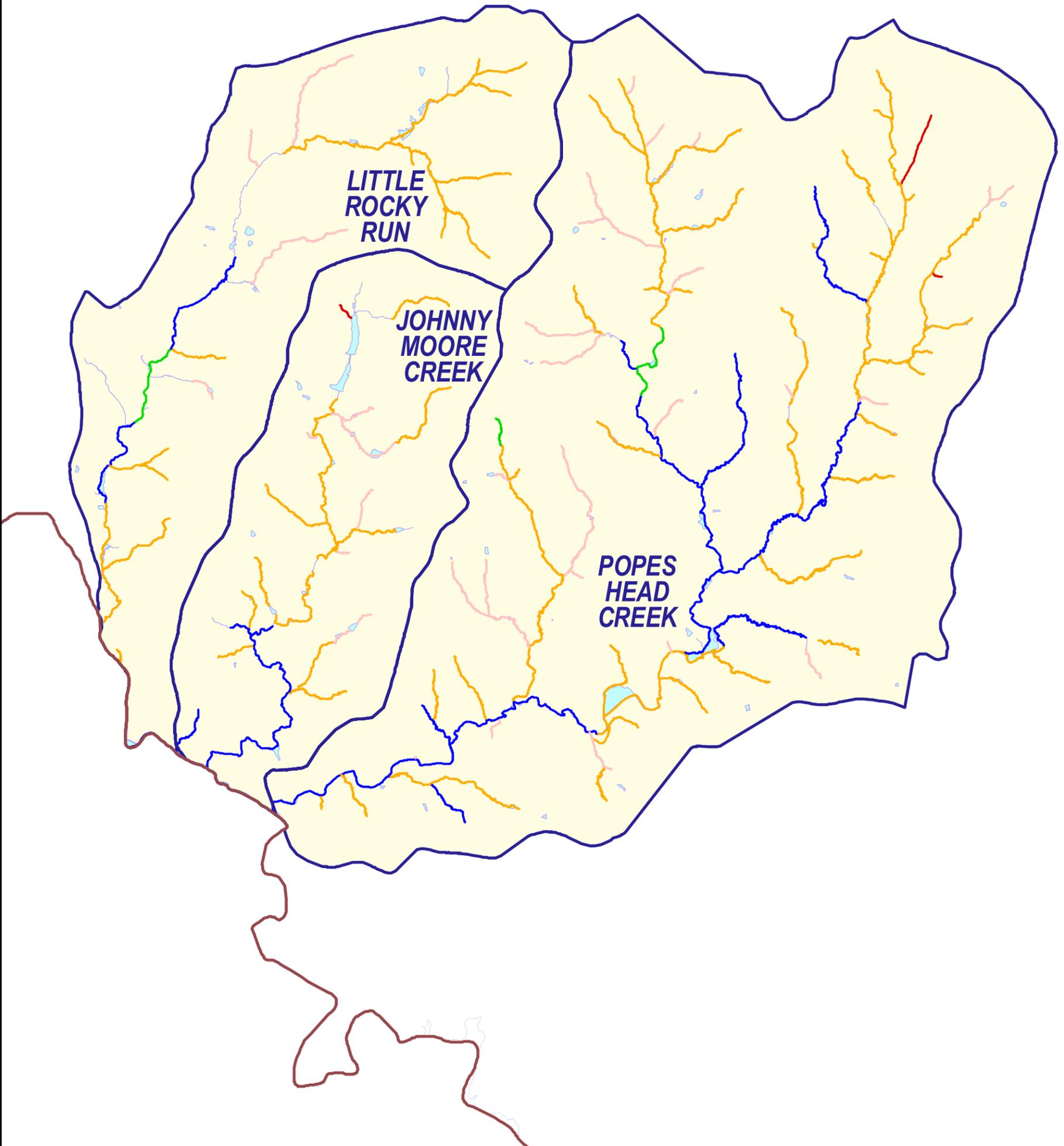
<b>Impact Score</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>&gt;10</b>	<b>Total</b>
Deficient Buffers	0	0	2	12	12	2	14	2	0	0	0	N/A	44
Crossings	50	3	5	6	0	1	0	2	0	0	0	N/A	67
Ditches and Pipes	4	0	0	0	0	0	0	0	0	0	0	N/A	4
Erosion	0	0	0	0	0	0	0	1	0	1	0	N/A	2
Head Cut	0	0	0	0	0	1	0	0	0	0	0	N/A	1
Obstruction	3	0	1	4	1	0	0	0	0	0	0	N/A	9
Utility	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>57</b>	<b>3</b>	<b>8</b>	<b>22</b>	<b>13</b>	<b>4</b>	<b>14</b>	<b>5</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>127</b>

TABLE 3-47  
Habitat Assessment Summary for Popes Head Creek Watershed  
*Fairfax County Stream Physical Assessment*

<b>Stream</b>	<b>Linear Feet (Percent) of Stream</b>					<b>Total</b>
	<b>Very Poor</b>	<b>Poor</b>	<b>Fair</b>	<b>Good</b>	<b>Excellent</b>	
Castle Creek	0 (0.00)	15,736 (50.89)	14,034 (45.38)	0 (0.00)	1,153 (3.73)	30,923
East Fork	0 (0.00)	2,180 (13.70)	13,726 (86.30)	0 (0.00)	0 (0.00)	15,906
Piney Branch	0 (0.00)	16,109 (23.24)	32,232 (46.50)	17,256 (24.90)	3,715 (5.36)	69,312
Popes Head Creek	0 (0.00)	6,303 (4.76)	73,978 (55.83)	52,230 (39.42)	0 (0.00)	132,511
Tributary to East Fork	419 (100.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	419
Tributary to Piney Branch	0 (0.00)	3,005 (100.00)	0 (0.00)	0 (0.00)	0 (0.00)	3,005
Tributary to Popes Head Creek	2,866 (28.80)	313 (3.15)	6,771 (68.05)	0 (0.00)	0 (0.00)	9,951
<b>Watershed Total</b>	<b>3,285 (1.25)</b>	<b>43,647 (16.66)</b>	<b>140,741 (53.71)</b>	<b>69,486 (26.52)</b>	<b>4,868 (1.86)</b>	<b>262,027</b>

**TABLE 3-48**  
 Infrastructure Assessment Summary for Popes Head Creek Watershed  
*Fairfax County Stream Physical Assessment*

<b>Impact Score</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>&gt;10</b>	<b>Total</b>
Deficient Buffers	0	7	21	54	34	5	1	0	0	0	0	N/A	122
Crossings	90	36	22	13	7	2	1	1	2	0	0	N/A	174
Ditches and Pipes	17	12	2	1	2	2	0	0	0	1	0	N/A	37
Erosion	0	0	0	0	1	0	2	0	0	0	0	N/A	3
Head Cut	0	0	1	2	5	4	0	1	1	0	0	N/A	14
Obstruction	0	5	8	4	8	2	1	1	1	0	0	N/A	30
Utility	1	0	0	0	1	0	0	0	0	0	0	0	2
<b>Total</b>	<b>108</b>	<b>60</b>	<b>54</b>	<b>74</b>	<b>58</b>	<b>15</b>	<b>5</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>382</b>



-  Fairfax County Boundary
- Habitat Rating**
-  Excellent
-  Good
-  Fair
-  Poor
-  Very Poor
-  No Habitat Assessment
-  Lakes and Ponds
-  Watersheds

**WATERSHED GROUP:  
LOWER BULL RUN**

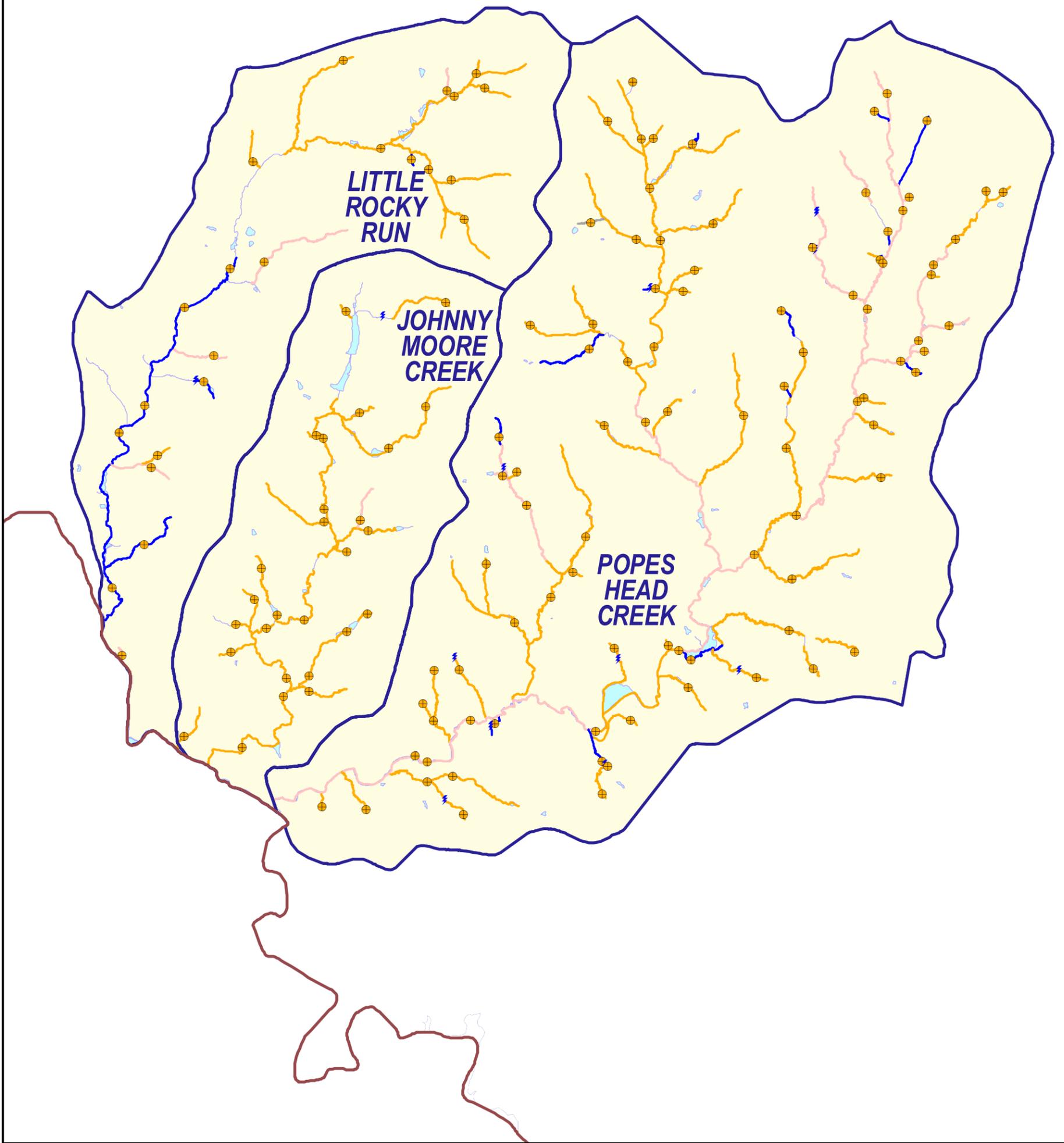


0 2000 4000 6000 8000 Feet



**Figure 3-66**  
**Habitat Assessment**  
**Lower Bull Run Group**  
**Fairfax County Stream Physical Assessment**





**Inventory Types**

- Cross Section
- ⚡ Head Cut

**CEM Stage**

- Not Assigned
- 1
- 2
- 3
- 4
- 5

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

**WATERSHED GROUP:  
LOWER BULL RUN**

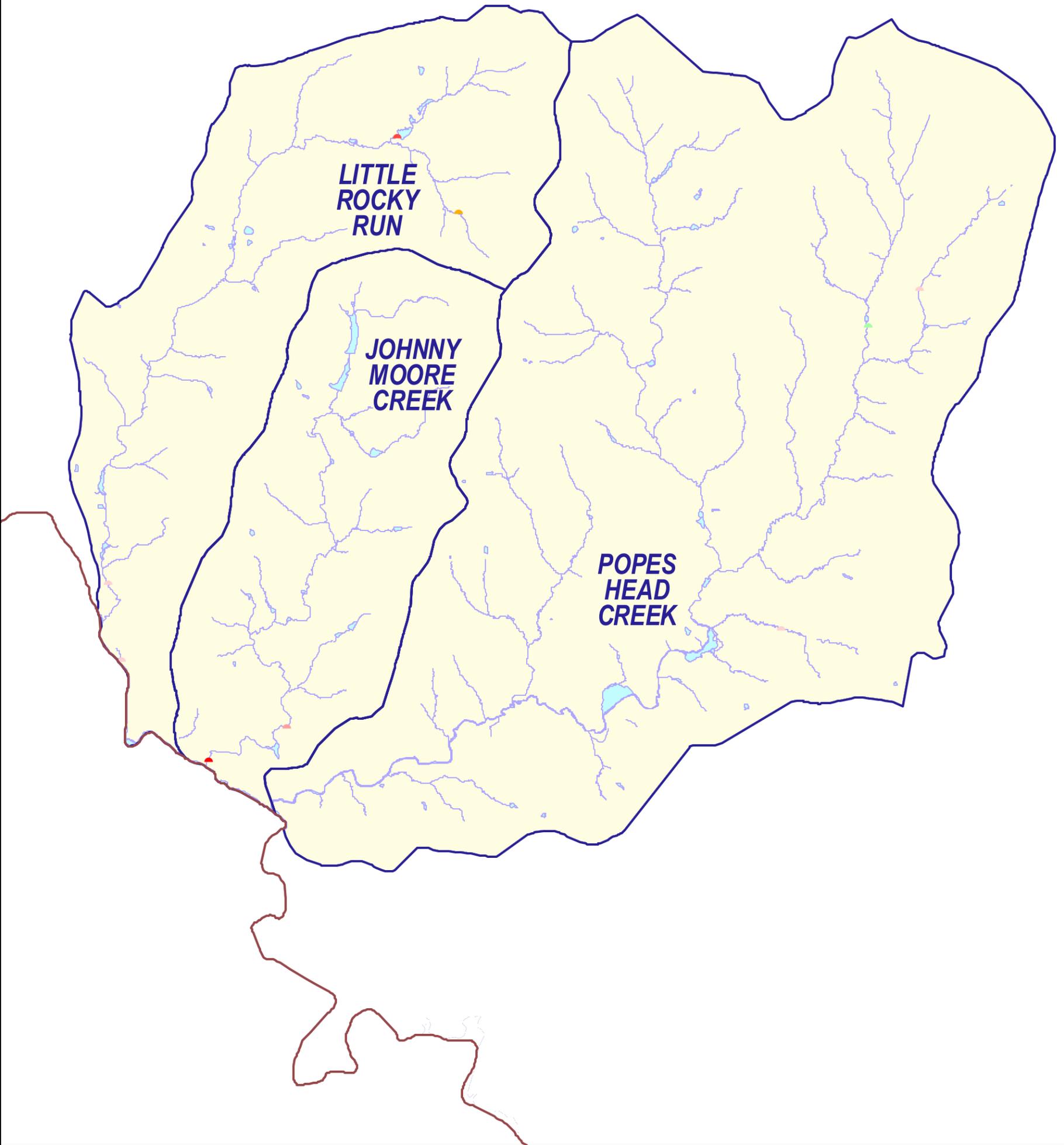


0 2000 4000 6000 8000 Feet



**Figure 3-67**  
**CEM Stages**  
**Lower Bull Run Group**  
**Fairfax County Stream Physical Assessment**





Erosion by Impact Score

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

WATERSHED GROUP:  
LOWER BULL RUN

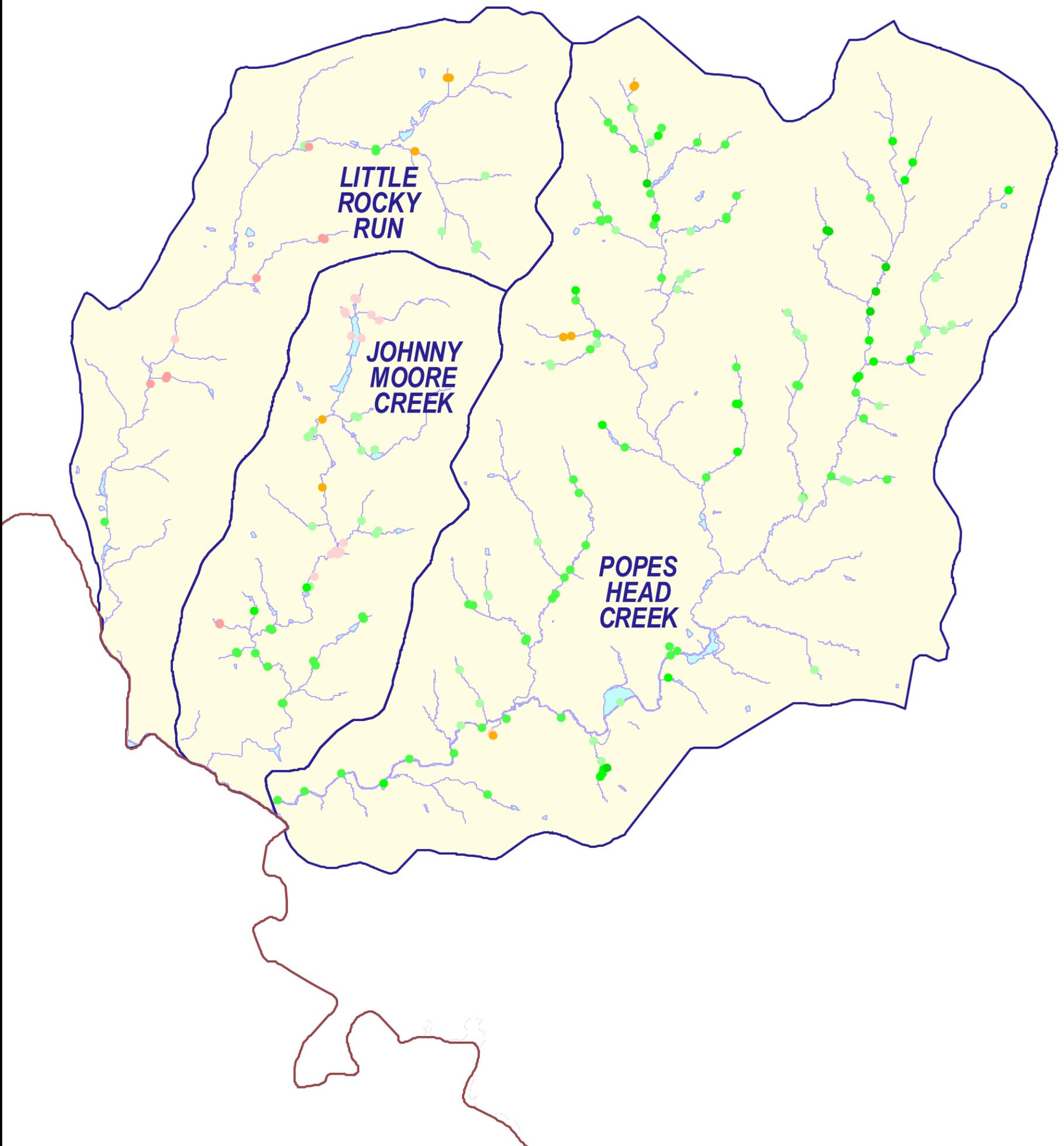


0 2000 4000 6000 8000 Feet



Figure 3-68  
Erosion Impacts  
Lower Bull Run Group  
Fairfax County Stream Physical Assessment





Deficient Buffer by Impact Score

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- ▭ Fairfax County Boundary
- ▭ Lakes and Ponds
- ▭ Streams
- ▭ Watersheds

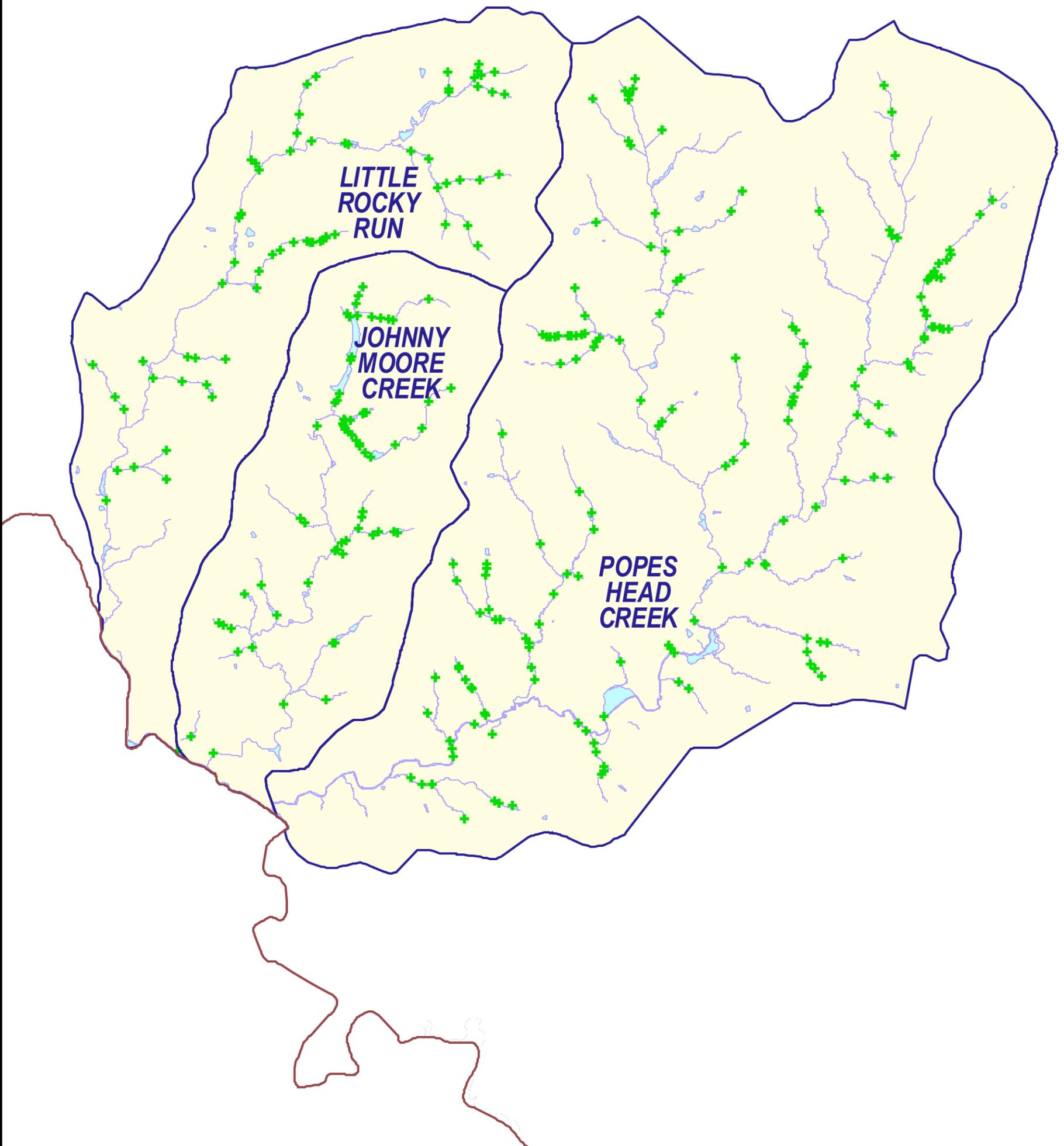
WATERSHED GROUP:  
LOWER BULL RUN



0 2000 4000 6000 8000 Feet

Figure 3-69  
Deficient Buffer Impacts  
Lower Bull Run Group  
Fairfax County Stream Physical Assessment





**WATERSHED GROUP:  
LOWER BULL RUN**



**Inventory Type**

-  Crossing
-  Fairfax County Boundary
-  Lakes and Ponds
-  Streams
-  Watersheds

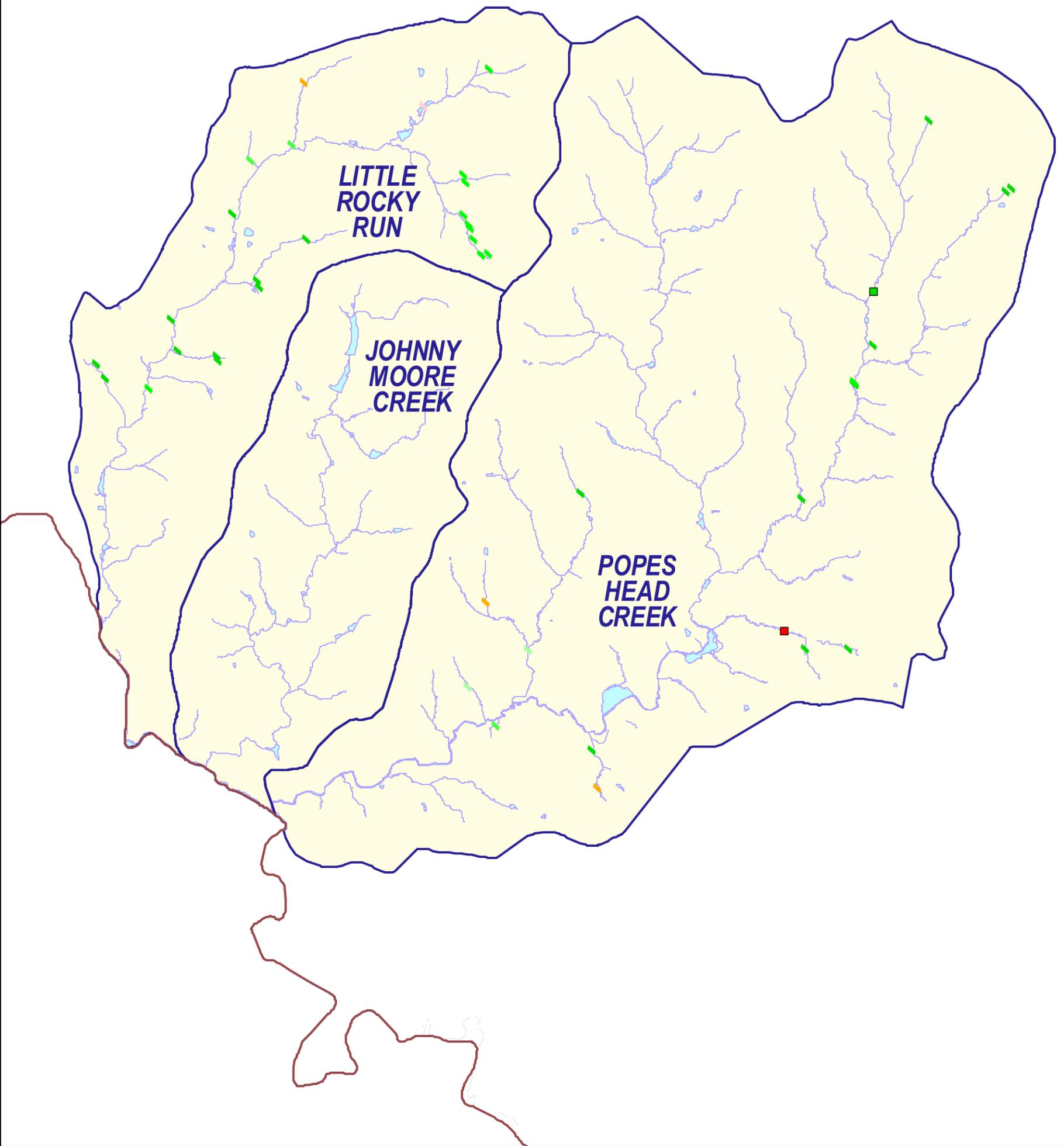


0 2000 4000 6000 8000 Feet



**Figure 3-70  
Crossings  
Lower Bull Run Group  
Fairfax County Stream Physical Assessment**





Pipe / Ditch by Impact Score

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

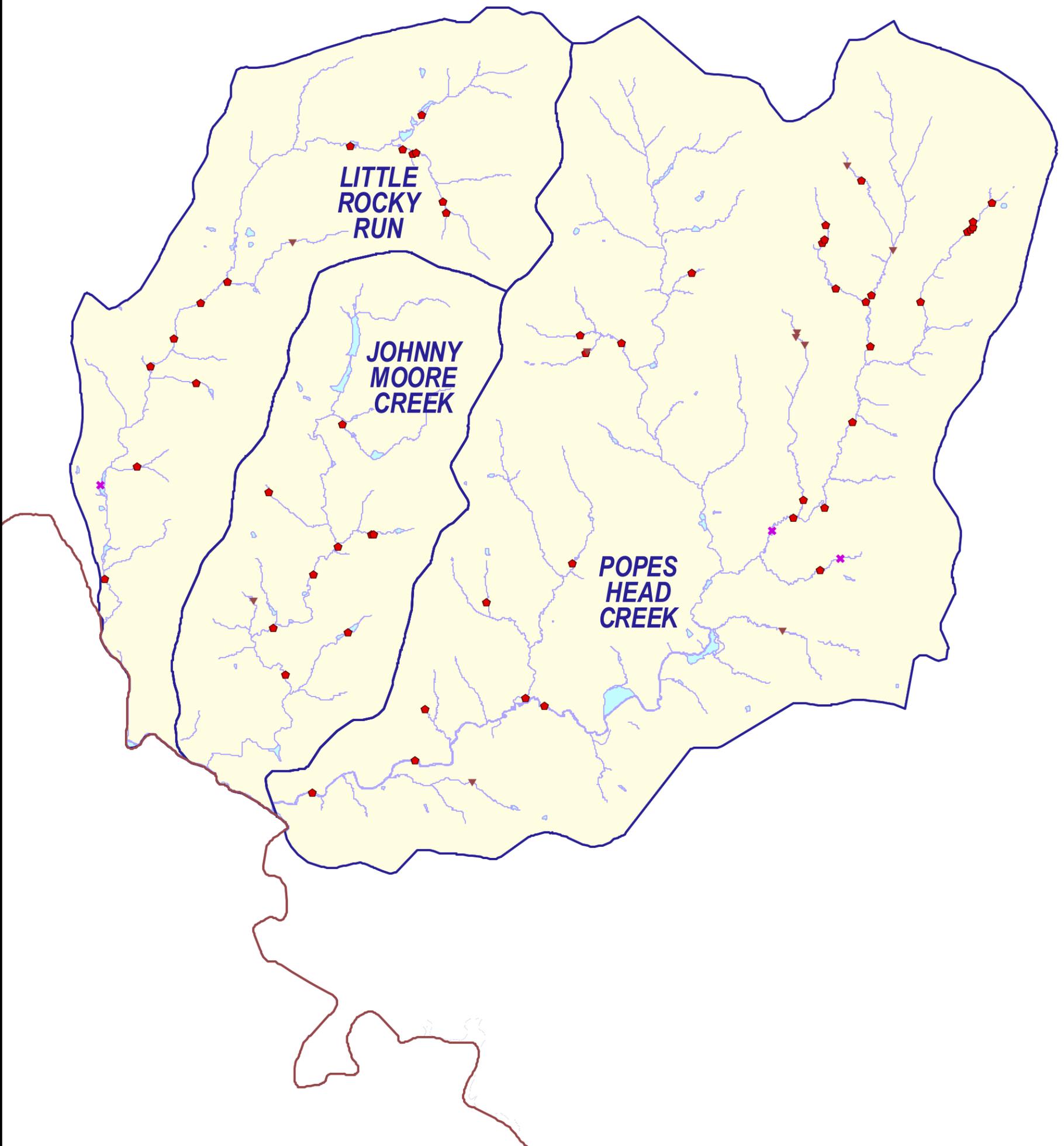
WATERSHED GROUP:  
LOWER BULL RUN



0 2000 4000 6000 8000 Feet

Figure 3-71  
Pipe and Ditch Impacts  
Lower Bull Run Group  
Fairfax County Stream Physical Assessment





**Inventory Types**

- ▼ Dump
- ◆ Obstruction
- \* Utility

- ▭ Fairfax County Boundary
- ▭ Lakes and Ponds
- ▭ Streams
- ▭ Watersheds

**WATERSHED GROUP:  
LOWER BULL RUN**



0 2000 4000 6000 8000 Feet

**Figure 3-72**  
**Dumps, Obstructions, and Utilities**  
**Lower Bull Run Group**  
**Fairfax County Stream Physical Assessment**



## 3.2.11 Upper Occoquan Group Summary

### 3.2.11.1 Old Mill Branch Watershed

**Description.** Old Mill Branch Watershed is a small watershed, with approximately 6 miles of stream assessed. It is located along the middle of the southwestern boundary of the County. The watershed is entirely contained within the County Boundaries, and contains several small tributaries which each drain directly to Bull Run or Occoquan River, and eventually to the Potomac River.

**Habitat.** The habitat assessment results for Old Mill Branch Watershed are summarized by stream in Table 3-49. Habitat scores for each reach are depicted in Figure 3-73. Based on a length weighted habitat score of 99 (Table 3-2), Old Mill Branch Watershed is lower range of quality compared to the rest of the County. Nearly all 6 miles of stream assessed were categorized as “fair.”

**CEM.** Based on the CEM evaluations approximately three quarters of the channels assessed in Old Mill Branch Watershed are in Evolutionary Stage 3 (Table 3-3) with the remainder in Stage 4. Figure 3-74 summarizes the CEM results for Old Mill Branch Watershed.

**Infrastructure.** The infrastructure inventory resulted in 29 inventory points. The most significant problem was related to a crossing, which was given an impact score of 9. The infrastructure inventory results are summarized in Table 3-50. Figures 3-75, 3-76, 3-77, 3-78, and 3-79 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

### 3.2.11.2 Wolf Run Watershed

**Description.** Wolf Run Watershed is a medium-sized watershed, with approximately 16 miles of stream assessed. It is located along the middle of the southwestern boundary of the County. The watershed is entirely contained within the County Boundaries, and drains directly to the Occoquan River, which eventually discharges to the Potomac River.

**Habitat.** The habitat assessment results for Wolf Run Watershed are summarized by stream in Table 3-51. Habitat scores for each reach are depicted in Figure 3-73. Based on a length weighted habitat score of 99 (Table 3-2), Wolf Run Watershed is in the lower range of quality, compared to the rest of the County. Approximately 1.5 miles of stream were categorized as having “poor” habitat conditions, 11 miles as “fair,” and 3 miles as “good.”

**CEM.** Based on the CEM evaluations approximately 98 percent of the channels assessed in Wolf Run Watershed are in Evolutionary Stage 3 (Table 3-3). Figure 3-74 summarizes the CEM results for Wolf Run Watershed.

**Infrastructure.** The infrastructure inventory resulted in 133 inventory points. The most significant problem was related to a head cut, which was given an impact score of 10. The infrastructure inventory results are summarized in Table 3-52. Figures 3-75, 3-76, 3-77, 3-78, and 3-79 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

### 3.2.11.3 Sandy Run Watershed

**Description.** Sandy Run Watershed is a medium-sized watershed, with approximately 20 miles of stream assessed. It is located along the middle of the southwestern boundary of the County. The watershed is entirely contained within the County Boundaries, and drains directly to the Occoquan River, which eventually discharges to the Potomac River.

**Habitat.** The habitat assessment results for Sandy Run Watershed are summarized by stream in Table 3-53. Habitat scores for each reach are depicted in Figure 3-73. Based on a length weighted habitat score of 104 (Table 3-2), Sandy Run Watershed is in the middle range of quality, compared to the rest of the County. Approximately 17 miles of stream were categorized as having “fair” habitat conditions and 3 miles as “fair.”

**CEM.** Based on the CEM evaluations approximately 65 percent of the channels assessed in Sandy Run Watershed are in Evolutionary Stage 3 (Table 3-3), with the remainder in Stage 4. Figure 3-74 summarizes the CEM results for Sandy Run Watershed.

**Infrastructure.** The infrastructure inventory resulted in 171 inventory points. The most significant problem was related to a head cut which was given an impact score of 10. The infrastructure inventory results are summarized in Table 3-54. Figures 3-75, 3-76, 3-77, 3-78, and 3-79 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

### 3.2.11.4 Ryans Dam Watershed

**Description.** Ryans Dam Watershed is a small watershed, with approximately 4 miles of stream assessed. It is located along the middle of the southwestern boundary of the County. The watershed is entirely contained within the County Boundaries, and consists of several small tributaries which each drain directly to the Occoquan River, and eventually to the Potomac River.

**Habitat.** The habitat assessment results for Ryans Dam Watershed are summarized by stream in Table 3-55. Habitat scores for each reach are depicted in Figure 3-73. Based on a length weighted habitat score of 145 (Table 3-2), Ryans Dam Watershed is the highest rated watershed in the County. Nearly 2 miles of stream were categorized as having “good” habitat conditions and 2.5 miles as “excellent.”

**CEM.** Based on the CEM evaluations the channels assessed in Ryans Dam Watershed are nearly evenly divided between Evolutionary Stages 2 and 3 (Table 3-3). Figure 3-74 summarizes the CEM results for Ryans Dam Watershed.

**Infrastructure.** The infrastructure inventory resulted in 10 inventory points. The most significant problem was related to crossing which was given an impact score of 8. The infrastructure inventory results are summarized in Table 3-56. Figures 3-75, 3-76, 3-77, 3-78, and 3-79 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

### 3.2.11.5 Occoquan Watershed

**Description.** Occoquan Watershed is a small watershed, with approximately 6 miles of stream assessed. It is located along the middle of the southern boundary of the County. The

watershed is entirely contained within the County Boundaries, and consists of several small tributaries that drain directly to the Occoquan River.

**Habitat.** The habitat assessment results for Occoquan Watershed are summarized by stream in Table 3-57. Habitat scores for each reach are depicted in Figure 3-73. Based on a length weighted habitat score of 117 (Table 3-2), Occoquan Watershed is in the upper middle range of quality, compared to the rest of the County. Approximately 3 miles of stream were categorized as having “fair” habitat conditions and 3 miles as “good.”

**CEM.** Based on the CEM evaluations approximately 80 percent of the channels assessed in Occoquan Watershed are in Evolutionary Stage 3 (Table 3-3), with the remainder of the watershed in Stages 2 and 4. Figure 3-74 summarizes the CEM results for Occoquan Watershed.

**Infrastructure.** The infrastructure inventory resulted in 40 inventory points. The most significant problems were related to two erosional areas and a head cut, which were given impact scores of 10. The infrastructure inventory results are summarized in Table 3-58. Figures 3-75, 3-76, 3-77, 3-78, and 3-79 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

TABLE 3-49  
Habitat Assessment Summary for Old Mill Branch Watershed  
*Fairfax County Stream Physical Assessment*

Stream	Linear Feet (Percent) of Stream					Total
	Very Poor	Poor	Fair	Good	Excellent	
Old Mill Branch	0 (0.00)	0 (0.00)	8,755 (100.00)	0 (0.00)	0 (0.00)	8,755
Tributary to Bull Run	0 (0.00)	1,586 (7.47)	17,734 (83.47)	1,927 (9.07)	0 (0.00)	21,247
Tributary to Old Mill Branch	0 (0.00)	0 (0.00)	1,627 (100.00)	0 (0.00)	0 (0.00)	1,627
<b>Watershed Total</b>	<b>0 (0.00)</b>	<b>1,586 (5.02)</b>	<b>28,116 (88.89)</b>	<b>1,927 (6.09)</b>	<b>0 (0.00)</b>	<b>31,629</b>

TABLE 3-50  
Infrastructure Assessment Summary for Old Mill Branch Watershed  
*Fairfax County Stream Physical Assessment*

<b>Impact Score</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>&gt;10</b>	<b>Total</b>
Deficient Buffers	0	0	0	2	2	3	1	1	0	0	0	N/A	9
Crossings	9	2	0	1	1	0	1	1	0	1	0	N/A	16
Ditches and Pipes	1	0	0	0	0	1	0	0	0	0	0	N/A	2
Erosion	0	0	0	0	0	0	1	1	0	0	0	N/A	2
Head Cut	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Obstruction	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Utility	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>10</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>29</b>

TABLE 3-51  
Habitat Assessment Summary for Wolf Run Watershed  
*Fairfax County Stream Physical Assessment*

<b>Stream</b>	<b>Linear Feet (Percent) of Stream</b>					<b>Total</b>
	<b>Very Poor</b>	<b>Poor</b>	<b>Fair</b>	<b>Good</b>	<b>Excellent</b>	
Maple Branch	0 (0.00)	0 (0.00)	7,679 (100.00)	0 (0.00)	0 (0.00)	7,679
Swift Run	0 (0.00)	0 (0.00)	6,540 (100.00)	0 (0.00)	0 (0.00)	6,540
Tributary to Wolf Run	3,430 (9.45)	8,042 (22.15)	24,841 (68.41)	0 (0.00)	0 (0.00)	36,313
Wolf Run	0 (0.00)	0 (0.00)	20,695 (60.06)	13,761 (39.94)	0 (0.00)	34,457
<b>Watershed Total</b>	<b>3,430 (4.04)</b>	<b>8,042 (9.46)</b>	<b>59,756 (70.31)</b>	<b>13,761 (16.19)</b>	<b>0 (0.00)</b>	<b>84,989</b>

TABLE 3-52  
Infrastructure Assessment Summary for Wolf Run Watershed  
*Fairfax County Stream Physical Assessment*

<b>Impact Score</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>&gt;10</b>	<b>Total</b>
Deficient Buffers	0	1	7	24	17	8	0	0	0	0	0	N/A	57
Crossings	33	11	11	6	4	0	0	0	0	0	0	N/A	65
Ditches and Pipes	4	0	1	1	0	0	0	0	0	0	0	N/A	6
Erosion	0	0	0	0	1	0	0	0	0	0	0	N/A	1
Head Cut	0	0	0	1	0	0	0	0	0	0	1	N/A	2
Obstruction	0	0	0	0	2	0	0	0	0	0	0	N/A	2
Utility	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>37</b>	<b>12</b>	<b>19</b>	<b>32</b>	<b>24</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>133</b>

TABLE 3-53  
Habitat Assessment Summary for Sandy Run Watershed  
*Fairfax County Stream Physical Assessment*

<b>Stream</b>	<b>Linear Feet (Percent) of Stream</b>					<b>Total</b>
	<b>Very Poor</b>	<b>Poor</b>	<b>Fair</b>	<b>Good</b>	<b>Excellent</b>	
Sandy Run	0 (0.00)	0 (0.00)	5,407 (28.88)	13,315 (71.12)	0 (0.00)	18,722
Tributary to Occoquan River	0 (0.00)	0 (0.00)	12,270 (90.83)	1,238 (9.17)	0 (0.00)	13,509
Tributary to Sandy Run	0 (0.00)	4,734 (6.28)	70,602 (93.72)	0 (0.00)	0 (0.00)	75,337
<b>Watershed Total</b>	<b>0 (0.00)</b>	<b>4,734 (4.40)</b>	<b>88,280 (82.07)</b>	<b>14,553 (13.53)</b>	<b>0 (0.00)</b>	<b>107,567</b>

**TABLE 3-54**  
 Infrastructure Assessment Summary for Sandy Run Watershed  
*Fairfax County Stream Physical Assessment*

<b>Impact Score</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>&gt;10</b>	<b>Total</b>
Deficient Buffers	1	5	26	15	4	2	0	0	0	0	0	N/A	53
Crossings	24	42	16	11	2	1	0	1	0	0	0	N/A	97
Ditches and Pipes	1	1	0	1	0	0	0	0	0	0	0	N/A	3
Erosion	0	0	1	1	2	1	1	0	0	0	0	N/A	6
Head Cut	0	0	0	0	1	0	0	0	0	0	1	N/A	2
Obstruction	0	1	4	2	1	1	0	0	0	0	0	N/A	9
Utility	0	0	0	0	1	0	0	0	0	0	0	0	1
<b>Total</b>	<b>26</b>	<b>49</b>	<b>47</b>	<b>30</b>	<b>11</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>171</b>

**TABLE 3-55**  
 Habitat Assessment Summary for Ryans Dam Watershed  
*Fairfax County Stream Physical Assessment*

<b>Stream</b>	<b>Linear Feet (Percent) of Stream</b>					<b>Total</b>
	<b>Very Poor</b>	<b>Poor</b>	<b>Fair</b>	<b>Good</b>	<b>Excellent</b>	
Stillwell Run	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	7,561 (100.00)	7,561
Tributary to Occoquan River	0 (0.00)	0 (0.00)	0 (0.00)	9,326 (62.47)	5,603 (37.53)	14,929
<b>Watershed Total</b>	<b>0 (0.00)</b>	<b>0 (0.00)</b>	<b>0 (0.00)</b>	<b>9,326 (41.47)</b>	<b>13,164 (58.53)</b>	<b>22,490</b>

TABLE 3-56  
Infrastructure Assessment Summary for Ryans Dam Watershed  
*Fairfax County Stream Physical Assessment*

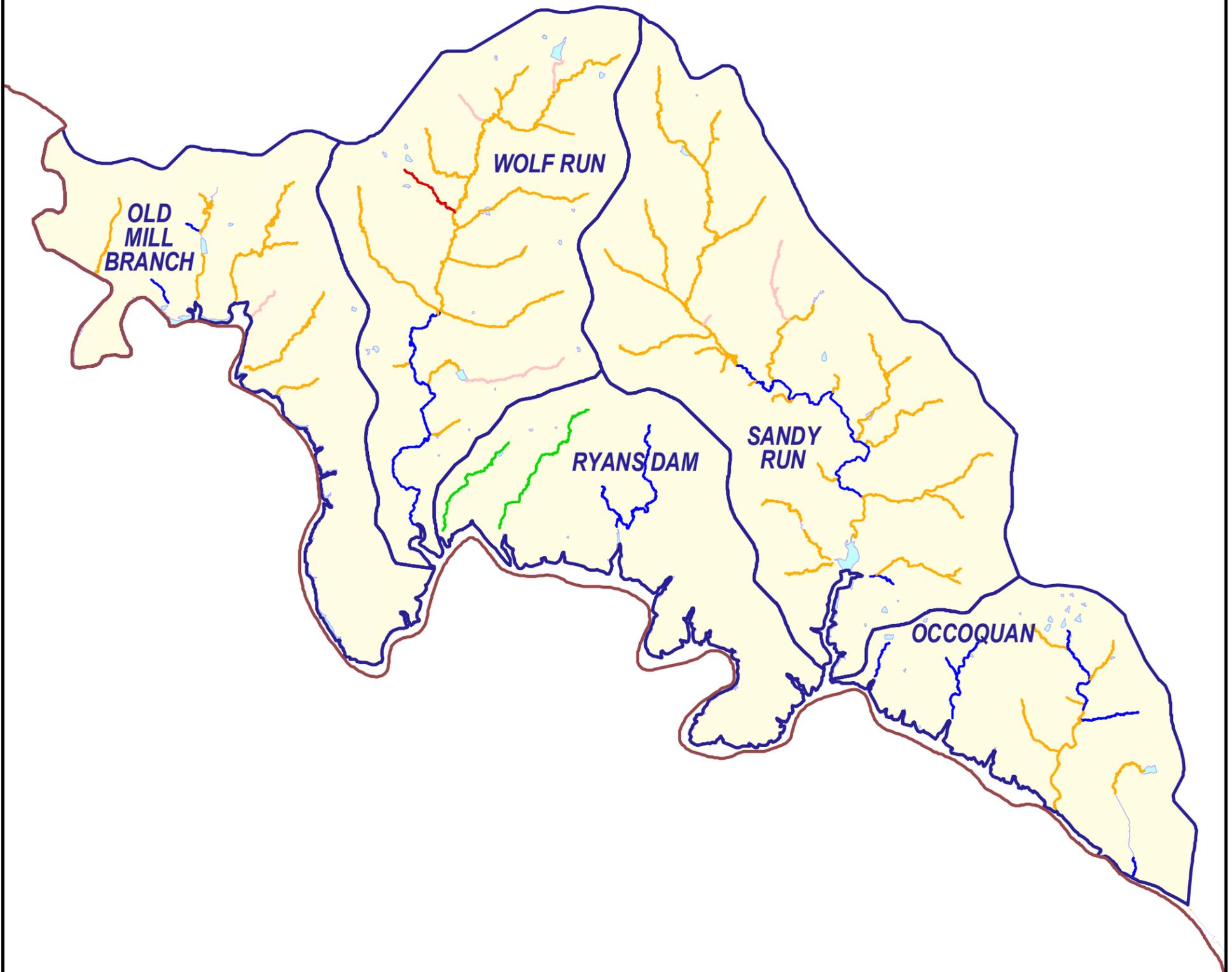
<b>Impact Score</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>&gt;10</b>	<b>Total</b>
Deficient Buffers	0	0	0	0	0	0	0	1	0	0	0	N/A	1
Crossings	0	0	3	3	1	0	0	0	1	0	0	N/A	8
Ditches and Pipes	0	1	0	0	0	0	0	0	0	0	0	N/A	1
Erosion	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Head Cut	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Obstruction	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Utility	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>

TABLE 3-57  
Habitat Assessment Summary for Occoquan Watershed  
*Fairfax County Stream Physical Assessment*

<b>Stream</b>	<b>Linear Feet (Percent) of Stream</b>					<b>Total</b>
	<b>Very Poor</b>	<b>Poor</b>	<b>Fair</b>	<b>Good</b>	<b>Excellent</b>	
Elk Horn Run	0 (0.00)	0 (0.00)	14,002 (75.51)	4,542 (24.49)	0 (0.00)	18,544
Little Occoquan Creek	0 (0.00)	0 (0.00)	2,874 (74.71)	973 (25.29)	0 (0.00)	3,846
Tributary to Elk Horn Run	0 (0.00)	0 (0.00)	0 (0.00)	2,742 (100.00)	0 (0.00)	2,742
Tributary to Occoquan River	0 (0.00)	0 (0.00)	0 (0.00)	6,796 (100.00)	0 (0.00)	6,796
<b>Watershed Total</b>	<b>0 (0.00)</b>	<b>0 (0.00)</b>	<b>16,876 (52.85)</b>	<b>15,053 (47.15)</b>	<b>0 (0.00)</b>	<b>31,929</b>

**TABLE 3-58**  
 Infrastructure Assessment Summary for Occoquan Watershed  
*Fairfax County Stream Physical Assessment*

<b>Impact Score</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>&gt;10</b>	<b>Total</b>
Deficient Buffers	0	0	0	3	5	0	0	0	0	0	0	N/A	8
Crossings	9	2	2	2	1	0	0	0	0	0	0	N/A	16
Ditches and Pipes	0	5	0	0	0	0	0	0	0	0	0	N/A	5
Erosion	0	0	0	0	0	0	0	0	0	0	2	N/A	2
Head Cut	0	0	0	1	1	0	0	0	0	0	1	N/A	3
Obstruction	0	0	3	1	1	0	0	1	0	0	0	N/A	6
Utility	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>9</b>	<b>7</b>	<b>5</b>	<b>7</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>40</b>



-  Fairfax County Boundary
- Habitat Rating**
-  Excellent
-  Good
-  Fair
-  Poor
-  Very Poor
-  No Habitat Assessment
-  Lakes and Ponds
-  Watersheds

**WATERSHED GROUP:  
UPPER OCCOQUAN**

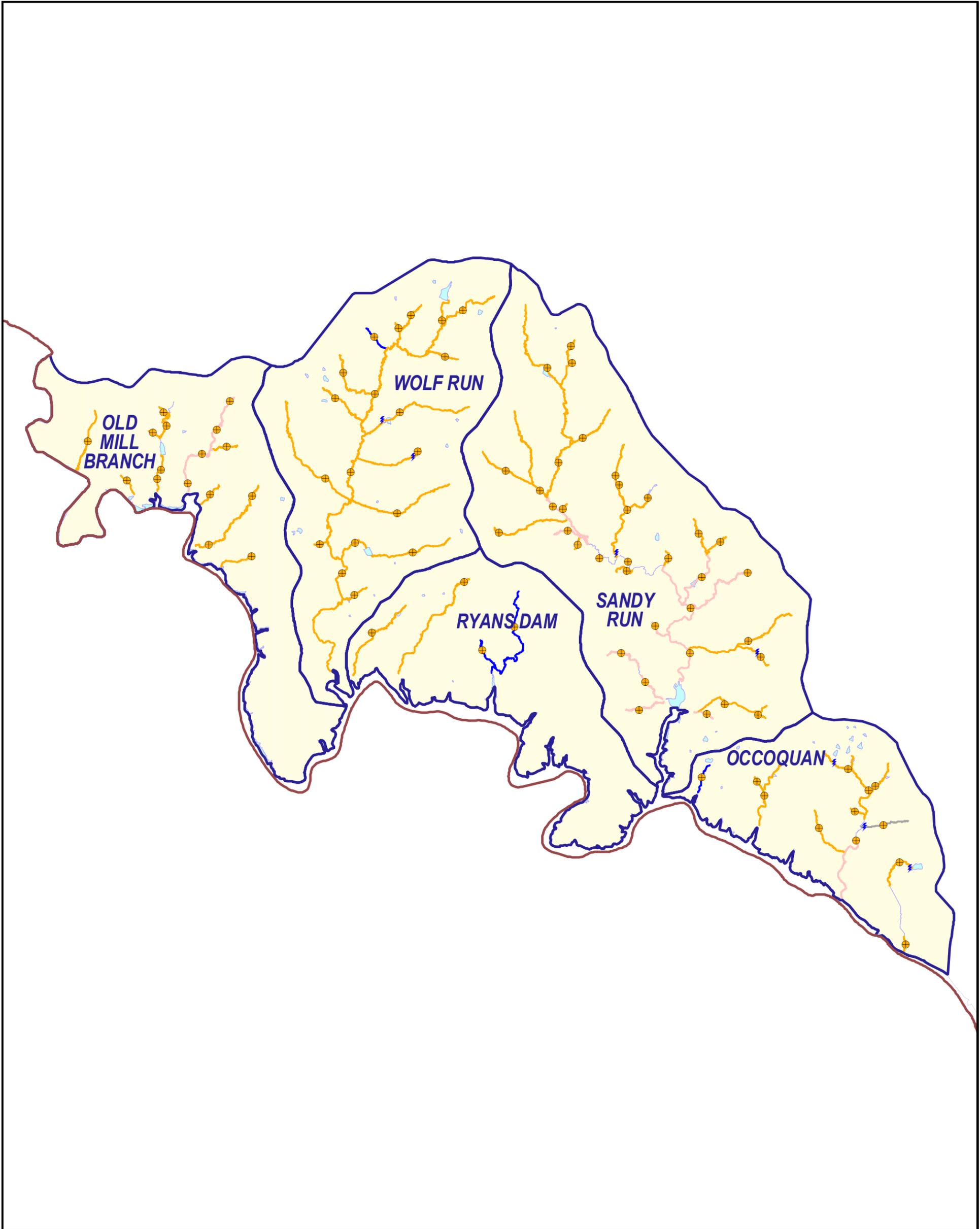


0 2000 4000 6000 8000 Feet



**Figure 3-73**  
**Habitat Assessment**  
**Upper Occoquan Group**  
**Fairfax County Stream Physical Assessment**





**Inventory Types**

- Cross Section
- Head Cut

**CEM Stage**

- Not Assigned
- 1
- 2
- 3
- 4
- 5

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

**WATERSHED GROUP:  
UPPER OCCOQUAN**



0 2000 4000 6000 8000 Feet



**Figure 3-74**  
**CEM Stages**  
**Upper Occoquan Group**  
**Fairfax County Stream Physical Assessment**





Erosion by Impact Score

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

WATERSHED GROUP:  
UPPER OCCOQUAN

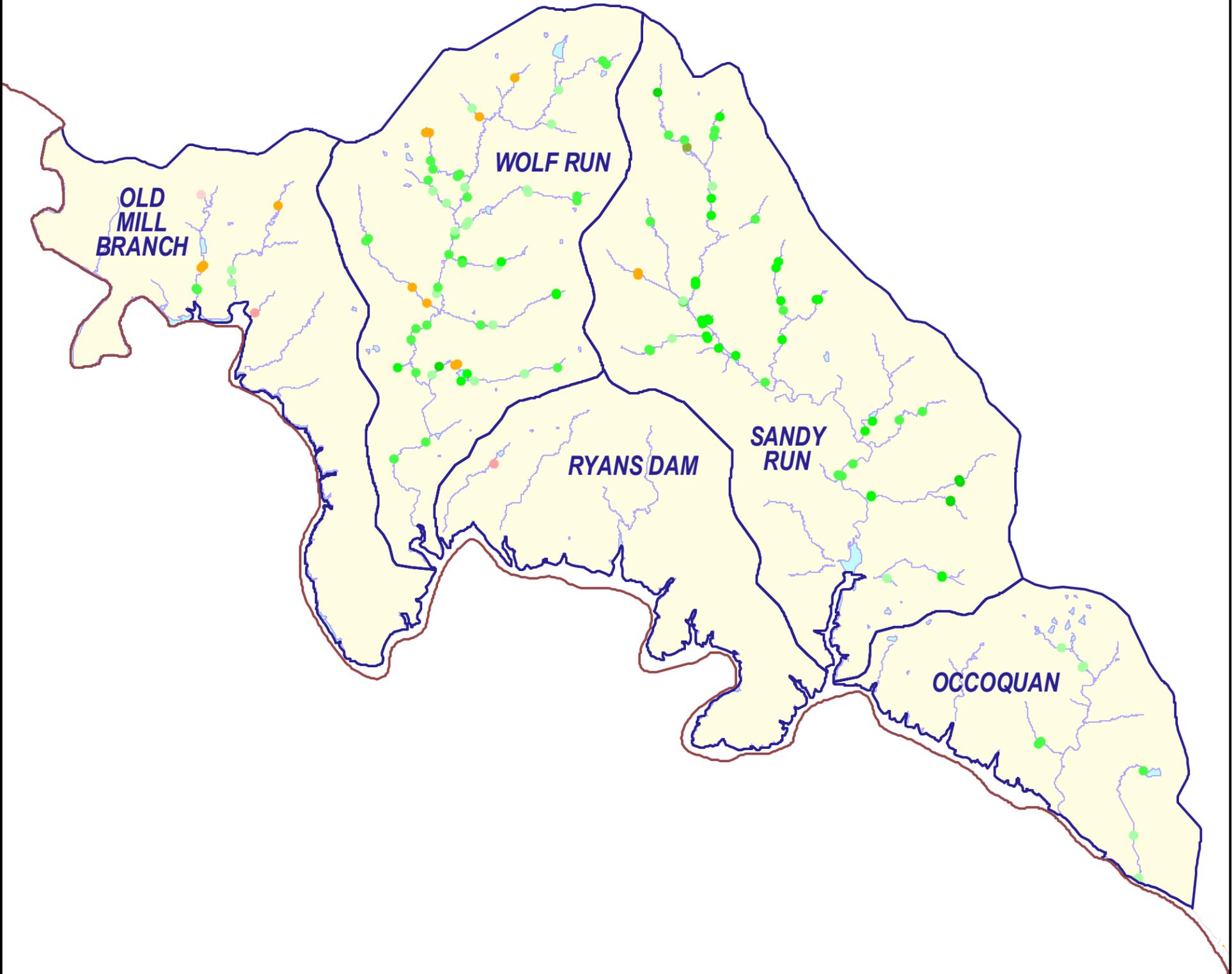


0 2000 4000 6000 8000 Feet



Figure 3-75  
Erosion Impacts  
Upper Occoquan Group  
Fairfax County Stream Physical Assessment





Deficient Buffer by Impact Score

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

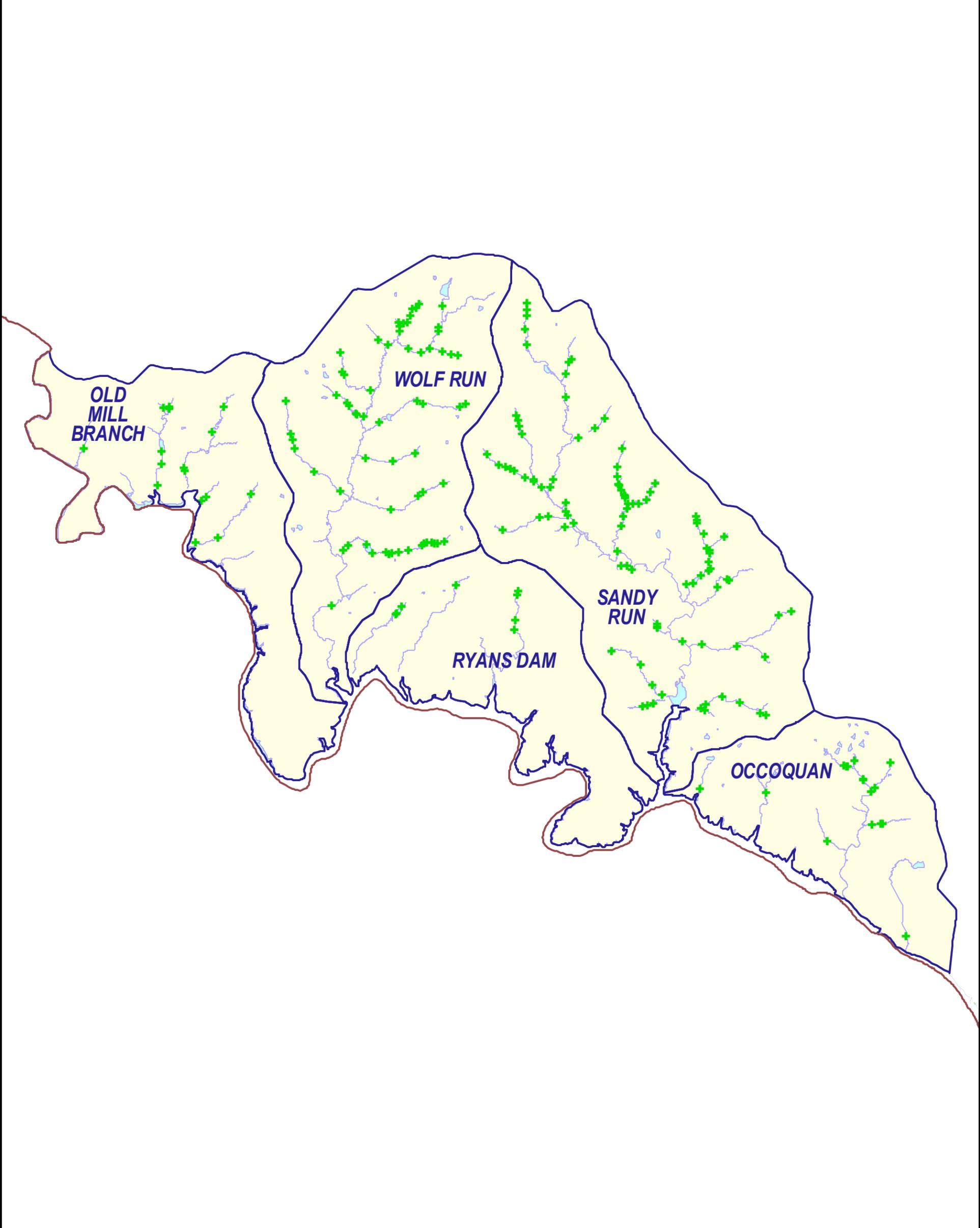
WATERSHED GROUP:  
UPPER OCCOQUAN



0 2000 4000 6000 8000 Feet

**Figure 3-76**  
**Deficient Buffer Impacts**  
**Upper Occoquan Group**  
**Fairfax County Stream Physical Assessment**





**WATERSHED GROUP:  
UPPER OCCOQUAN**



Inventory Type  
+ Crossing

-  Fairfax County Boundary
-  Lakes and Ponds
-  Streams
-  Watersheds



0 2000 4000 6000 8000 Feet



**Figure 3-77**  
**Crossings**  
**Upper Occoquan Group**  
**Fairfax County Stream Physical Assessment**





Pipe / Ditch by Impact Score

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

WATERSHED GROUP:  
UPPER OCCOQUAN



0 2000 4000 6000 8000 Feet

**Figure 3-78**  
**Pipe and Ditch Impacts**  
**Upper Occoquan Group**  
**Fairfax County Stream Physical Assessment**





**Inventory Types**

- ▼ Dump
- ◆ Obstruction
- \* Utility

- ▭ Fairfax County Boundary
- ▭ Lakes and Ponds
- ▭ Streams
- ▭ Watersheds

**WATERSHED GROUP:  
UPPER OCCOQUAN**



0 2000 4000 6000 8000 Feet

**Figure 3-79**  
**Dumps, Obstructions, and Utilities**  
**Upper Occoquan Group**  
**Fairfax County Stream Physical Assessment**



## 3.2.12 Lower Occoquan Group Summary

### 3.2.12.1 Mill Branch Watershed

**Description.** Mill Branch Watershed is a medium-sized watershed, with approximately 14 miles of stream assessed. It is located along the middle of the southern boundary of the County. The watershed is entirely contained within the County Boundaries, and drains to the Occoquan River, and eventually discharges to the Potomac River.

**Habitat.** The habitat assessment results for Mill Branch Watershed are summarized by stream in Table 3-59. Habitat scores for each reach are depicted in Figure 3-80. Based on a length weighted habitat score of 106 (Table 3-2), Mill Branch Watershed is in the middle range of quality, compared to the rest of the County. Approximately 6 miles of stream were categorized as having “poor” habitat conditions, 3 miles as “fair,” 3 miles as “good,” and 3 miles as “excellent.”

**CEM.** Based on the CEM evaluations approximately three quarters of the channels assessed in Mill Branch Watershed are in Evolutionary Stage 3 (Table 3-3), with the remainder of the watershed in Stage 2. Figure 3-81 summarizes the CEM results for Mill Branch Watershed.

**Infrastructure.** The infrastructure inventory resulted in 98 inventory points. The most significant problems were related to a utility line, which was given an impact score of 20, and a head cut which was given a score of 10. The infrastructure inventory results are summarized in Table 3-60. Figures 3-82, 3-83, 3-84, 3-85, and 3-86 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

### 3.2.12.2 Kane Creek Watershed

**Description.** Kane Creek Watershed is a small watershed, with approximately 7 miles of stream assessed. It is located at the southern most end of the County. The watershed is entirely contained within the County Boundaries, and drains to Belmont Bay, and the Potomac River.

**Habitat.** The habitat assessment results for Kane Creek Watershed are summarized by stream in Table 3-61. Habitat scores for each reach are depicted in Figure 3-80. Based on a length weighted habitat score of 128 (Table 3-2), Kane Creek Watershed is in the upper range of quality, compared to the rest of the County. Approximately 6 miles of stream were categorized as having “good” habitat and just over 1 mile as “excellent.”

**CEM.** Based on the CEM evaluations approximately two thirds of the channels assessed in Kane Creek Watershed are in Evolutionary Stage 2 (Table 3-3), with the remainder of the watershed in Stage 3. Figure 3-81 summarizes the CEM results for Kane Creek Watershed.

**Infrastructure.** The infrastructure inventory resulted in 13 inventory points. The most significant problem was related to a crossing, which was given an impact score of 5. The infrastructure inventory results are summarized in Table 3-62. Figures 3-82, 3-83, 3-84, 3-85, and 3-86 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

### 3.2.12.3 High Point Watershed

**Description.** High Point Watershed is a small watershed, with approximately 3 miles of stream assessed. It is located at the southern most end of the County. The watershed is entirely contained within the County Boundaries, primarily draining the Mason Neck State Park and National Wildlife Refuge. The channels in the watershed consist of several small tributaries, which each drain directly to the Potomac River.

**Habitat.** The habitat assessment results for High Point Watershed are summarized by stream in Table 3-63. Habitat scores for each reach are depicted in Figure 3-80. Based on a length weighted habitat score of 124 (Table 3-2), High Point Watershed is in the upper range of quality, compared to the rest of the County. Nearly all 3 miles of stream were categorized as having “good” habitat conditions.

**CEM.** Based on the CEM evaluations all of the channels assessed in High Point Watershed are in Evolutionary Stage 2 (Table 3-3). Figure 3-81 summarizes the CEM results for High Point Watershed.

**Infrastructure.** The infrastructure inventory resulted in 6 inventory points. The most significant problems were related to two deficient buffers, which were given impact scores of 5. The infrastructure inventory results are summarized in Table 3-64. Figures 3-82, 3-83, 3-84, 3-85, and 3-86 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

TABLE 3-59  
Habitat Assessment Summary for Mill Branch Watershed  
*Fairfax County Stream Physical Assessment*

Stream	Linear Feet (Percent) of Stream					Total
	Very Poor	Poor	Fair	Good	Excellent	
Giles Run	1,065 (2.20)	25,567 (52.92)	9,245 (19.14)	3,352 (6.94)	9,087 (18.81)	48,316
Mills Branch	0 (0.00)	0 (0.00)	4,376 (88.06)	593 (11.94)	0 (0.00)	4,970
South Branch	0 (0.00)	0 (0.00)	0 (0.00)	6,403 (100.00)	0 (0.00)	6,403
Tributary to Occoquan River	0 (0.00)	4,951 (31.76)	2,655 (17.03)	3,132 (20.09)	4,850 (31.11)	15,588
<b>Watershed Total</b>	<b>1,065 (1.41)</b>	<b>30,518 (40.54)</b>	<b>16,276 (21.62)</b>	<b>13,480 (17.91)</b>	<b>13,937 (18.51)</b>	<b>75,276</b>

TABLE 3-60  
Infrastructure Assessment Summary for Mill Branch Watershed  
*Fairfax County Stream Physical Assessment*

Impact Score	0	1	2	3	4	5	6	7	8	9	10	>10	Total
Deficient Buffers	0	0	9	4	13	7	3	0	1	0	0	N/A	37
Crossings	34	0	1	0	0	0	0	1	0	0	0	N/A	36
Ditches and Pipes	14	1	0	0	0	0	0	0	0	0	0	N/A	15
Erosion	0	0	0	0	0	0	1	0	0	0	0	N/A	1
Head Cut	0	0	1	0	2	0	0	0	0	0	1	N/A	4
Obstruction	0	1	1	1	0	0	0	0	0	0	0	N/A	3
Utility	1	0	0	0	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>49</b>	<b>2</b>	<b>12</b>	<b>5</b>	<b>15</b>	<b>7</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>98</b>

TABLE 3-61  
 Habitat Assessment Summary for Kane Creek Watershed  
*Fairfax County Stream Physical Assessment*

Stream	Linear Feet (Percent) of Stream					Total
	Very Poor	Poor	Fair	Good	Excellent	
Kane Creek	0 (0.00)	0 (0.00)	2,072 (10.48)	10,666 (53.94)	7,034 (35.58)	19,772
Thompson Creek	0 (0.00)	0 (0.00)	0 (0.00)	15,493 (100.00)	0 (0.00)	15,493
Tributary to Potomac River	0 (0.00)	0 (0.00)	0 (0.00)	1,300 (100.00)	0 (0.00)	1,300
Tributary to Thompson Creek	0 (0.00)	0 (0.00)	0 (0.00)	1,970 (100.00)	0 (0.00)	1,970
<b>Watershed Total</b>	<b>0 (0.00)</b>	<b>0 (0.00)</b>	<b>2,072 (5.38)</b>	<b>29,429 (76.37)</b>	<b>7,034 (18.25)</b>	<b>38,535</b>

TABLE 3-62  
 Infrastructure Assessment Summary for Kane Creek Watershed  
*Fairfax County Stream Physical Assessment*

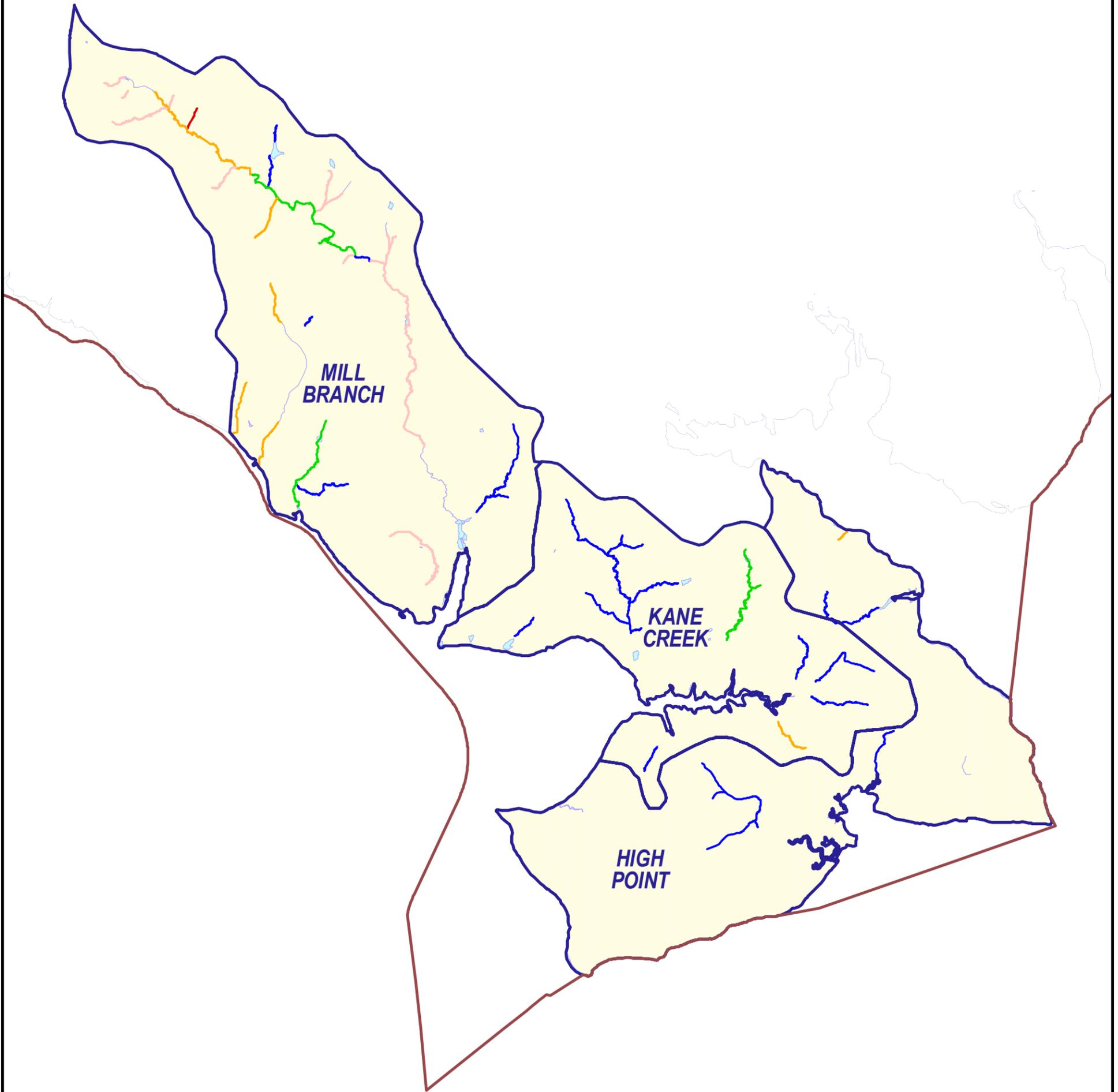
Impact Score	0	1	2	3	4	5	6	7	8	9	10	>10	Total
Deficient Buffers	0	0	0	1	0	1	0	0	0	0	0	N/A	2
Crossings	9	0	0	0	0	0	0	1	0	0	0	N/A	10
Ditches and Pipes	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Erosion	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Head Cut	0	0	0	1	0	0	0	0	0	0	0	N/A	1
Obstruction	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Utility	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>

TABLE 3-63  
Habitat Assessment Summary for High Point Watershed  
*Fairfax County Stream Physical Assessment*

Stream	Linear Feet (Percent) of Stream					Total
	Very Poor	Poor	Fair	Good	Excellent	
Tributary to Potomac River	0 (0.00)	0 (0.00)	638 (4.02)	15,218 (95.98)	0 (0.00)	15,856
<b>Watershed Total</b>	<b>0 (0.00)</b>	<b>0 (0.00)</b>	<b>638 (4.02)</b>	<b>15,218 (95.98)</b>	<b>0 (0.00)</b>	<b>15,856</b>

TABLE 3-64  
Infrastructure Assessment Summary for High Point Watershed  
*Fairfax County Stream Physical Assessment*

Impact Score	0	1	2	3	4	5	6	7	8	9	10	>10	Total
Deficient Buffers	0	0	0	0	0	2	0	0	0	0	0	N/A	2
Crossings	3	0	0	1	0	0	0	0	0	0	0	N/A	4
Ditches and Pipes	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Erosion	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Head Cut	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Obstruction	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Utility	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>



-  Fairfax County Boundary
- Habitat Rating**
-  Excellent
-  Good
-  Fair
-  Poor
-  Very Poor
-  No Habitat Assessment
-  Lakes and Ponds
-  Watersheds

**WATERSHED GROUP:  
LOWER OCCOQUAN**

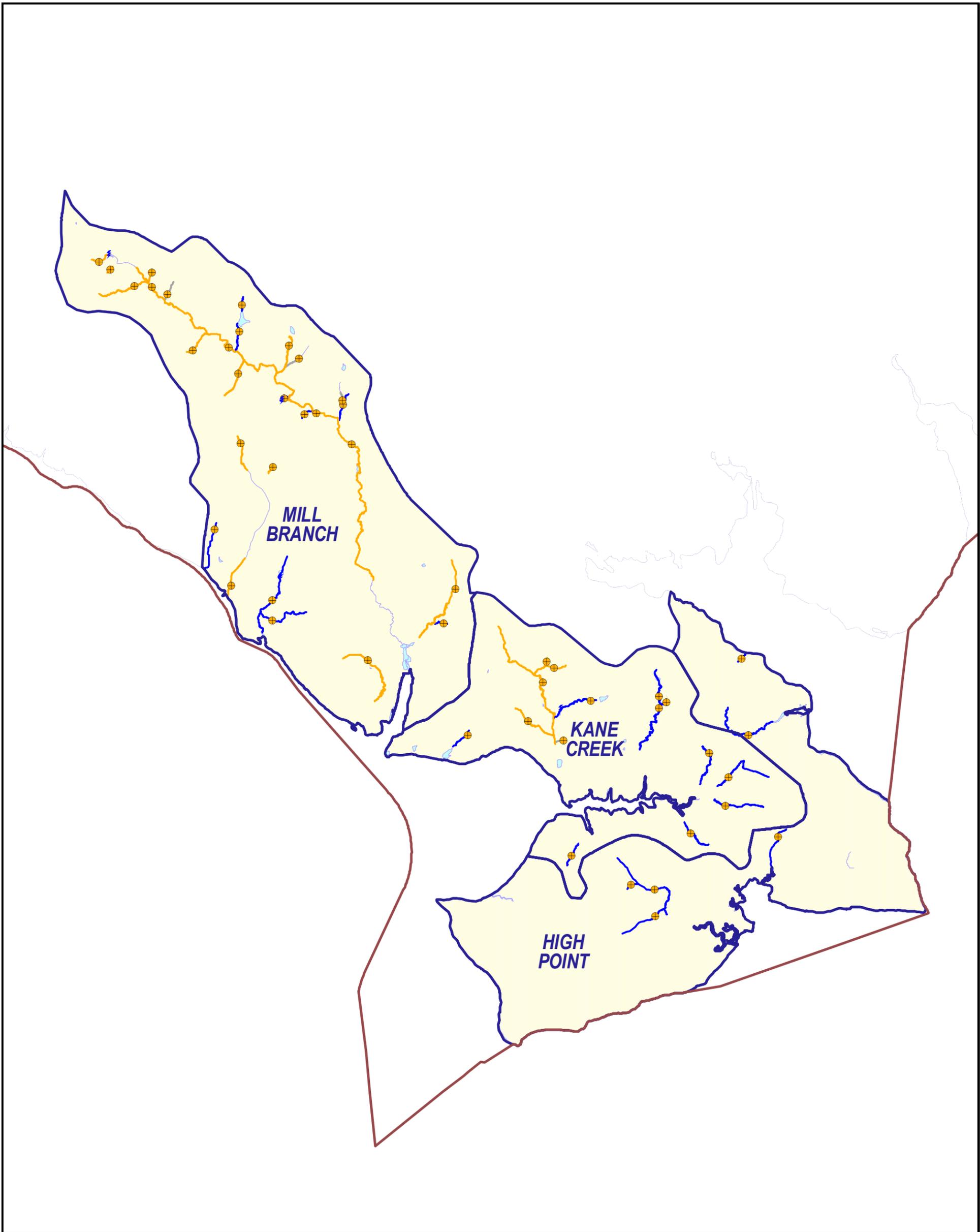


0 2000 4000 6000 8000 Feet



**Figure 3-80**  
**Habitat Assessment**  
**Lower Occoquan Group**  
**Fairfax County Stream Physical Assessment**





**Inventory Types**

- Cross Section
- ⚡ Head Cut

**CEM Stage**

- ⚡ Not Assigned
- 1
- 2
- 3
- 4
- 5

- ▭ Fairfax County Boundary
- ▭ Lakes and Ponds
- ▭ Streams
- ▭ Watersheds

**WATERSHED GROUP:  
LOWER OCCOQUAN**

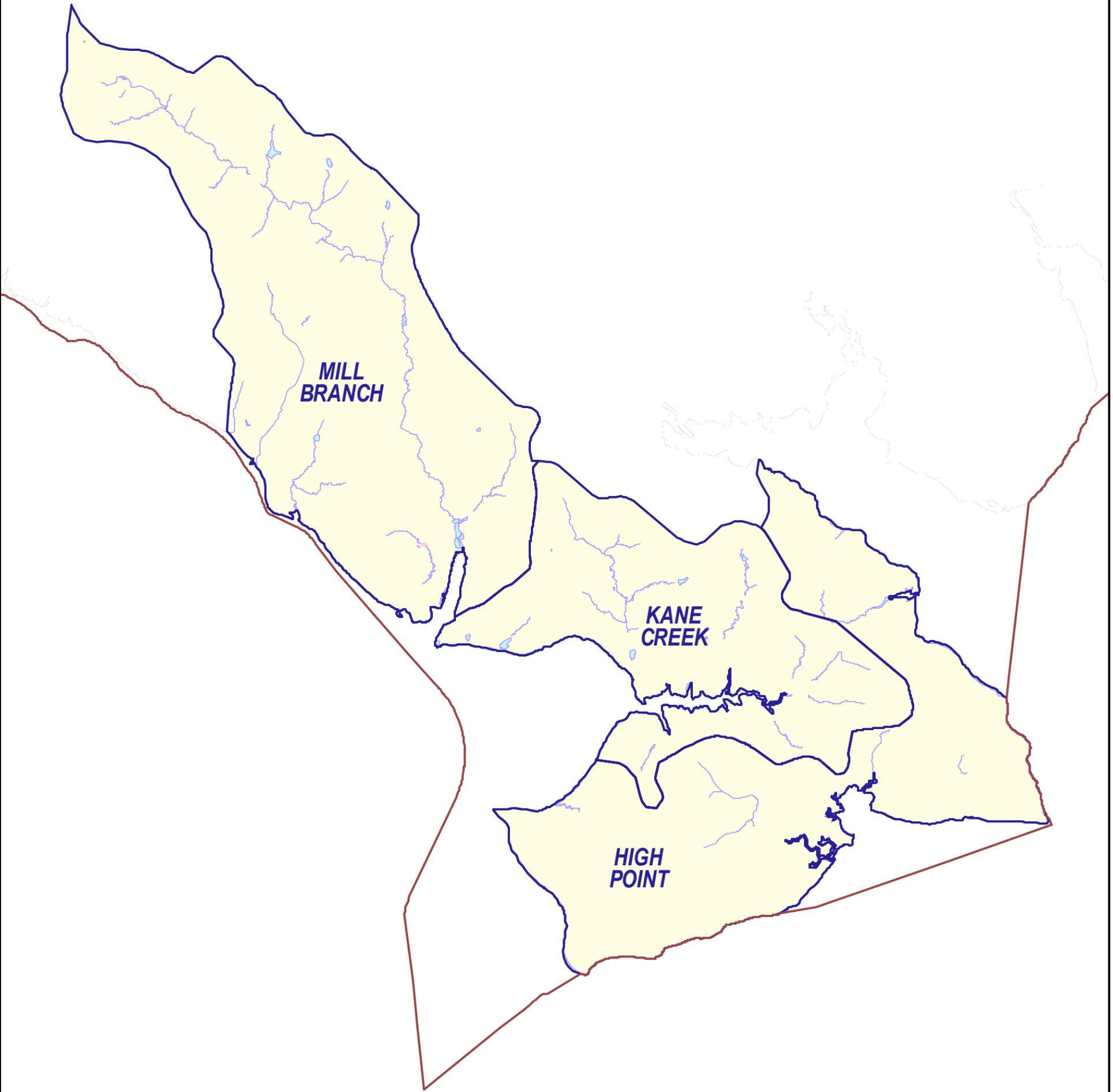


0 2000 4000 6000 8000 Feet



**Figure 3-81**  
**CEM Stages**  
**Lower Occoquan Group**  
**Fairfax County Stream Physical Assessment**





Erosion by Impact Score

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

WATERSHED GROUP:  
LOWER OCCOQUAN

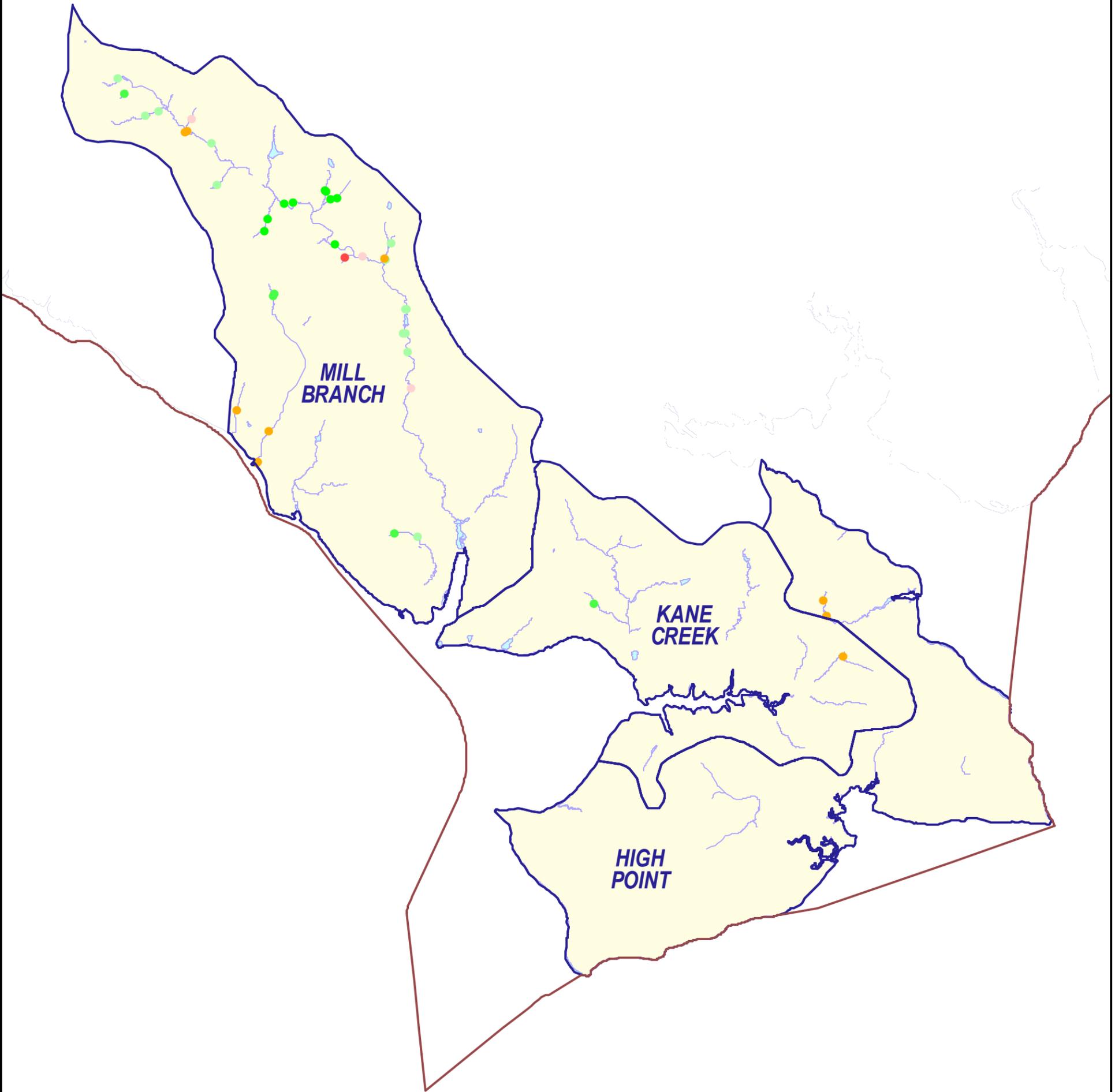


0 2000 4000 6000 8000 Feet



Figure 3-82  
Erosion Impacts  
Lower Occoquan Group  
Fairfax County Stream Physical Assessment





Deficient Buffer by Impact Score

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- ▭ Fairfax County Boundary
- ▭ Lakes and Ponds
- ▭ Streams
- ▭ Watersheds

WATERSHED GROUP:  
LOWER OCCOQUAN

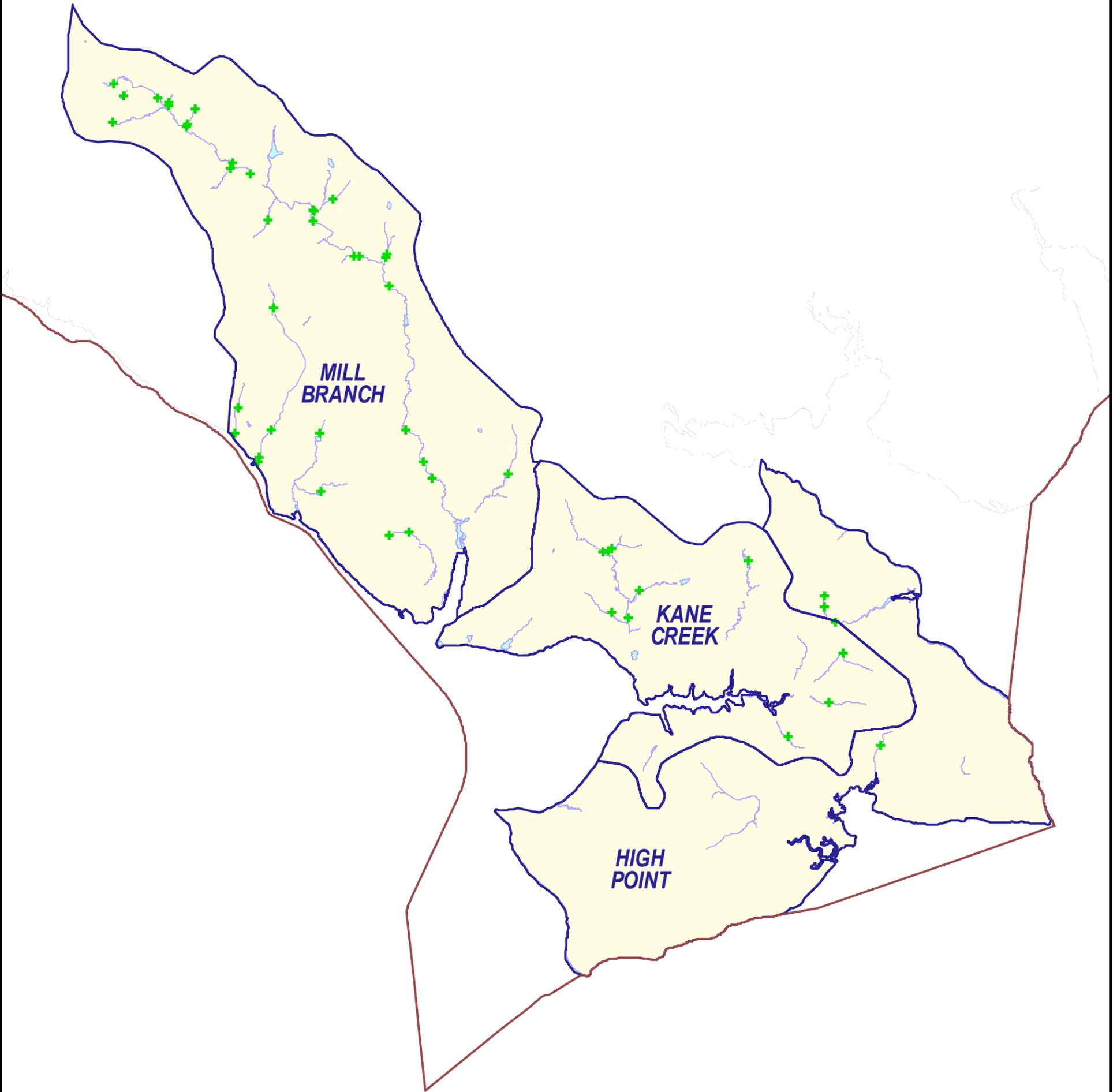


0 2000 4000 6000 8000 Feet



Figure 3-83  
Deficient Buffer Impacts  
Lower Occoquan Group  
Fairfax County Stream Physical Assessment





**WATERSHED GROUP:  
LOWER OCCOQUAN**

**Figure 3-84  
Crossings  
Lower Occoquan Group  
Fairfax County Stream Physical Assessment**

Inventory Type  
+ Crossing

-  Fairfax County Boundary
-  Lakes and Ponds
-  Streams
-  Watersheds



0 2000 4000 6000 8000 Feet





Pipe / Ditch by Impact Score

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

WATERSHED GROUP:  
LOWER OCCOQUAN



0 2000 4000 6000 8000 Feet



Figure 3-85  
Pipe and Ditch Impacts  
Lower Occoquan Group  
Fairfax County Stream Physical Assessment





**Inventory Types**

- ▼ Dump
- ◆ Obstruction
- \* Utility

- ▭ Fairfax County Boundary
- ▭ Lakes and Ponds
- ▭ Streams
- ▭ Watersheds

**WATERSHED GROUP:  
LOWER OCCOQUAN**



0 2000 4000 6000 8000 Feet

**Figure 3-86**  
**Dumps, Obstructions, and Utilities**  
**Lower Occoquan Group**  
**Fairfax County Stream Physical Assessment**



## 3.2.8 Pohick Creek Summary

### 3.2.8.1 Pohick Creek Watershed

**Description.** Pohick Creek Watershed is one of the largest watersheds in Fairfax County, with just over 69 miles of stream assessed. It is a long narrow watershed located in the center of the County. The watershed is contained entirely within the county boundaries, and drains to Pohick Bay, and then into Gunston Cove and the Potomac River.

**Habitat.** The habitat assessment results for Pohick Creek Watershed are summarized by stream in Table 3-37. Habitat scores for each reach are depicted in Figure 3-52. Based on a length weighted habitat score of 95, Pohick Creek Watershed is one of the poorest quality watersheds, compared to the rest of the County. Approximately 2 miles of stream were categorized as having “very poor” habitat conditions, 20 miles as “poor,” 37 miles as “fair,” and 10 miles as “good.”

**CEM.** Based on the CEM evaluations approximately three quarters of the channels assessed in Pohick Creek Watershed are in Evolutionary Stage 3 (Table 3-3), with most of the remainder of the watershed in Stage 4. Figure 3-53 summarizes the CEM results for Pohick Creek Watershed.

**Infrastructure.** The infrastructure inventory resulted in 871 inventory points. The most significant problems were related to four head cuts, two exposed utility lines and one pipe, which were each given an impact score of 10. The infrastructure inventory results are summarized in Table 3-38. Figures 3-54, 3-55, 3-56, 3-57, and 3-58 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

TABLE 3-37  
Habitat Assessment Summary for Pohick Creek Watershed  
*Fairfax County Stream Physical Assessment*

Stream	Linear Feet (Percent) of Stream					Total
	Very Poor	Poor	Fair	Good	Excellent	
Cherry Run	0 (0.00)	0 (0.00)	1,308 (12.70)	8,993 (87.30)	0 (0.00)	10,301
Middle Run	0 (0.00)	0 (0.00)	0 (0.00)	8,855 (100.00)	0 (0.00)	8,855
Oppossum Branch	0 (0.00)	3,366 (100.00)	0 (0.00)	0 (0.00)	0 (0.00)	3,366
Peyton Run	0 (0.00)	0 (0.00)	6,163 (100.00)	0 (0.00)	0 (0.00)	6,163
Pohick Creek	7,570 (7.18)	17,693 (16.79)	68,116 (64.63)	12,020 (11.40)	0 (0.00)	105,399
Rabbit Branch	0 (0.00)	5,914 (19.09)	25,059 (80.91)	0 (0.00)	0 (0.00)	30,972
Rocky Branch	0 (0.00)	0 (0.00)	3,535 (100.00)	0 (0.00)	0 (0.00)	3,535
Sangster Branch	0 (0.00)	0 (0.00)	2,274 (100.00)	0 (0.00)	0 (0.00)	2,274
Sideburn Branch	0 (0.00)	7,866 (53.06)	6,959 (46.94)	0 (0.00)	0 (0.00)	14,825
Silver Brook	0 (0.00)	3,728 (100.00)	0 (0.00)	0 (0.00)	0 (0.00)	3,728
South Run	0 (0.00)	492 (2.31)	8,463 (39.69)	12,370 (58.01)	0 (0.00)	21,325
Tributary to Crooked Branch	0 (0.00)	503 (8.99)	5,092 (91.01)	0 (0.00)	0 (0.00)	5,595
Tributary to Middle Run	0 (0.00)	297 (2.50)	10,795 (90.71)	809 (6.80)	0 (0.00)	11,901
Tributary to Pohick Creek	0 (0.00)	27,212 (43.31)	27,172 (43.25)	8,443 (13.44)	0 (0.00)	62,828
Tributary to Rabbit Branch	4,943 (27.65)	5,003 (27.99)	5,801 (32.45)	2,128 (11.91)	0 (0.00)	17,876
Tributary to Sideburn Branch	0 (0.00)	16,644 (72.40)	6,346 (27.60)	0 (0.00)	0 (0.00)	22,990
Tributary to South Run	0 (0.00)	14,226 (41.02)	20,457 (58.98)	0 (0.00)	0 (0.00)	34,683
<b>Watershed Total</b>	<b>12,514 (3.41)</b>	<b>102,945 (28.08)</b>	<b>197,539 (53.88)</b>	<b>53,618 (14.63)</b>	<b>0 (0.00)</b>	<b>366,615</b>

**TABLE 3-38**  
 Infrastructure Assessment Summary for Pohick Creek Watershed  
*Fairfax County Stream Physical Assessment*

<b>Impact Score</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>&gt;10</b>	<b>Total</b>
Deficient Buffers	0	0	18	26	64	48	14	9	4	0	0	N/A	183
Crossings	136	66	50	21	10	10	2	1	1	0	0	N/A	297
Ditches and Pipes	162	17	12	10	20	24	6	4	1	3	1	N/A	260
Erosion	0	0	0	0	2	7	15	13	8	2	0	N/A	47
Head Cut	0	0	1	0	4	4	2	0	0	1	4	N/A	16
Obstruction	8	7	5	12	12	5	0	0	0	1	0	N/A	50
Utility	0	0	0	1	4	4	5	1	1	0	2	0	18
<b>Total</b>	<b>306</b>	<b>90</b>	<b>86</b>	<b>70</b>	<b>116</b>	<b>102</b>	<b>44</b>	<b>28</b>	<b>15</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>871</b>



-  Fairfax County Boundary
- Habitat Rating**
-  Excellent
-  Good
-  Fair
-  Poor
-  Very Poor
-  No Habitat Assessment
-  Lakes and Ponds
-  Watersheds

**WATERSHED GROUP:  
POHICK CREEK**



0 3000 6000 9000 12000 Feet



**Figure 3-52**  
**Habitat Assessment**  
**Pohick Creek**  
**Fairfax County Stream Physical Assessment**





Inventory Types

- Cross Section
- ⚡ Head Cut

CEM Stage

- ⚡ Not Assigned
- 1
- 2
- 3
- 4
- 5

- ▭ Fairfax County Boundary
- ▭ Lakes and Ponds
- ▭ Streams
- ▭ Watersheds

WATERSHED GROUP:  
POHICK CREEK



0 3000 6000 9000 12000 Feet

**Figure 3-53**  
**CEM Stages**  
**Pohick Creek**  
**Fairfax County Stream Physical Assessment**





Erosion by Impact Score

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

WATERSHED GROUP:  
POHICK CREEK

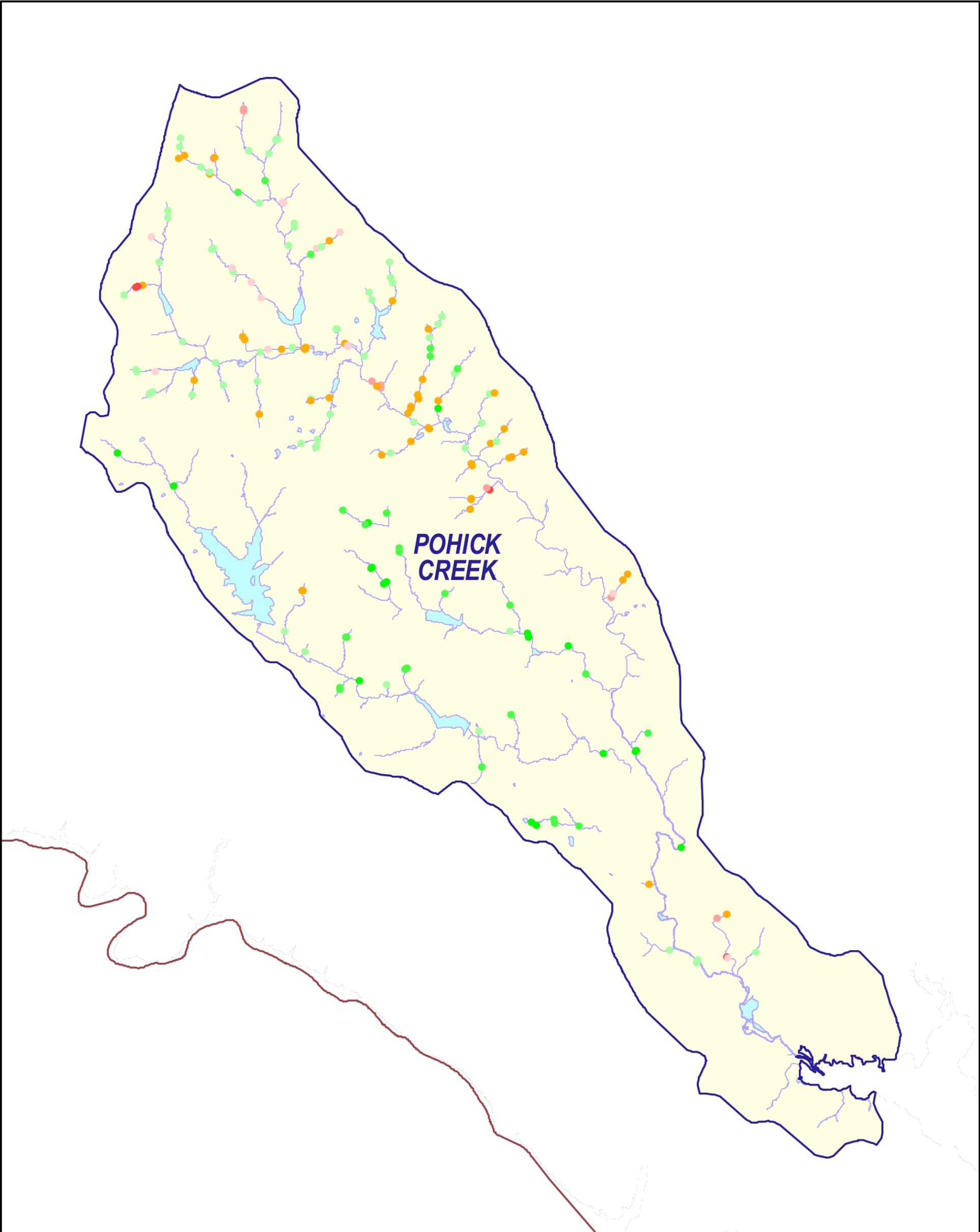


0 3000 6000 9000 12000 Feet



Figure 3-54  
Erosion Impacts  
Pohick Creek  
Fairfax County Stream Physical Assessment





Deficient Buffer by Impact Score

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- ▭ Fairfax County Boundary
- ▭ Lakes and Ponds
- ▭ Streams
- ▭ Watersheds

WATERSHED GROUP:  
POHICK CREEK

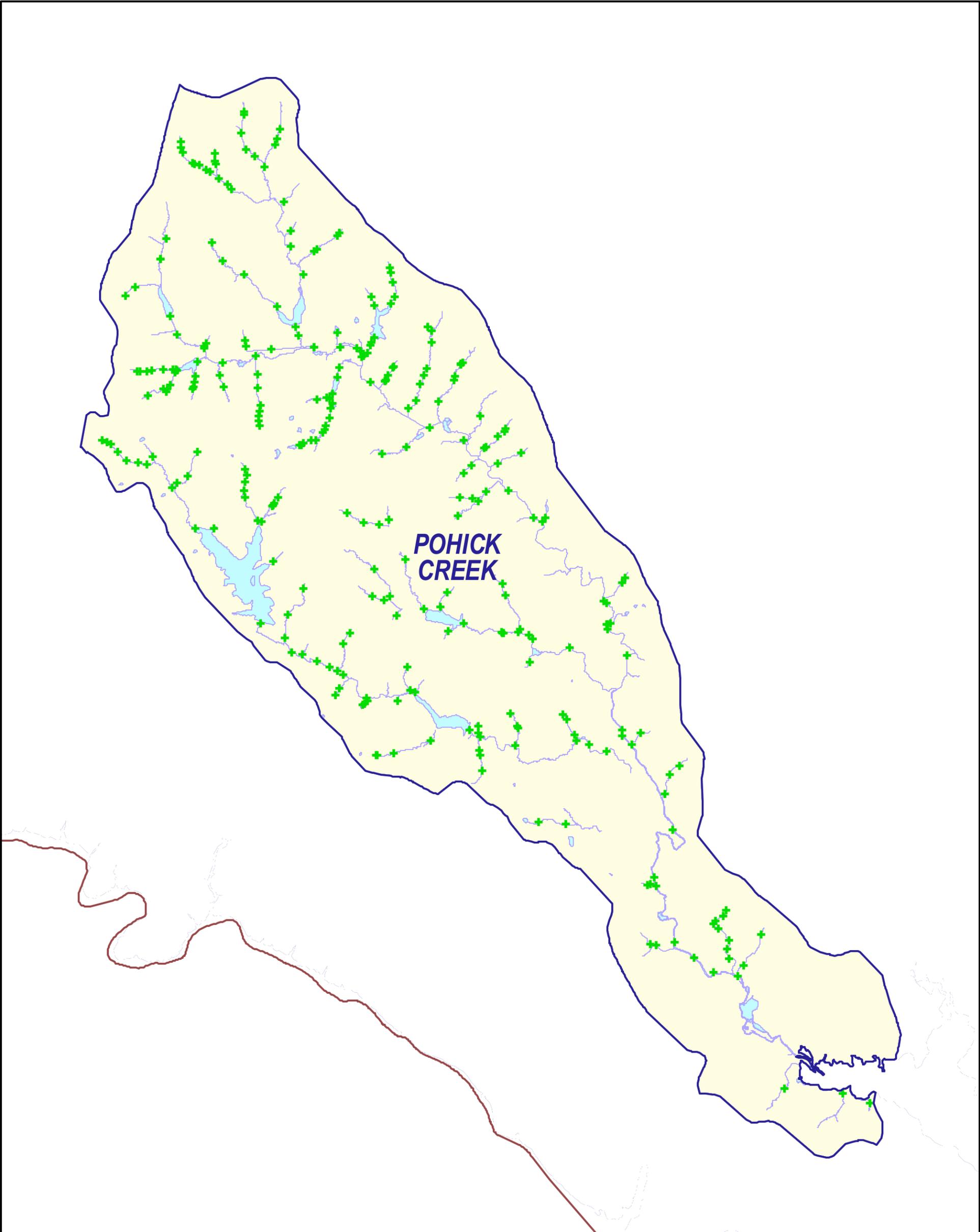


0 3000 6000 9000 12000 Feet



Figure 3-55  
Deficient Buffer Impacts  
Pohick Creek  
Fairfax County Stream Physical Assessment





**WATERSHED GROUP:  
POHICK CREEK**

**Figure 3-56  
Crossings  
Pohick Creek**

**Fairfax County Stream Physical Assessment**

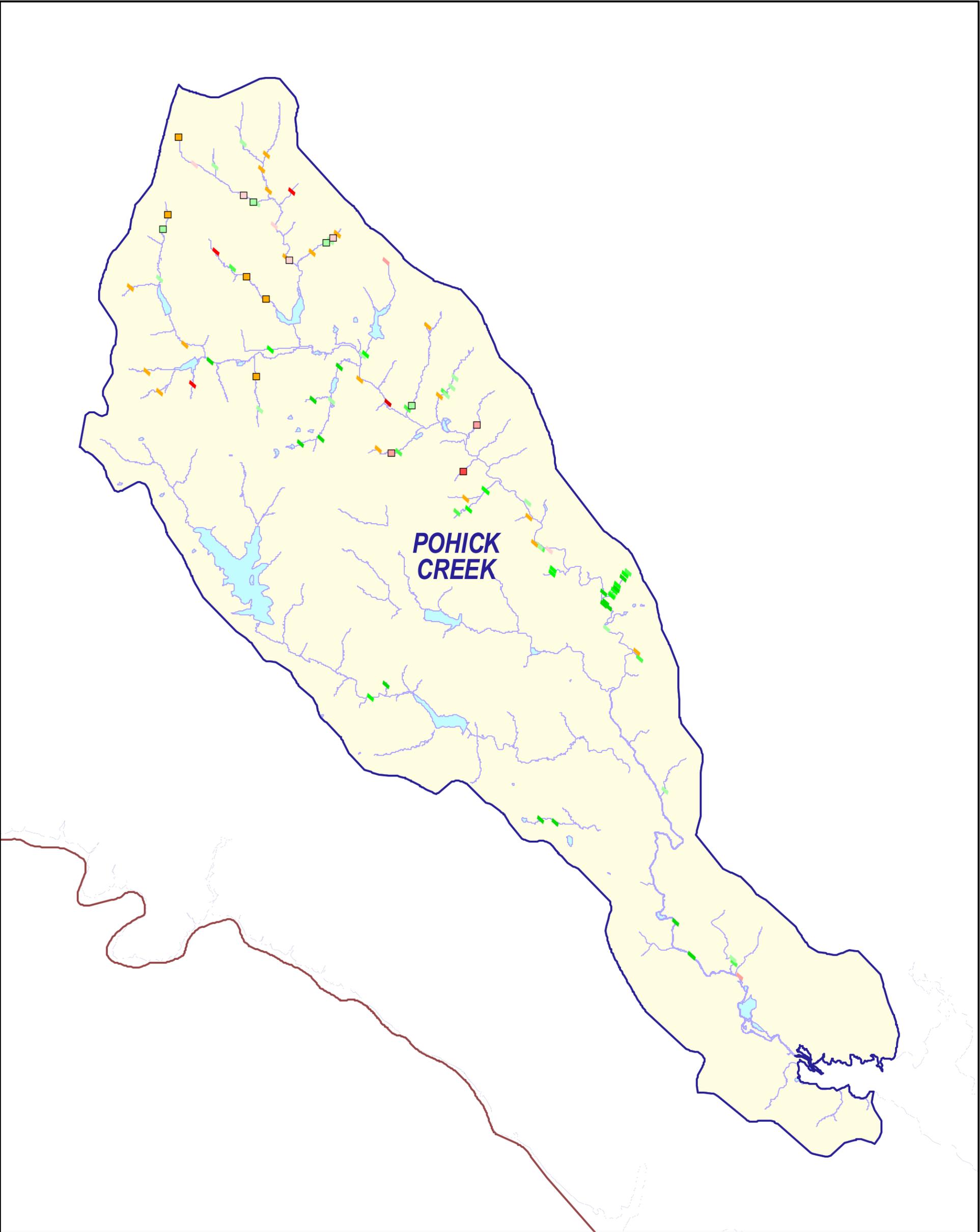
**Inventory Type**

-  Crossing
-  Fairfax County Boundary
-  Lakes and Ponds
-  Streams
-  Watersheds



0 3000 6000 9000 12000 Feet





Pipe / Ditch by Impact Score

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

WATERSHED GROUP:  
POHICK CREEK



0 3000 6000 9000 12000 Feet



Figure 3-57  
Pipe and Ditch Impacts  
Pohick Creek  
Fairfax County Stream Physical Assessment





Inventory Types

- ▼ Dump
- ◆ Obstruction
- \* Utility

- ▭ Fairfax County Boundary
- ▭ Lakes and Ponds
- ▭ Streams
- ▭ Watersheds

WATERSHED GROUP:  
POHICK CREEK



0 3000 6000 9000 12000 Feet



Figure 3-58  
Dumps, Obstructions, and Utilities  
Pohick Creek  
Fairfax County Stream Physical Assessment



## 3.2.9 Upper Bull Run Group Summary

### 3.2.9.1 Cub Run Watershed

**Description.** Cub Run Watershed is a large watershed, with approximately 75 miles of stream assessed. The watershed encompasses most of the eastern end of the County, with the upper portion of the watershed is located in Loudoun County. Cub Run drains to Bull Run, which eventually joins the Occoquan River.

**Habitat.** The habitat assessment results for Cub Run Watershed are summarized by stream in Table 3-39. Habitat scores for each reach are depicted in Figure 3-59. Based on a length weighted habitat score of 110 (Table 3-2), Cub Run Watershed is in the upper middle range of quality, compared to the rest of the County. Approximately 1 mile of stream was categorized as having “very poor” habitat conditions, 13 miles as “poor,” 24 miles as “fair,” and 28 miles as “good,” and 8 miles as “excellent.”

**CEM.** Based on the CEM evaluations approximately 60 percent of the channels assessed in Cub Run Watershed are in Evolutionary Stage 3 (Table 3-3) and most of the rest are in Stage 4. Figure 3-60 summarizes the CEM results for Cub Run Watershed.

**Infrastructure.** The infrastructure inventory resulted in 1473 inventory points. The most significant problem was related to 20 deficient buffers as well as a variety of other infrastructures with an impact score of 10. Figures 3-61, 3-62, 3-63, 3-64, and 3-65 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

### 3.2.9.2 Bull Run Watershed

**Description.** Bull Run Watershed is a medium-sized watershed, with approximately 13 miles of stream assessed. It is located at the eastern most portion of the County. The watershed consists of many small tributaries to Bull Run, with some of the upper most headwaters located in Loudoun County. Bull Run eventually drains into the Occoquan River.

**Habitat.** The habitat assessment results for Bull Run Watershed are summarized by stream in Table 3-41. Habitat scores for each reach are depicted in Figure 3-59. Based on a length weighted habitat score of 108 (Table 3-2), Bull Run Watershed is in the upper middle range of quality, compared to the rest of the County. Just over 1 mile of stream was categorized as having “poor” habitat conditions; 8 miles were “fair,” and 4 miles were “good.”

**CEM.** Based on the CEM evaluations approximately two thirds of the channels assessed in Bull Run Watershed are in Evolutionary Stage 3 (Table 3-3) with the remainder in Stage 2. Figure 3-60 summarizes the CEM results for Bull Run Watershed.

**Infrastructure.** The infrastructure inventory resulted in 59 inventory points. The most significant problems were related to a crossing that was given an impact score of 8 and five deficient buffers that were given an impact score of 7. The infrastructure inventory results are summarized in Table 3-42. Figures 3-61, 3-62, 3-63, 3-64, and 3-65 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

TABLE 3-39  
Habitat Assessment Summary for Cub Run Watershed  
*Fairfax County Stream Physical Assessment*

Stream	Linear Feet (Percent) of Stream					Total
	Very Poor	Poor	Fair	Good	Excellent	
Big Rocky Run	0 (0.00)	5,415 (7.16)	24,886 (32.90)	24,549 (32.45)	20,802 (27.50)	75,653
Cain Branch	0 (0.00)	0 (0.00)	4,901 (37.10)	8,307 (62.90)	0 (0.00)	13,208
Cub Run	753 (0.88)	19,278 (22.61)	19,837 (23.26)	39,805 (46.68)	5,607 (6.57)	85,279
Dead Run	0 (0.00)	2,253 (28.19)	0 (0.00)	5,740 (71.81)	0 (0.00)	7,993
Elklick Run	0 (0.00)	561 (1.52)	17,257 (46.90)	14,563 (39.58)	4,414 (12.00)	36,794
Flatlick Branch	0 (0.00)	4,835 (12.02)	23,571 (58.58)	10,596 (26.34)	1,234 (3.07)	40,236
Frog Branch	0 (0.00)	0 (0.00)	0 (0.00)	7,716 (100.00)	0 (0.00)	7,716
Oxlick Branch	0 (0.00)	8,157 (60.55)	3,018 (22.40)	2,297 (17.05)	0 (0.00)	13,472
Round Lick Branch	0 (0.00)	4,782 (24.31)	6,178 (31.40)	7,104 (36.11)	1,609 (8.18)	19,673
Sand Branch	0 (0.00)	0 (0.00)	0 (0.00)	769 (100.00)	0 (0.00)	769
Schneider Branch	0 (0.00)	5,212 (27.12)	3,938 (20.49)	10,066 (52.38)	0 (0.00)	19,217
Tributary to Big Rocky Run	0 (0.00)	3,245 (20.14)	3,983 (24.73)	8,880 (55.13)	0 (0.00)	16,108
Tributary to Bull Run	0 (0.00)	0 (0.00)	922 (24.05)	405 (10.57)	2,507 (65.38)	3,834
Tributary to Cub Run	0 (0.00)	12,573 (37.44)	11,203 (33.36)	5,792 (17.25)	4,016 (11.96)	33,583
Tributary to Flatlick Branch	6,096 (32.88)	4,364 (23.53)	4,974 (26.83)	3,108 (16.76)	0 (0.00)	18,542
Tributary to Frog Branch	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	1,693 (100.00)	1,693
<b>Watershed Total</b>	<b>6,849 (1.74)</b>	<b>70,675 (17.95)</b>	<b>124,669 (31.66)</b>	<b>149,697 (38.02)</b>	<b>41,882 (10.64)</b>	<b>393,770</b>

TABLE 3-40  
Infrastructure Assessment Summary for Cub Run Watershed  
*Fairfax County Stream Physical Assessment*

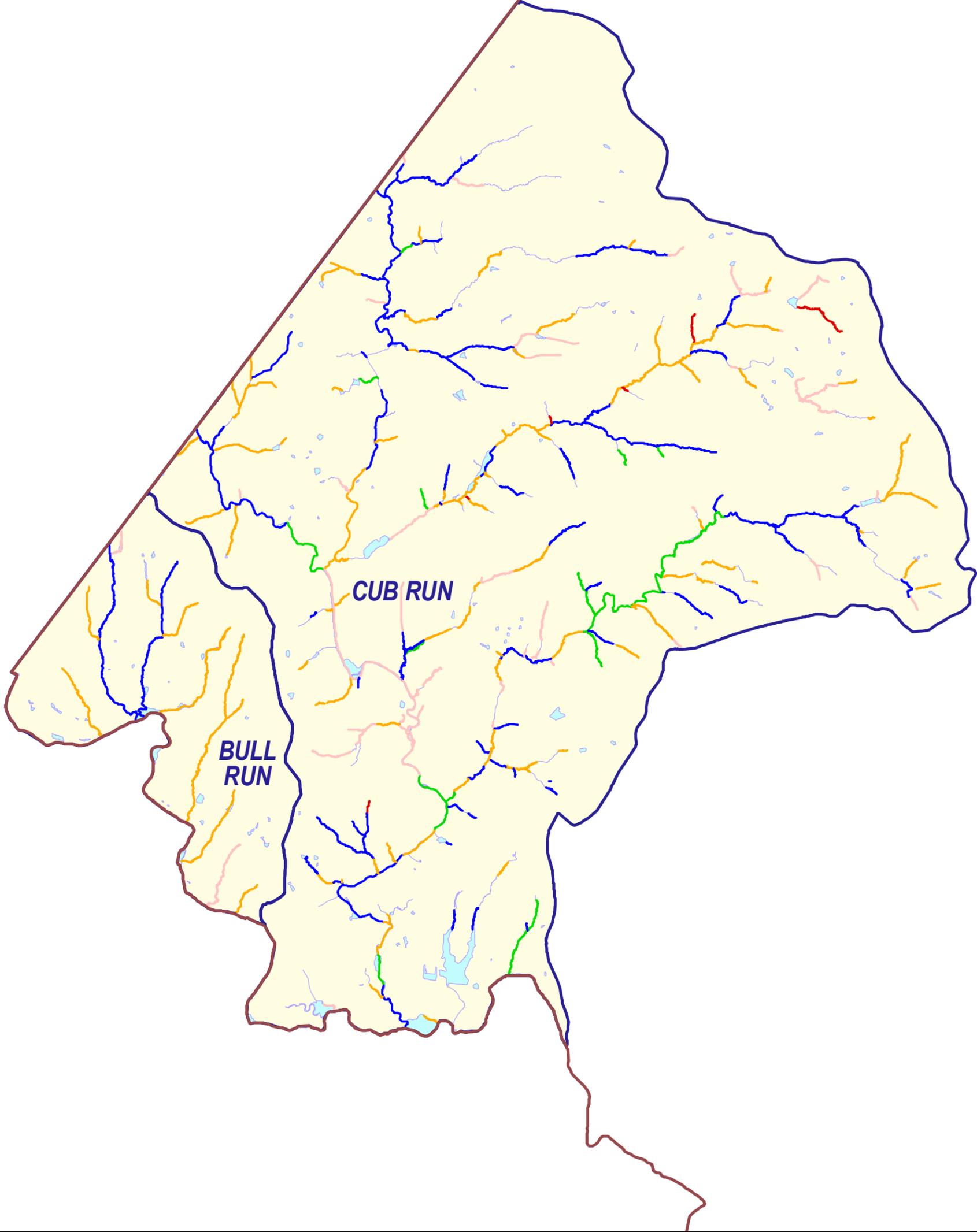
<b>Impact Score</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>&gt;10</b>	<b>Total</b>
Deficient Buffers	0	6	88	65	46	125	14	43	8	2	20	N/A	417
Crossings	73	113	81	19	11	16	2	5	1	0	1	N/A	322
Ditches and Pipes	232	66	57	22	6	27	5	3	5	1	5	N/A	429
Erosion	0	0	5	8	10	41	12	26	1	1	2	N/A	106
Head Cut	0	0	1	7	6	3	1	0	0	0	8	N/A	26
Obstruction	12	2	14	45	20	24	7	11	9	4	4	N/A	152
Utility	10	1	1	3	0	2	0	2	0	0	2	0	21
<b>Total</b>	<b>327</b>	<b>188</b>	<b>247</b>	<b>169</b>	<b>99</b>	<b>238</b>	<b>41</b>	<b>90</b>	<b>24</b>	<b>8</b>	<b>42</b>	<b>0</b>	<b>1473</b>

TABLE 3-41  
Habitat Assessment Summary for Bull Run Watershed  
*Fairfax County Stream Physical Assessment*

<b>Stream</b>	<b>Linear Feet (Percent) of Stream</b>					<b>Total</b>
	<b>Very Poor</b>	<b>Poor</b>	<b>Fair</b>	<b>Good</b>	<b>Excellent</b>	
Tributary to Bull Run	0 (0.00)	6,443 (9.34)	40,594 (58.83)	21,970 (31.84)	0 (0.00)	69,007
<b>Watershed Total</b>	<b>0 (0.00)</b>	<b>6,443 (9.34)</b>	<b>40,594 (58.83)</b>	<b>21,970 (31.84)</b>	<b>0 (0.00)</b>	<b>69,007</b>

TABLE 3-42  
Infrastructure Assessment Summary for Bull Run Watershed  
*Fairfax County Stream Physical Assessment*

<b>Impact Score</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>&gt;10</b>	<b>Total</b>
Deficient Buffers	0	0	2	13	0	5	4	5	0	0	0	N/A	29
Crossings	0	5	8	3	2	0	1	0	1	0	0	N/A	20
Ditches and Pipes	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Erosion	0	0	0	0	0	1	0	0	0	0	0	N/A	1
Head Cut	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Obstruction	2	0	1	3	2	0	0	0	0	0	0	N/A	8
Utility	0	0	0	0	0	1	0	0	0	0	0	0	1
<b>Total</b>	<b>2</b>	<b>5</b>	<b>11</b>	<b>19</b>	<b>4</b>	<b>7</b>	<b>5</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>59</b>



-  Fairfax County Boundary
- Habitat Rating**
-  Excellent
-  Good
-  Fair
-  Poor
-  Very Poor
-  No Habitat Assessment
-  Lakes and Ponds
-  Watersheds

**WATERSHED GROUP:  
UPPER BULL RUN**



0 3000 6000 9000 12000 Feet



**Figure 3-59**  
**Habitat Assessment**  
**Upper Bull Run Group**  
**Fairfax County Stream Physical Assessment**





Inventory Types

- Cross Section
- ⚡ Head Cut

CEM Stage

- ⚡ Not Assigned
- ⚡ 1
- ⚡ 2
- ⚡ 3
- ⚡ 4
- ⚡ 5

- ▭ Fairfax County Boundary
- ▭ Lakes and Ponds
- ▭ Streams
- ▭ Watersheds

WATERSHED GROUP:  
UPPER BULL RUN



0 3000 6000 9000 12000 Feet



Figure 3-60  
CEM Stages  
Upper Bull Run Group  
Fairfax County Stream Physical Assessment





Erosion by Impact Score

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

WATERSHED GROUP:  
UPPER BULL RUN

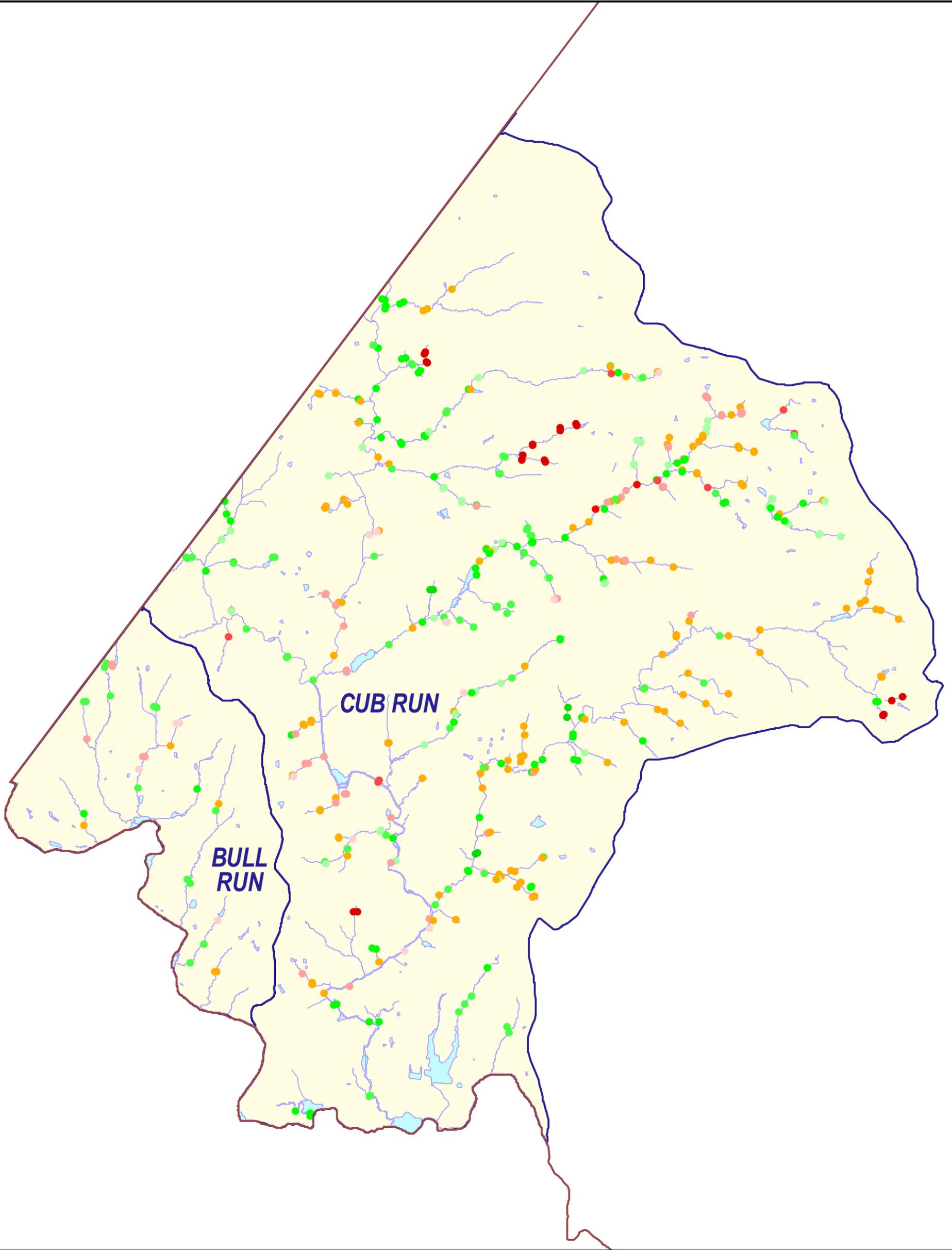


0 3000 6000 9000 12000 Feet



Figure 3-61  
Erosion Impacts  
Upper Bull Run Group  
Fairfax County Stream Physical Assessment





Deficient Buffer by Impact Score

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- ▭ Fairfax County Boundary
- ▭ Lakes and Ponds
- ▭ Streams
- ▭ Watersheds

WATERSHED GROUP:  
UPPER BULL RUN

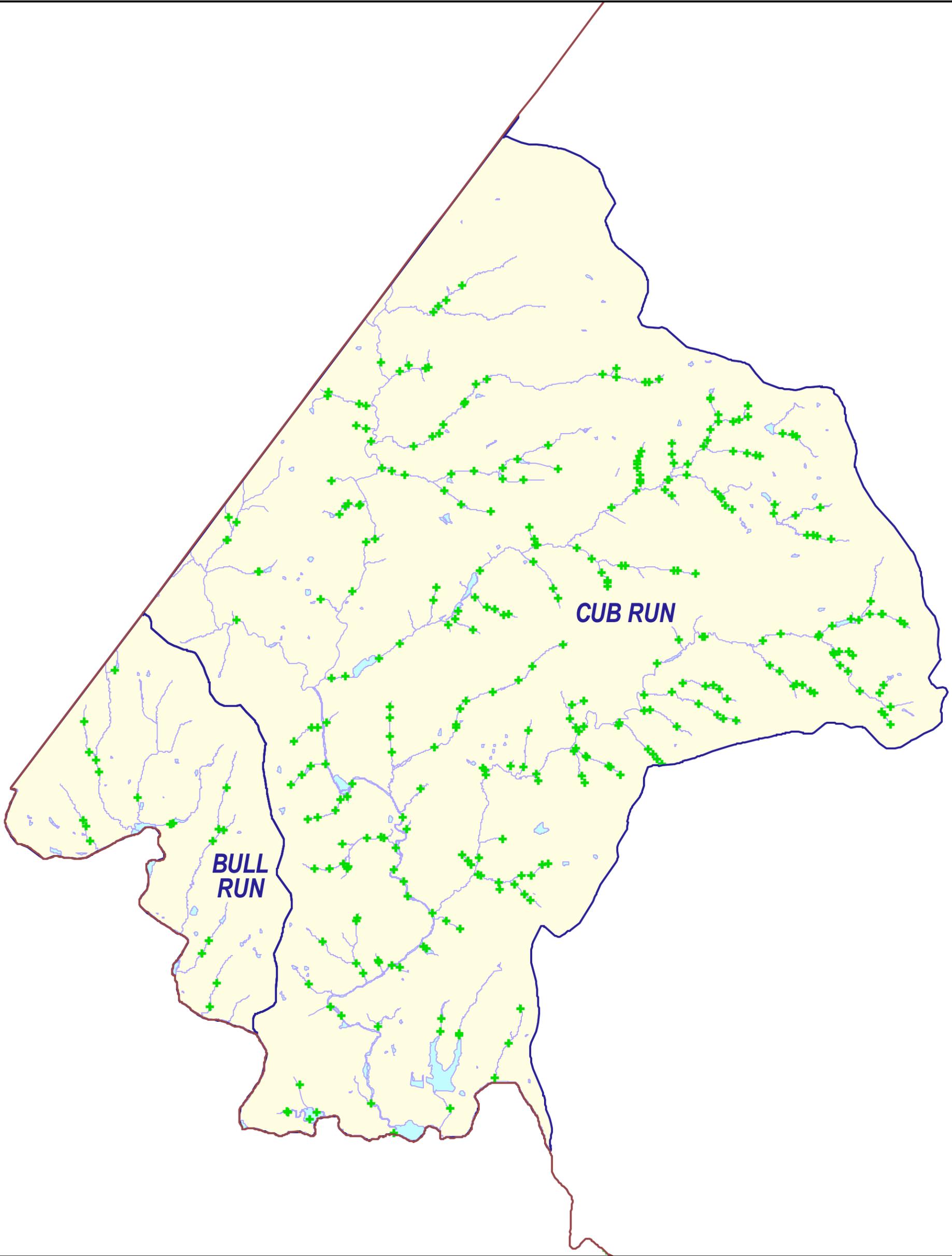


0 3000 6000 9000 12000 Feet



Figure 3-62  
Deficient Buffer Impacts  
Upper Bull Run Group  
Fairfax County Stream Physical Assessment





**WATERSHED GROUP:  
UPPER BULL RUN**



**Inventory Type**

-  Crossing
-  Fairfax County Boundary
-  Lakes and Ponds
-  Streams
-  Watersheds



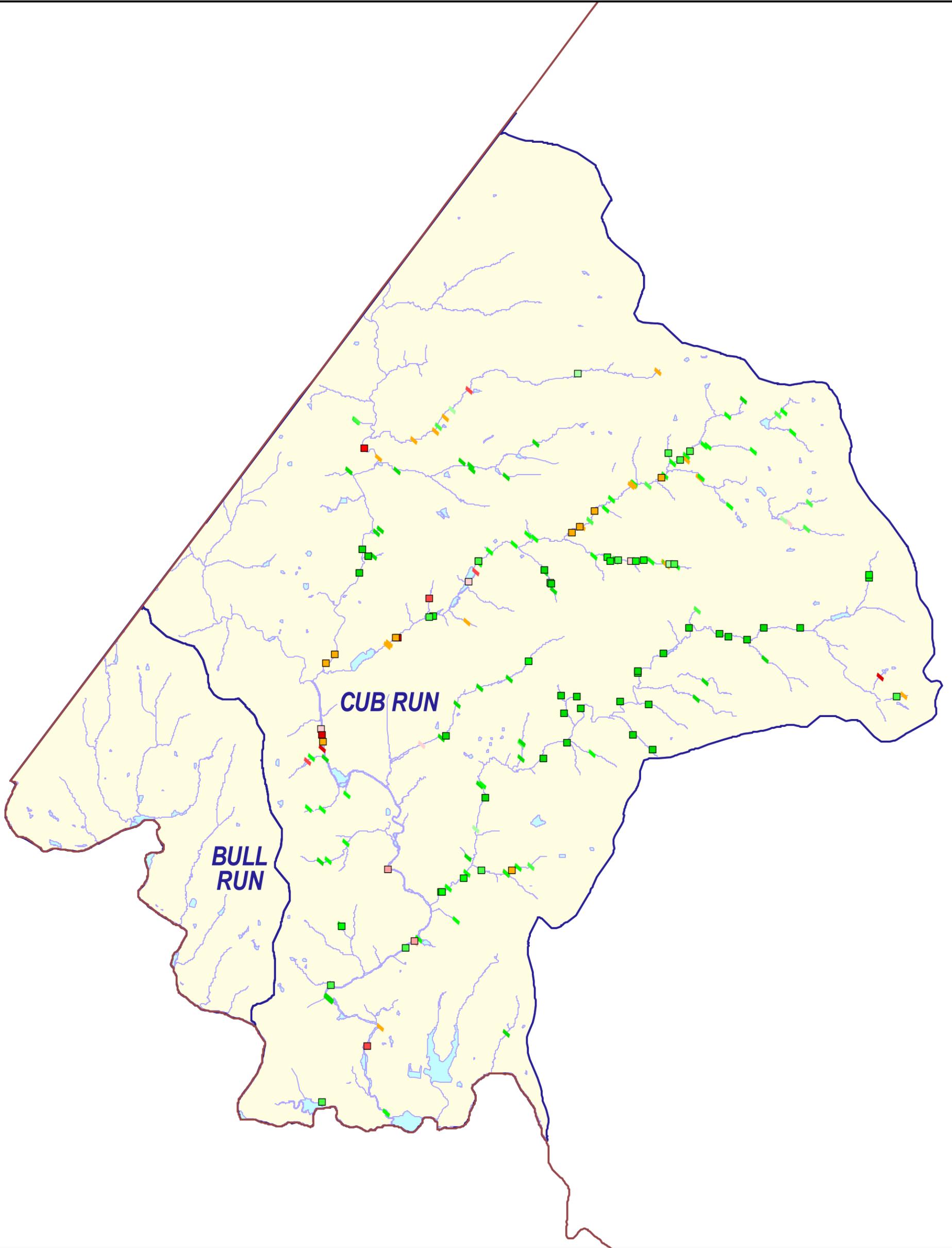
0 3000 6000 9000 12000 Feet



A horizontal scale bar with markings at 0, 3000, 6000, 9000, and 12000 feet.

**Figure 3-63**  
**Crossings**  
**Upper Bull Run Group**  
**Fairfax County Stream Physical Assessment**





Pipe / Ditch by Impact Score

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

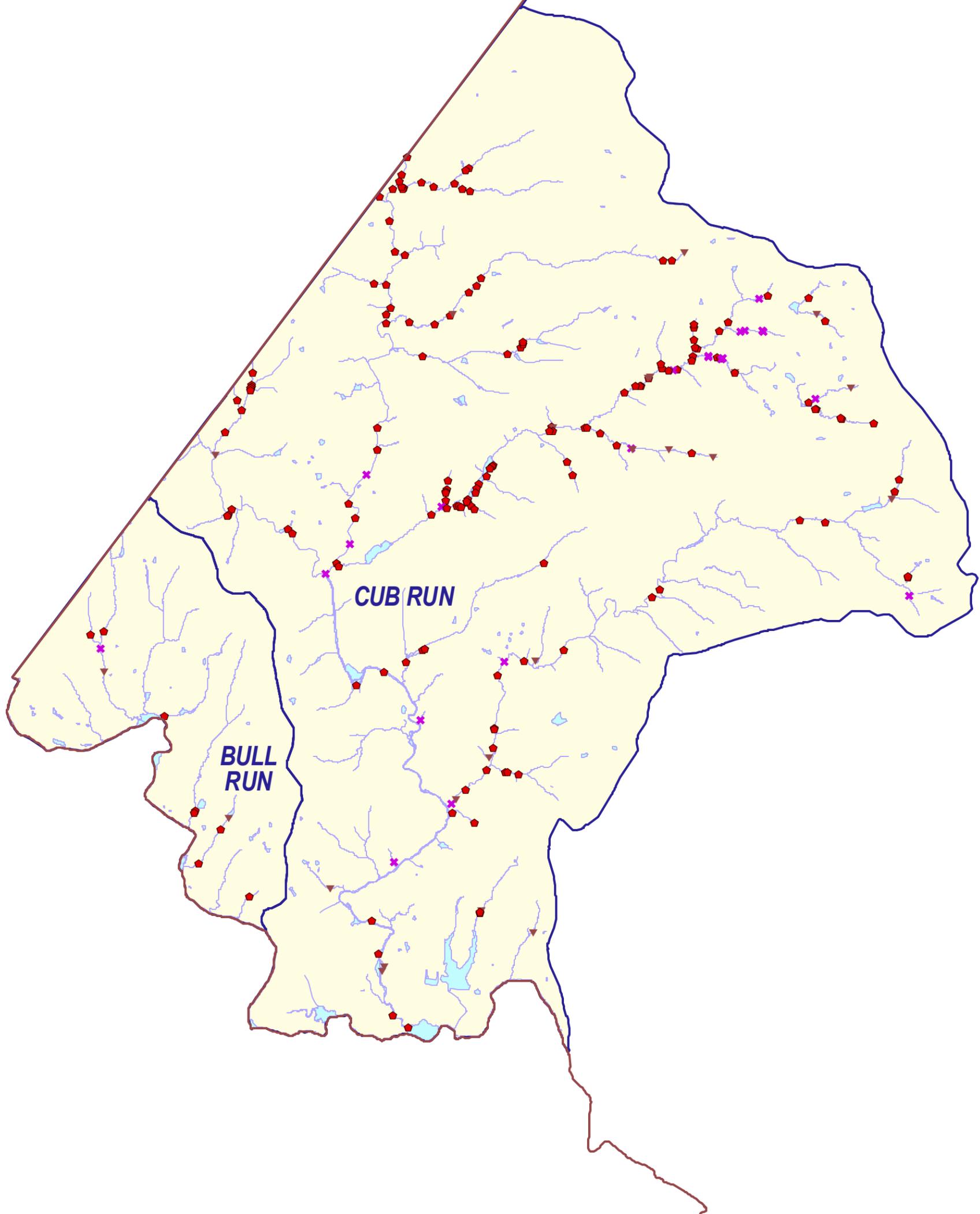
WATERSHED GROUP:  
UPPER BULL RUN



0 3000 6000 9000 12000 Feet

**Figure 3-64**  
**Pipe and Ditch Impacts**  
**Upper Bull Run Group**  
**Fairfax County Stream Physical Assessment**





**Inventory Types**

- ▼ Dump
- ◆ Obstruction
- \* Utility

- ▭ Fairfax County Boundary
- ▭ Lakes and Ponds
- ▭ Streams
- ▭ Watersheds

**WATERSHED GROUP:  
UPPER BULL RUN**



0 3000 6000 9000 12000 Feet

**Figure 3-65**  
**Dumps, Obstructions, and Utilities**  
**Upper Bull Run Group**  
**Fairfax County Stream Physical Assessment**

