Table 3. Values of Exceptional Value (EV)[a] and High Quality-Cold Water Fishes (HQ-CWF)[b] Middle Susquehanna Subbasin Sites based on Abandoned Mine Drainage (AMD), and Agriculture/Wastewater Treatment Plant Characteristics.

		pH		AMD					AGRICULTURE/WASTE WATER TREATMENT PLANT				
Sites	Designation	Field pH	Lab pH	Iron ug/l	Manganese ug/l	Aluminum ug/l	Sulfate mg/l	D.O. mg/l	Nitrogen T mg/l	Phosphorus T mg/l	T. Org. Carbon mg/l	Chloride mg/l
SCH 12.0	EV	6.85	5.8	31	<10	73.3	5.6	4.12	0.22	<0.01	1.2	<1
SCH 0.2	HQ-CWF	7.1	5.9	22	<10	69.5	17.9	3.8	0.13	<0.01	1.3	<1
MHO 15.0	HQ-CWF	5.65	5.7	80	22	129	4.3	4.45	0.26	<0.01	3	1
BOW 12.5	HQ-CWF	7.05	6.3	81	31	37.6	5.6	4.67	0.37	0.01	1.5	<1
BOW 0.1	HQ-CWF	7.3	6.5	20	<10	20.3	7.2	4.84	0.53	0.01	1.4	7
ELWR 0.1	HQ-CWF	7.15	6.8	201	36	38.1	6.5	6.5	0.38	0.02	2.6	6
RRB 10.0	HQ-CWF	7.15	6.7	84	25	27.6	7.1	6.65	0.54	0.02	2.4	15
SPR 0.1	HQ-CWF	7.2	6.6	23	<10	15.2	9.9	7.5	0.4	0.03	1.2	25
LSHK 0.1	HQ-CWF	7.05	6.7	282	34	82.2	5.2	4.93	0.62	0.02	3.5	5
WFSH 0.5	HQ-CWF	6.7	5.9	<20	<10	26.9	5.3	6.65	0.53	<0.01	1.2	<1
EFSH 0.5	HQ-CWF	6.3	5.3	40	45	220	6.4	8.3	0.62	<0.01	3.3	<1
LFSH 10.0	HQ-CWF	7.2	6.5	132	12	45.5	3.6	5.96	0.67	0.02	2.2	6
SBRC 0.5	HQ-CWF	6.95	6.5	95	11	34.4	8.7	8.43	0.75	0.07	2	9

[a] *Strongest special protection designated use for surface water that meets specific water chemistry and biological qualifiers (The Commonwealth of Pennsylvania, 2002)*

[b] *Special protection designated use for surface water that meets specific water chemistry and biological qualifiers (The Commonwealth of Pennsylvania, 2002)*

Conclusions

The watersheds in the upper portion of the Middle Susquehanna Subbasin appeared to be healthier than the ones in the lower portion. Assessments of Towanda Creek, Meshoppen Creek, Mehoopany Creek, Tunkhannock Creek, and Bowmans Creek indicated healthy watersheds. There were no watersheds in the upper portion that would be characterized as extremely degraded. In the lower portion of the Middle Susquehanna Subbasin, only some of the smaller watersheds and the Fishing Creek and Roaring Creek Watersheds are considered healthy. The Lackawanna River, Solomons Creek, Nanticoke Creek, Newport Creek, Nescopeck Creek, and Catawissa Creek were all degraded, mostly by abandoned mine lands and urban influence (Figure 3). The primary source of severe impairment in the Middle Susquehanna Subbasin was AMD. Urban influence was another source of impairment, while agricultural impairment was not significant in this subbasin.

The results of this report were similar to those found in the 1993 Middle Subbasin Survey (Water Quality & Monitoring Programs Division, 1997). It was difficult to directly compare these results since the present survey included more sampling points than the 1993 survey. However, two of the sampling sites in this report that were used as reference sites (RRC 10.7 and FSH 15.6) also were used as reference sites in the 1993 survey. Three of the reference sites in this report were not sampling sites in 1993. For the most part, the watersheds that were categorized as healthy in this report also scored well in the previous survey. The watersheds that were severely degraded also were severely degraded in 1993.

A second year of more intensive sampling will be conducted in the Middle Susquehanna Subbasin starting in the fall of 2002. SRBC will focus on a smaller watershed within the Middle Susquehanna Subbasin based on the survey results and input from watershed organizations and local government entities. The data collected will be provided to these local groups to support protection or remediation efforts in the watershed.