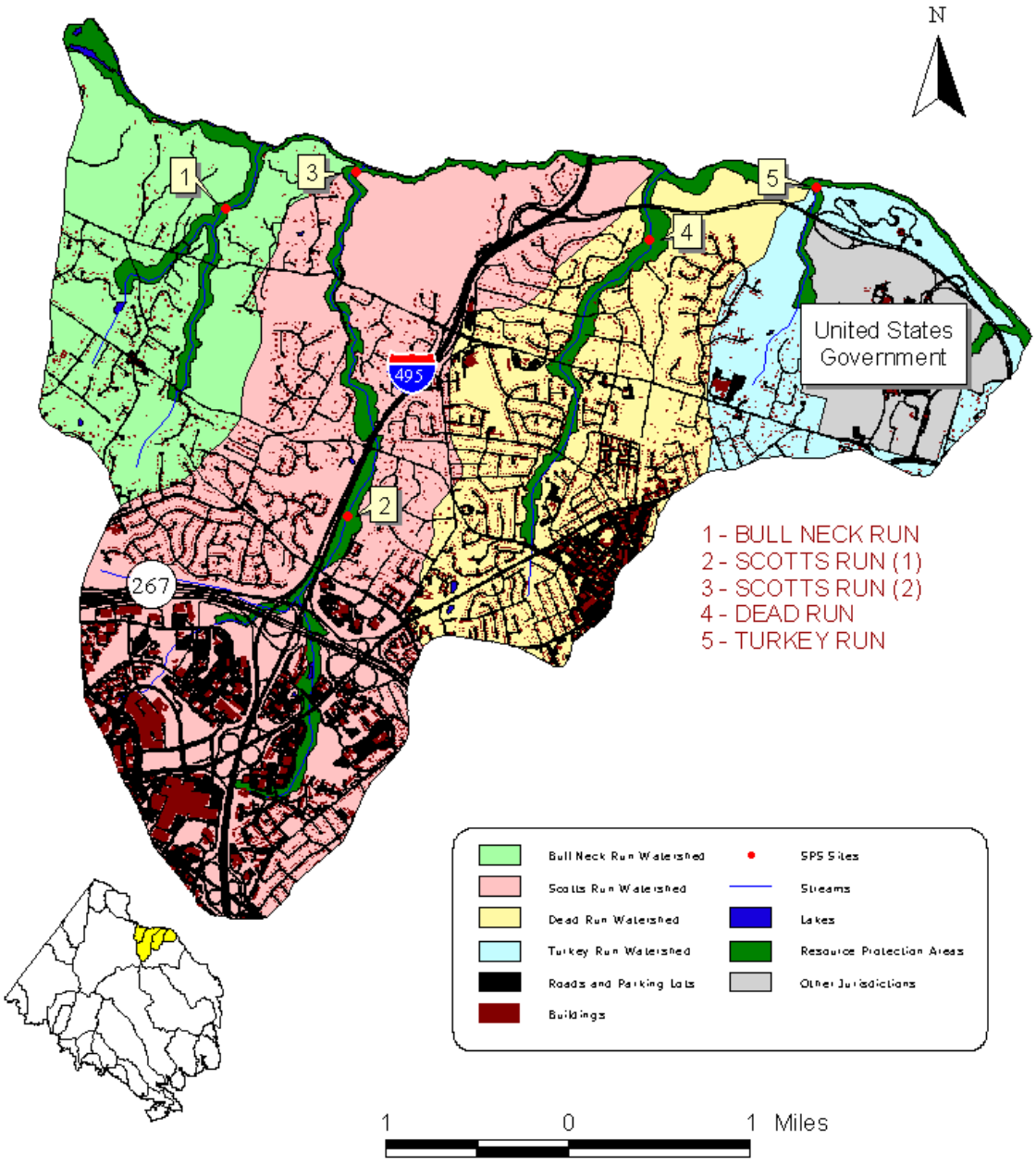
BULL NECK RUN, SCOTTS RUN, DEAD RUN AND TURKEY RUN WATERSHED SUMMARY

Land Cover

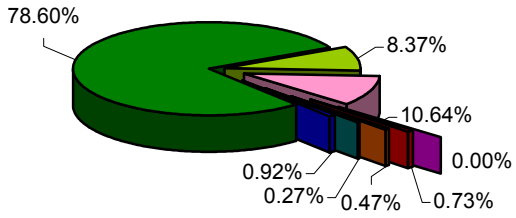

N
1
3
5
4
2
495
267
United States Government
1 - BULL NECK RUN
2 - SCOTTS RUN (1)
3 - SCOTTS RUN (2)
4 - DEAD RUN
5 - TURKEY RUN
Bull Neck Run Watershed
Scotts Run Watershed
Dead Run Watershed
Turkey Run Watershed
Roads and Parking Lots
Buildings
SPS Sites
Streams
Lakes
Resource Protection Areas
Other Jurisdictions
1 0 1 Miles

CHAPTER 3

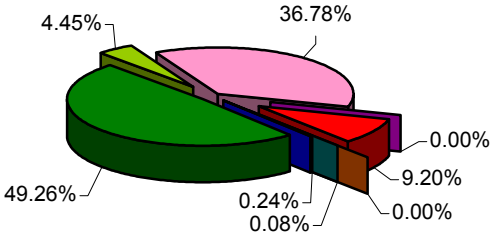
Watershed Descriptions

Rocky substrates and moderately high gradients characterize all four watersheds within this group. The respective drainages vary considerably in their level of imperviousness, with two of the watersheds draining highly urbanized areas and two remaining lightly developed. Each flows directly into the Potomac River.

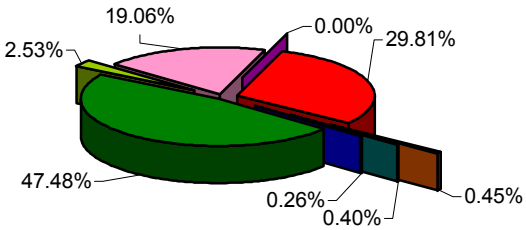
Land Uses in the Bull Neck Run Watershed



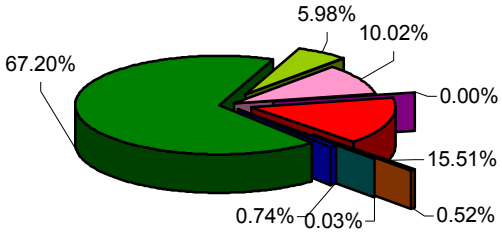
Land Uses in the Dead Run Watershed

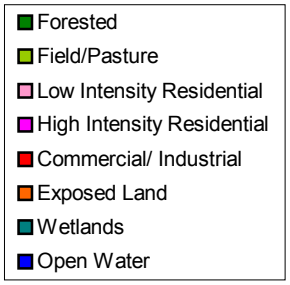


Land Uses in the Scotts Run Watershed



Land Uses in the Turkey Run Watershed





Bull Neck Run and Turkey Run have low levels of imperviousness (less than 10% each) and are dominated by forestland. From its headwaters areas adjacent to Tyson's Corner, Bull Neck Run flows generally northward, passing through low-density residential areas. Turkey Run drains the lightly developed area surrounding a large parcel of U.S. Government property and then travels through Turkey Run Park before entering into the Potomac River.

Monitoring location on Scotts Run.

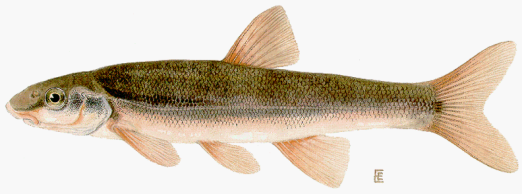
Both Dead and Scotts Runs flow from headwaters in or near the highly developed Tyson's Corner area, through moderate- and low-density residential communities, and into parkland along the Potomac.

DATA SUMMARY

Stream Name and Site Code	Composite: Site Condition Rating	Environmental Variables: Index of Biotic Integrity	Habitat Score	Fish Taxa Richness	Current Percent Impervious Surfaces	Projected Percent Impervious Surfaces
1 Bull Neck Run (BNBN01)	Excellent	Good	Excellent	Low	8.3	15
2 Scotts Run 1 (SCSC01)	Very Poor	Poor	Poor	Very Low	39.8	63
3 Scotts Run 2 (SCSC02)	Poor	Poor	Excellent	Very Low	28.6	46
4 Dead Run (DEDE01)	Very Poor	Poor	Poor	Very Low	21.9	25
5 Turkey Run (TUTU01)	Excellent	Excellent	Fair	High	8.0	15

Middle Potomac Fish Species List

Common Name	Number of Sites Where Species Occurred (5 Total Sites)
Creek Chub	5
Blacknose Dace	5
White Sucker	4
Longnose Dace	2
Largemouth Bass	2
Bluegill	2
American Eel	2
Yellow Bullhead	2
Bluntnose Minnow	1
Smallmouth Bass	1
Pumpkinseed	1
Green Sunfish	1
Redbreast Sunfish	1
Eastern Silvery Minnow	1
Mosquitofish	1
Fantail Darter	1



Longnose Dace
Rhinichthys cataractae
Size: to 4 inches
Habitat: small/medium fast moving streams
Feeding Group: insectivore
Tolerance: intolerant
The Longnose Dace's streamlined body and downturned mouth allow it to live in the swiftest of currents. Another adaptation for swift current is its rudimentary gas bladder that allows this minnow to maintain itself in areas with little current velocity. Males are very territorial and aggressive and will bite and chase off any other males.

CHAPTER 3

Watershed Condition Description

Although the small watersheds that make up this group possess similar physical and geologic characteristics, they reflect two extremes of stream quality within the County.

Within the group, only Turkey Run ranked as having High fish community richness (11 distinct taxa). It should be noted, however, that this site was located near the system's mouth at the Potomac River, and the ultimate values may have been influenced by proximity to this larger system. The remaining drainages all scored poorly, each containing 6 or fewer taxa. Sites on Scotts and Dead Runs ranked in the very lowest category.

Measures of benthic community integrity were similarly divergent. Sampling along Bull Neck Run highlighted the presence of a high-quality, well-balanced community, while the Turkey Run site ranked even higher, its conditions comparable to the reference level. The remaining drainages exhibited conditions on the other end of the spectrum, with all samples from both Scotts and Dead Runs being dominated by organisms highly tolerant of degradation.

Although a disparity in rankings across the 4 watersheds was again seen with the habitat scores, some values were inconsistent with the corresponding biological scores for the respective locations. The lowermost site on Scotts Run possessed high-quality habitat locally, yet its macroinvertebrate and fish communities were of very low integrity. Such a result may have been a function of the systems underlying geology, one that is highly resistant to erosion and which may have been masking the impact of the high flow volumes the stream is known to carry during storm events. While such substrate also typifies the lower portion of the Turkey Run drainage, substantial erosion was evident in its upstream reaches, and excessive sediment deposition in many areas led to a ranking in the Fair category. Habitat quality in the remaining drainages generally corresponded with overall biological condition, Excellent in Bull Neck, and Poor throughout Dead Run and the upper sections of Scotts Run.

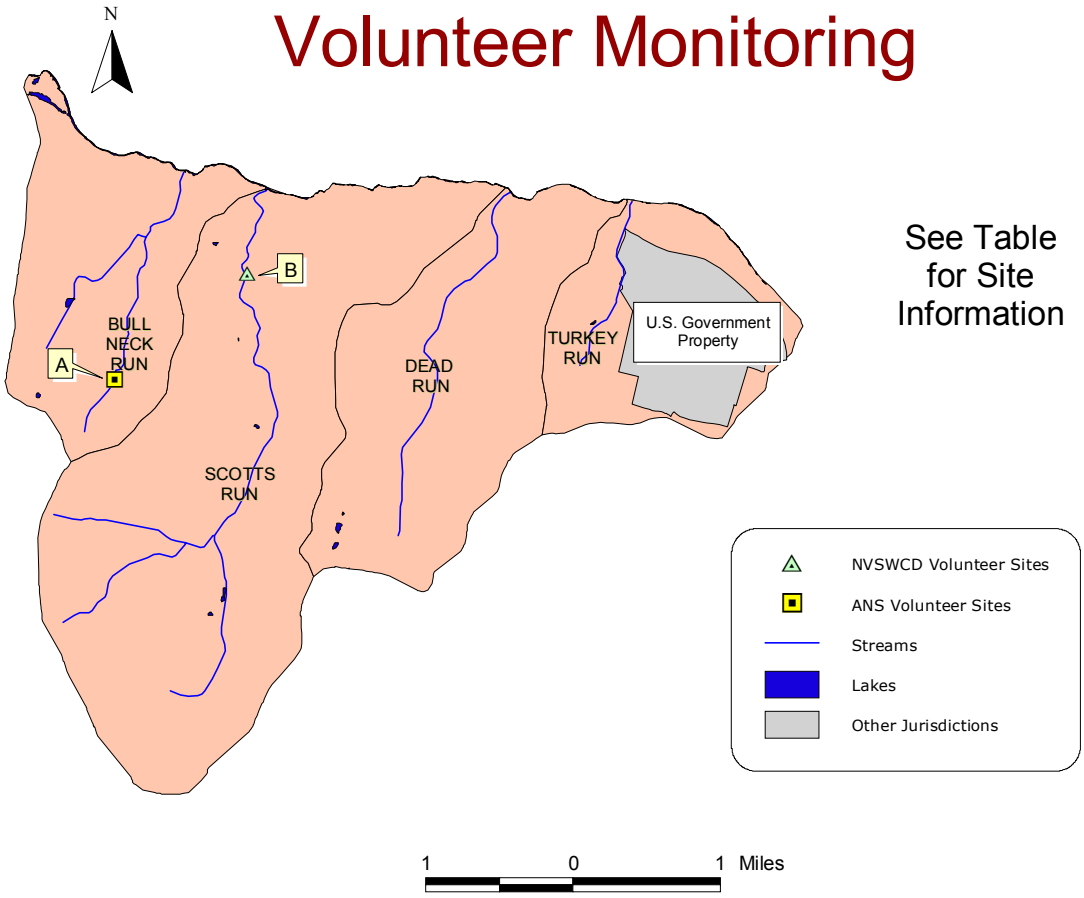
Nowhere was the difference in watershed condition more evident than with variations in the level of impervious cover. The drainage basins of Bull Neck Run and Turkey Run exhibit low-intensity land use patterns, are predominantly forested and have imperviousness values below 9%. Scotts Run and Dead Run, on the other hand, both drain major urban centers with levels of impervious cover ranging from 20 to 40%. This dramatic contrast in development intensity is reflected in the overall composite rankings.

Collectively, the watersheds in this group clearly highlight the impact that variations in land use can have on aquatic systems; those with the most development rank among the poorest quality streams in the County while those with the least, score among the best.

CHAPTER 3

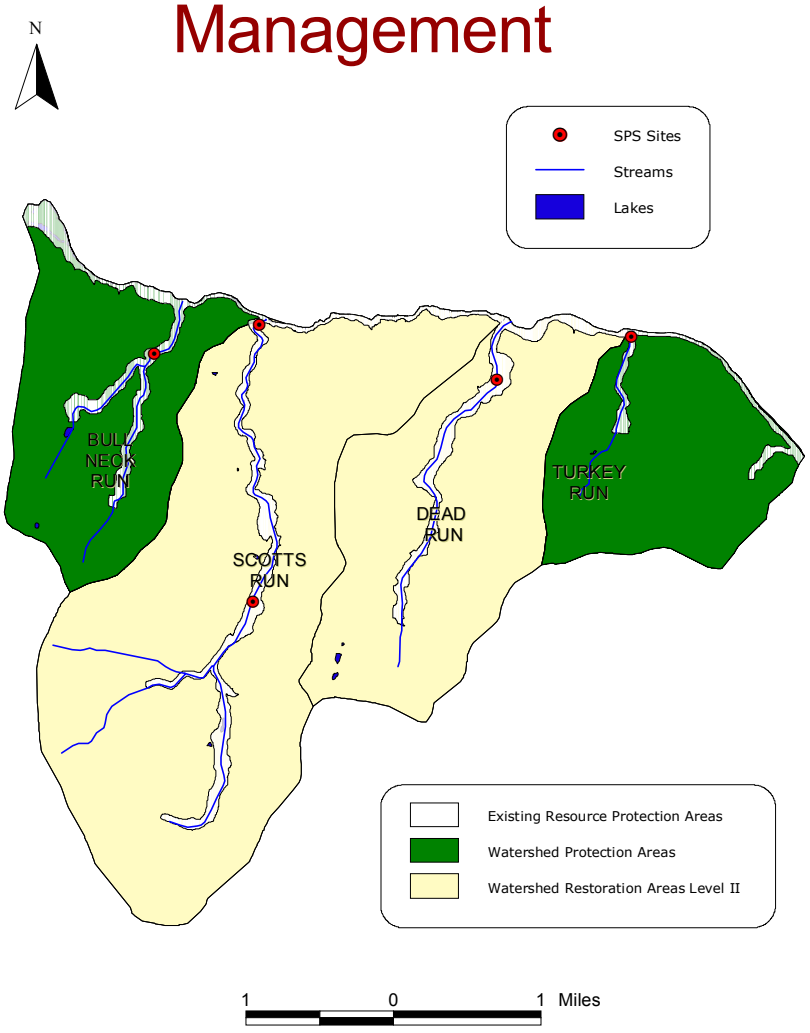
Volunteer Data Summary

Within this group there are currently two active volunteer monitoring stations. One of these is located in Scotts Run and is coordinated by the Northern Virginia Soil and Water Conservation District (NVSWCD). The other site, located on Bull Neck Run, is coordinated by the Audubon Naturalist Society (ANS). Both monitoring locations are relatively recent additions to the volunteer site inventory.



Letter Code	Site Code	# times sampled	Last sampled	WQR (SOS only)	Trends noted
A	019	1	2/10/00	N/A	Sensitive taxa well represented in sample
B	SCOT1	3	8/9/00	Fair	Varies from Fair - Poor

The data collected from both sites generally support the findings of the SPS study. The site at Bull Neck Run indicated the presence of a more diverse benthic community, while the site on Scotts Run highlighted significant biological impairment.



Management Category Description

The two extremes in biological integrity, habitat condition and land use translated into wide variations in the management category recommendations. Both Dead and Scotts Runs are currently classified as Watershed Restoration Level II Areas. Many opportunities for small-scale, localized improvements exist, and efforts should focus on minimizing, as much as possible, future degradation to instream habitat in the mainstem environments.

Although the two remaining watersheds are classified entirely as Watershed Protection Areas, regular monitoring within both should continue. This is especially true within Turkey Run, where instream erosion and high sediment deposition is occurring despite seemingly low levels of development within the watershed. Further assessment of fish communities within Bull Neck is also warranted.