TMDLs for Sediment Impaired Streams in the Sugar-Pecatonica River Basin
June 28, 2005

German Valley Branch	**Pioneer Valley Creek**
Henry Creek	**Prairie Brook**
Pleasant Valley Branch	**Searles Creek**
Syftestad Creek	**Silver School Branch**
Argus School Branch	**Spring Creek**
Braezels Branch	**Twin Grove Branch**
Buckskin School Branch	**Apple Branch**
Burgy Creek	**Cherry Branch**
Dougherty Creek	**Dodge Branch**
Jockey Hollow Creek	**Silver Spring Creek**
Legler School Branch	

These Total Maximum Daily Loads (TMDLs) for sediment address sedimentation and degraded habitat impairment conditions in the above 20 streams. These TMDLs identify load allocations and management actions that will restore the biological integrity of these streams. Each stream is addressed individually by these TMDLs, but grouped together because all are located within the Sugar Pecatonica River Basin.[1] These streams share the same watershed characteristics, soils, and types of land use, and are impaired by excessive sedimentation. All of the streams are listed as a high priority on the 2004 303(d) list and the impaired segments are listed on Table 1(also Table A1).

Background

The Sugar Pecatonica River Basin is located in southern Wisconsin with a drainage basin of approximately 1,832 square miles in Dane, Rock, Lafayette, Green, and Iowa counties, and another 796 square miles in northern Illinois (Figures A1-A5). Larger municipalities in the Wisconsin basin include Verona, Monroe, Mt. Horeb, Dodgeville, Darlington, parts of Fitchburg, and parts of Madison. The Sugar-Pecatonica Basin also has some of the most productive farmland in Wisconsin. Most of the agricultural activities in the basin are dairy farming, cash cropping, and livestock feeder operations (See Table 2 for Agricultural Land Use by Watershed).

The Sugar Pecatonica River Basin lies in the temperate continental zone, which is characterized by winters that are cold and snowy and summers that are mostly warm with periods of hot and humid conditions. Average annual precipitation for the region is about 32 inches of rain and melted snow; the majority falling in the form of thunderstorms during the growing seasons (May-September). Most runoff occurs in February, March, and April when the land surface is frozen and soil moisture is highest. The watershed lies in the "driftless" area of Wisconsin, an area not covered by the last glacier. This landscape is shaped largely by the bedrock surface in this region; with soils that are generally moderately to excessively well drained that have a high mineral and low organic matter content. An upland plateau dissected by a maze of steep ridges, deep narrow valleys, and numerous spring-fed streams generally characterizes topography in the watershed. The ridge and valley topography of the area is conducive to fast runoff and often results in flash flooding as steep gradient feeder streams deliver runoff water to the Sugar and Pecatonica Rivers. Farming occurs on the ridgetops (which can result in severe erosion) or in the stream valleys with the region's steep hillsides often left wooded. Wetlands usually only occur along stream and river margins. While there are some wetland complexes along the Pecatonica and Sugar rivers, the percentage of wetland to upland areas in the basin is significantly less than for basins outside the driftless region. For more information on a description of the population, soils, topography, geology, and other physical characteristics of the region, refer to Chapter 2 of the *Nonpoint Source Control Plan for the Lower East Branch Pecatonica River Priority Watershed Project* or *The Sugar Pecatonica Basin Homepage at.* http://dnr.wi.gov/org/gmu/gpsp/spbasin/index.htm

[1] There are a few impaired streams in the Sugar – Pecatonica River Basin that are not included in this set of TMDLs. They either have an impairment other than sediment or have impairments caused by point sources.

Table 1. List of Impaired Streams

WBIC	Impaired Stream Segment Name	TMDL ID	County	Impaired Stream Segment Length
899800	Apple Branch	10	Iowa	2.8 miles
896800	Argus School Branch	14	Green	2 miles
900700	Braezel's Branch	57	Green	4 miles
897300	Buckskin School Branch	59	Green	6 miles
880500	Burgy Creek	708	Green	10 miles
898500	Cherry Branch	74	Iowa	5.8 miles
910800	Dodge Branch	111	Iowa	14.1 miles
910800	Dodge Branch	112	Iowa	0.7 miles
910800	Dodge Branch	113	Iowa	6.9 miles
901000	Dougherty Creek	115	Green	1.4 miles
909200	German Valley Branch	162	Dane	7 miles
887800	Henry Creek	185	Dane	1 miles
899500	Jockey Hollow Creek	206	Green	2.4 miles
882900	Legler School Branch	232	Green	9 miles
883100	Pioneer Valley Creek	365	Green	5 miles
908500	Pleasant Valley Branch	367	Dane	5 miles
901500	Prairie Brook	709	Green	2 miles
879500	Searles Creek	421	Green	9 miles
880400	Silver School Branch	435	Green	3 miles
917700	Silver Spring Creek	436	LaFayette	5 miles
877000	Spring Creek	457	Green	10 miles
908200	Syftestad Creek	480	Dane	5 miles
891300	Twin Grove Branch	493	Green	6 miles

Table 2. Summary of Agricultural Land Use by Watershed (Wiscland, 1991).

Watershed	Total (*) (acres)	CORN (acres)	% Corn	SOYBEAN (acres)	% SoyB	ALFALFA (acres)	% ALFA
Apple Branch	4187.7	1236.6	29.50%	311.4	7.40%	2639.7	63.00%
Argus School Branch	787	178	22.60%	43.4	5.50%	565.7	71.90%
Braezels Branch	1920.8	540.8	28.20%	98.3	5.10%	1281.7	66.70%
Buckskin School Branch	2514.9	754.1	30.00%	103.9	4.10%	1657	65.90%
Burgy Creek	11544.5	5750.3	49.80%	856.4	7.40%	4937.8	42.80%
Cherry Branch	4167.7	1607.6	38.60%	407.3	9.80%	2152.8	51.70%
Dodge Branch	22857.2	4406.4	19.30%	2511.6	11.00%	15939.3	69.70%
Dougherty Creek	1521.1	431.3	28.4%	61.4	4.0%	1028.3	67.6%
German Valley Branch	3293.9	1355.6	41.20%	299.9	9.10%	1638.5	49.70%
Henry Creek	200.2	94.1	47.00%	56.1	28.00%	50	25.00%
Jockey Hollow Creek	1040.6	355.9	34.20%	121.7	11.70%	563	54.10%
Legler School Branch	1368.9	384.4	28.10%	86.5	6.30%	898	65.60%
Pioneer Valley Creek	993.4	225.8	22.70%	54.3	5.50%	713.4	71.80%
Pleasant Valley Branch	2733.1	915.3	33.50%	235.8	8.60%	1582	57.90%
Prairie Brook	1523.3	973	63.90%	86.1	5.70%	464.2	30.50%
Searles Creek	10508.4	7950.1	75.70%	475.4	4.50%	2082.9	19.80%
Silver School Branch	2629.3	1505	57.20%	97.9	3.70%	1026.3	39.00%
Silver Spring Creek	3181.1	1000.5	31.50%	325.4	10.20%	1855.2	58.30%
Spring Creek	9012.2	4782.9	53.10%	869.1	9.60%	3360.2	37.30%
Syftestad Creek	1829.4	413.5	22.60%	147.3	8.00%	1268.6	69.30%
Twin Grove Branch	3979	1910.1	48.00%	360.4	9.10%	1708.6	42.90%

(*) Total acres of watershed in agricultural rotations.

Applicable Water Quality Standards

The listed streams or stream segments are not currently meeting applicable narrative *water quality criterion* as defined in NR 102.4 (1); Wis. Adm. Code:

> "To preserve and enhance the quality of waters, standards are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all waters including the mixing zone and effluent channel meet the following conditions at all times and under all flow conditions: (a) *Substances that will cause objectionable deposits on the shore or in the bed of a water, shall not be present in such amounts as to interfere with public rights in waters of the state.*"

Excessive sedimentation is considered as an objectionable deposit.

The designated uses applicable to these streams are as follows:

S. NR 102.04(3) intro, (a), (b), (c), and (d), Wis. Adm. Code (see Table A2 for descriptions):

"FISH AND OTHER AQUATIC LIFE USES. The department shall classify all surface waters into one of the fish and other aquatic life subcategories described in this subsection. Only those use subcategories identified in pars. (a) to (c) shall be considered suitable for the protection and propagation of a balanced fish and other aquatic life community as provided in the federal water pollution control act amendments of 1972, P.L. 92-500; 33 USC 1251 et.seq.

(a) *Cold water communities.* This subcategory includes surface waters capable of supporting a community of cold water fish and aquatic life, or serving as a spawning area for cold water fish species. This subcategory includes, but is not restricted to, surface waters identified as trout water by the department of natural resources (Wisconsin Trout Streams, publication 6-3600 (80)).

(b) *Warm water sport fish communities.* This subcategory includes surface waters capable of supporting a community of warm water sport fish or serving as a spawning area for warm water sport fish.

(c) *Warm water forage fish communities.* This subcategory includes surface waters capable of supporting an abundant diverse community of forage fish and other aquatic life.

(d) *Limited forage fish communities.* (Intermediate surface waters). This subcategory includes surface waters of limited capacity and naturally poor water quality or habitat. These surface waters are capable of supporting only a limited community of forage fish and other aquatic life."

The coldwater community designated use includes class I, II and III trout fisheries. These three classes of trout streams are defined as follows:

Class I: high-quality streams where populations are sustained by natural reproduction.

Class II: streams with some natural reproduction but need stocking to maintain a desirable fishery.

Class III: streams that sustain no natural reproduction and require annual stocking of legal-size fish for sport fishing.

Critical Condition

The excessive sedimentation is a year-round situation for these TMDLs, and as such, there is no "critical condition." This is not to say there is no variation in the sediment carried in runoff to the stream (see Seasonal Variation section for additional information).

Stream Descriptions

For all of the following streams, sedimentation is causing habitat degradation. Sedimentation reduces the suitable habitat for fish and macroinvertebrate communities. Filling-in of pools reduces the amount of available cover for juvenile and adult fish. Sedimentation of riffle areas reduces the reproductive success of fish by reducing the exposed gravel substrate necessary for appropriate spawning conditions. Sedimentation also affects macroinvertebrate biomass (fish food source) which tends to be lower in areas with predominantly sand substrate than a stream substrate with a mix of gravel, rubble, and sand. Sedimentation also causes elevated turbidity which reduces the penetration of light necessary for photosynthesis in aquatic plants, reduces the feeding efficiency of visual predators and filter feeders, and lowers the respiratory capacity of aquatic invertebrates by clogging their gill surfaces. In addition, other contaminants such as nutrients (phosphorus) attached to sediment particles can be transported to streams during runoff events.

The following is a stream by stream description, based on information obtained from WDNR files.

Dane County

German Valley Branch

German Valley Branch is a seven-mile spring fed stream in Dane County on the south slope of Military Ridge that joins Big Spring Creek (also known as Blue Mounds Branch) to form Gordon Creek. Its designated use has not been codified. Although this entire stream is on the state's list of impaired waters due to habitat degradation caused by heavy sedimentation, German Valley has shown signs of improvement over the last several years, and is now considered to be meeting its designated use. As such, German Valley Branch, along with Syftestad Creek, serve as a reference stream for these TMDLs.

Previously, under its impaired condition, German Valley Branch only supported a warm water forage fishery. Recent monitoring indicates that the stream now supports a cold water fish community including abundant mottled sculpin, numerous brown trout that migrate upstream from Gordon Creek and American brook lamprey. German Valley Creek is currently managed as a Class II trout stream but fisheries and water quality reclassification submittals are pending approval. Surveys conducted in 2001 and 2002 showed water temperatures that stayed below 75°F and dissolved oxygen stayed above 6.0 mg/l, even during rain events. Fish shocking conducted in that same year at CTH Z showed several year classes of brown trout as well as the presence of other cold water species such as mottled sculpin and American brook lamprey. In conjunction with biological sampling data, WDNR biologists made visual observations in 2002 regarding the stream. They noted that the bottom consisted of rock and rubble with areas of sediment deposition, and that the stream was narrow. According to Department habitat ratings, these observations suggest fair habitat. The Cold Water Index of Biotic Integrity (CWIBI) for this survey was 50, which indicates a "fair" assemblage of coldwater species. This improvement may be due to the large enrollment of upstream lands in the Conservation Reserve Program (CRP). There is an ongoing project on German Valley Branch to rehabilitate the stream corridor to mitigate the effects of sediment from nonpoint sources and improve fish habitat. Such efforts will continue through 2005.

Henry Creek

Henry Creek is a one-mile long stream located in southwestern Dane County in the Upper Sugar River watershed. This spring-fed tributary flows to the southwest and joins the Sugar River near the town of Basco. The entire stream is currently listed on the 303(d) list for degraded habitat resulting from sedimentation from non-point sources. However, in 1999, an Environmental Quality Improvement Program project was completed near the headwaters, which have improved the stream quality. In 2002, a habitat evaluation was conducted near the HWY 69 bridge crossing. Width to depth ratios for this segment of the stream were about 5:1, which is considered to be "excellent" and is a demonstration of the improved habitat quality. However, sedimentation is still a concern as the habitat survey found the substrate to be composed primarily of fine sediment (greater than 60%) which is considered to be "poor" according to WDNR habitat rating guidelines.

A 2002 fish survey found six brown trout (2.0 – 8.2 inches) and the presence of mottled sculpin and brook stickleback, both of which are considered cool-water indicators. The CWIBI score from this survey was 50 indicating "fair" biotic integrity. In 2002 a macroinvertebrate sample was taken, yielding an HBI score of 3.967, suggesting "very good" water quality with possible slight organic pollution. Currently, Henry Creek supports a warm water forage fishery, but has the potential to become a cold water fishery.

Pleasant Valley Branch

Pleasant Valley Branch is a five-mile long stream located in southwestern Dane County. It is part of the Gordon Creek watershed and empties into Kittleson Valley Creek southeast of Daleyville. Currently, Pleasant Valley Branch supports a warm water forage fishery, however, the presence of brown trout and mottled sculpin demonstrate this stream's potential to support a cold water fishery. Pleasant Valley Branch is currently listed on the 303(d) list for degraded habitat due to sedimentation from overgrazing and a lack of habitat. However, several streambank stabilization and habitat restoration projects are currently underway in the stream.

In 2003, a section of Pleasant Valley Branch, starting at the northern CTH H crossing, and extending about ½ mile down stream, had stream bank work done as part of a Wildlife Habitat Improvement Program (WHIP) grant. Prior to this work, one brown trout and a few specimens of forage fish were found in this section of stream. The stream was wide, shallow, and the bottom was composed primarily of sand and silt. A 2004 post-rehabilitation habitat evaluation of this project area showed marginal silt deposition (22%), with the majority of the substrate being composed of gravel or coarser material (59%). These findings, coupled with width to depth ratios of about 7:1, suggest "good" habitat quality for this section of rehabilitated stream. Also, three additional fish surveys were conducted to observe the effects of the restoration project. Two survey sites were replicates from the previous year in the area that had been restored and found 34 brown trout (2.5 - 13.9 inches), three brook trout (10.0 - 10.9 inches), 11 black crappie (6.6 - 7.3 inches), and four minnow and forage species.

A third section, downstream of where the restoration was to occur, found 29 brown trout (6.1 - 13.7 inches) and five other forage and minnow species, with white sucker and creek chub being the most abundant. Additional lands in the watershed have been enrolled in the Conservation Reserve Enhancement Program and another section of stream corridor is scheduled for rehabilitation work in 2005 under the state's Targeted Runoff Management Program.

Syftestad Creek

Syftestad Creek is a five-mile stream in southwest Dane County that serves as a tributary to Kittleson Valley Creek. Its designated use has not been codified. Although this entire stream is on the state's list of impaired waters due to habitat degradation caused by heavy sedimentation, Syftestad Creek has shown signs of improvement over the last several years, and is now considered to be meeting its designated use. As such, Syftestad Creek, along with German Valley Branch, serve as a reference stream for these TMDLs.

Previously, under its impaired condition, Syftestad Creek only supported a warm water forage fishery. WDNR aquatic biologists observed that the stream bottom had extensive (greater than 60% silt and clay) fines in riffles and runs. According to the WDNR habitat ratings, this is considered poor habitat. A macroinvertebrate assessment conducted in 2002 indicates "excellent" water quality (HBI = 3.260) indicating adequate dissolved oxygen levels.

Recent monitoring indicates that the stream now supports a cold water fish community including evidence of abundant mottled sculpin and redside dace. Redside dace is a state species of special concern and another coolwater indicator of a coolwater fish community. While much of the upper half of the stream remains in agriculture many acres have been enrolled in the Conservation Reserve Program over the last decade. Additionally, the lower half of the stream is buffered by land, which has been set aside or returned to prairie by private landowners. Because of improved land management practices in the watershed, the DNR experimented with a brook trout reintroduction project. Results from a fall, 2004 survey are promising as they show carryover of brook trout from the previous year.

Green County

Argus School Branch

Argus School Branch is a two-mile cold water stream that flows southwesterly through the driftless area to Bushnell Creek. While it supporting warm water sport fish, the lower portion of the creek can likely support a Class II trout fishery. WDNR aquatic biologists indicate that greater than 50% of the substrate is covered in silt. Based on the WDNR habitat rating guidelines, greater than 50% fine sediment accumulation indicates fair to poor habitat quality. Brown trout are currently stocked in the lower portion of the stream. Fish monitoring data collected in 2002 found creek chubs and mottled sculpin, and rated the biotic integrity of this stream as "fair" (IBI = 50). It is listed on the 303(d) list because over grazing and streambank degradation leading to higher temperatures in the stream, excessive sedimentation and habitat destruction. WDNR staff believe excessive sedimentation has caused the stream to widen and become shallower to a level (width: depth 20:1) considered to be of only "fair" habitat quality. Some smaller farms are going out of business, which inadvertently may help to improve the quality of the stream, as the level of over grazing will decrease.

Braezel's Branch

Braezel's Branch Creek is a seven-mile stream in Green County that flows westward into Lafayette County where it converges with the Lower East Branch Pecatonica River. The lower four miles of the stream are on the 303(d) list because of habitat degradation and sedimentation from non-point source pollution. This stream currently supports a warm water forage fishery, but has the potential to support a cold-water fish community. A fish shocking survey conducted in 1990 showed the presence of tolerant and very tolerant warm water forage species. An additional fish survey conducted in 2002 at Hwy 81 found 25 brown trout ranging between 4.6-16.7 inches in length, as well as several other tolerant species. The CWIBI score was 20, rating the stream integrity as poor. Macroinvertebrate sampling conducted in 1990 at Hwy 81 indicated "very good" water quality although the streambank substrate was predominantly sand with little gravel or rock, and streambank erosion had reduced habitat. At an upstream segment, a WDNR aquatic biologist observed moderate levels of fine sediment (60% sand, 40% silt) with a width: depth ratio of

10:1. According to WDNR habitat ratings, both observations rate the habitat as fair. In the judgement of WDNR staff, the downstream segment should have a higher percentage of fine sediments covering the substrate, which should negatively impact the downstream habitat rating. Past resource objectives were to improve wildlife habitat, to protect and restore wetlands, and to reduce bank erosion. Current data is not sufficient to determine overall potential of this stream. While mitigation of erosion and improvement in habitat of this stream is desirable, further monitoring is required to determine the realistic potential for this stream.

Buckskin School Creek

Buckskin School Creek is located in western Green County and is part of the Jordan and Skinner Creek watersheds. The six-mile long stream flows to the south, merging with Bushnell Creek northwest of Monroe to form Skinner Creek. The entire stream is listed on the 303(d) list for degraded habitat resulting from sedimentation from agricultural non-point source pollution and stream bank erosion. In 2004, a qualitative habitat stream survey was performed at Buckskin Road, which yielded a score of 191, suggesting "fair" habitat quality. A more thorough habitat evaluation was conducted near the mouth of the stream, at the CTH J crossing, and found that habitat quality for this section of the stream also was "fair" based on substrate composition (50% fines). This is consistent with the land use as the lower half of the stream runs through heavily pastured farmland, subject to sedimentation, while the upper half flows through a fairly well buffered corridor with very little agriculture.

A 2004 fish survey at CTH J found nine minnow species, with southern redbelly dace and central stonerollers being the most abundant. Sixteen brassy minnows, a cool-water indicator, were found during the survey as well. Buckskin School Creek currently supports a warm water forage fishery, but it is believed to have the potential to become a Class II trout stream. However, current data is not sufficient to determine overall potential of this stream. While mitigation of erosion and improvement in habitat of this stream is desirable, further monitoring is required to determine the realistic potential for this stream.

Burgy Creek

Burgy Creek is a ten-mile tributary in the Little Sugar watershed that flows easterly into the West Branch Little Sugar River. The Burgy Creek sub-watershed encompasses twenty-four square miles and is predominantly agricultural. The stream is currently managed as a warm water forage fishery, and contains a diverse forage fishery including cold water indicator species such as mottled sculpin and brook trout. These species indicate the creek's potential to become a class II cold water trout stream. Fish surveys performed in 2002 at two segments of the stream both produced an CWIBI score of 20, which rates this creek's coldwater biotic integrity as poor. Stream channel ditching, runoff from farm fields, and streambank grazing have degraded the habitat in the stream. Consequently, the entire stream length is listed as impaired with sediment as the primary non-point source pollutant. As part of a structured habitat survey in 2002, WDNR aquatic biologists observed that the stream bottom had extensive (greater than 60% silt and clay) fines in riffles and runs. According to the WDNR habitat ratings, this is considered poor habitat. A 2002 macroinvertebrate survey produced an HBI score of 4.788, which indicates "good" water quality with some organic pollution. Overall, this stream ranks high on the non-point source priority list, and is on the state's list of Exceptional Resource Waters. During the 2002 survey, a redside dace (state species of concern) was found and is the first report of this species in the stream. The monitoring conducted in 2002 confirms that this stream could respond favorably to management actions aimed at reducing non-point source pollution and improving habitat.

Dougherty Creek

Dougherty Creek is a sixteen-mile long stream that currently exists as a Class II trout stream for much of its length. Only the upper two miles are on the state's list of impaired waters because of degraded habitat due to sedimentation, phosphorous, and BOD from non-point source pollution. Because of its length, the stream flows through a variety of land uses including small patches of forest, cropland, and wetland, but also through pasture where it suffers severe bank erosion. The stream bottom above Apple Grove Road is primarily gravel. Below this area, silt becomes more prevalent and the water more turbid. While most of the stream is managed for brown trout, some rainbow trout have been stocked and show up in stream surveys. Tolerant, warm water forage species are common in the stream including white sucker, common shiner, and creek chub. Mottled sculpin and other intolerant species are found in low numbers. As part of a structured habitat survey in 2002, Department staff found that the stream has extensive (79% silt and clay) fines covering the substrate. According to the Department's habitat rating guidelines, this is considered poor habitat. Past resource objectives were to improve the trout fishery, reduce organic loading and erosion, to increase aquatic diversity, and to improve wildlife habitat. There have been some improvements to the stream habitat, and certain areas of the riparian corridor have been returned to prairie. Land use in the upper 2 miles of stream has improved. Monitoring of this section should be conducted to determine contemporary conditions.

Jockey Hollow Creek

This two-mile stream originates in western Green County and flows westward where it feeds into Trotter Branch just inside the Lafayette County line. The stream is on the state's list of impaired waters because it suffers from poor habitat, low flow, channel straightening, and sediment is the primary non-point source pollutant. Sampling conducted in 1985 and 1990 showed only the presence of brook stickleback. The stream has the potential to be a warm water forage fishery, but currently supports limited forage fish. It has not been monitored in recent years.

Legler School Branch

Legler School Branch is a nine-mile spring fed stream in the Little Sugar River watershed that flows easterly into the Little Sugar River near New Glarus, WI. The Legler School Branch sub-watershed is 4 square miles and is used primarily for agriculture. The entire stream is listed on the 303(d) list due to degraded habitat, with sediment as the primary nonpoint source pollutant. The 1985 Surface Waters of Green County reported that bank cover was generally good and erosion was only a problem during periods of heavy runoff. In 2001, it was noted that there were signs of severe bank erosion downstream from Legler Valley Road and cows had access to the stream. A structured habitat survey completed upstream from the 2nd Street bridge crossing in 2004 shows the stream's bottom consists of greater than 60 percent fine sediments (68 percent silt and clay) in pools, riffles, and runs. According to WDNR habitat rating guidelines this is considered poor habitat. In addition, a WDNR aquatic biologist made visual observations of the stream, noting that it was wide and shallow with highly eroded banks. Department staffs believe that sediment deposition has caused the stream to widen and become shallower to the point that it is considered poor habitat. Legler School Branch currently supports a limited forage fishery with the potential to support a warm water forage fishery or perhaps a cold water fishery. The fishery has been shown to be severely limited with one 2001 survey finding only one fathead minnow in an upstream location. Interestingly, a fish survey completed at a downstream location in 2004 found four brown trout ranging from 8.7-11.7 inches in length, one largemouth bass, and a large number of cold water indicator species such as mottled sculpin and brook stickleback. The CWIBI score for this segment of the stream was 50, which indicates "fair" coldwater biotic integrity. The abundance of cool-water species and the consequently high IBI score at this location could be due to the cool and wet nature of the summer when the survey was performed. Further fish, habitat, and temperature monitoring would be required to accurately determine the thermal regime of this stream.

Pioneer Valley Creek

This five-mile stream runs through a highly pastured watershed, which results in a fairly poor quality stream with scarce bank cover and heavy erosion. Only small numbers of forage species are present in the stream. It is on the state's list of impaired (303d) waters due to sediment as the non-point source pollutant and degraded habitat as the impairment. Currently, this is a limited forage fishery but is listed to potentially be a warm water forage fishery. There are no HBI and IBI scores available, as this stream has not been monitored in recent years.

Prairie Brook Creek

This two-mile long creek originates in western Green County and flows westward to Dougherty Creek. Prairie Brook Creek runs primarily through pasture and there is a considerable amount of bank erosion. However, the steep gradient of the stream maintains a sandy bottom with small amounts of gravel and cobble, as well as "good" width:depth ratio (8:1). A macroinvertebrate assessment in 1990 described the water quality of this stream as "very good" with slight organic pollution (HBI = 3.636). Prairie Brook is currently classified as Class III trout stream (no evidence of natural reproduction) but is potentially a Class II. Fish monitoring conducted in 2002 recovered only two species (creek chub and brook stickleback) and a cold water index of biotic integrity was calculated as "poor". Habitat is very limited and fencing to prevent over pasturing would help improve the stream corridor.

Searles Creek

This nine-mile, low gradient stream flows eastward and joins the Sugar River at the north end of Decatur Lake. The creek's watershed is a broad, flat-bottomed basin, which is heavily tilled for crops. A great deal of the stream has been straightened because of ditching. Trees and vegetation along the shore buffer some areas, while other areas are grazed right down to the shoreline. A wetland area just upstream from the confluence with Decatur Lake provides habitat for wildlife. The existing use as a warm water sport fishery is mainly due to fish species migrating upstream from Decatur Lake seeking better habitat than which can be found in the lake itself. As part of a structured habitat survey in 2002, WDNR aquatic biologists observed that the stream bottom had extensive (greater than 60% silt and clay) fines in riffles and runs. According to the WDNR habitat ratings, this is considered poor habitat. A 2002 fish assessment at CTH F showed a variety of warm water forage species dominated by bluntnose minnow. The results from a 2002 macroinvertebrate assessment describes this stream as "good" water quality with some organic pollution (HBI = 5.089). Searles Creek is listed on the state's list of impaired (303d) waters because of habitat degradation caused by primarily sedimentation.

Silver School Branch

Silver School Branch is located in northern Green County and is part of the Little Sugar River watershed. This four-mile long stream flows to the south through predominantly agricultural land and drains into the Little Sugar River southeast of Monticello. The lower three miles of Silver School Branch are currently listed on the 303 (d) list for degraded habitat from sedimentation due to non-point source pollution. A fish survey from 1974 found one northern pike and 10 other forage and minnow species, with creek chub and southern redbelly dace being the most common seen, however, the stream has not been monitored in recent years. Silver School Branch is currently listed as a warm water forage fishery, but is believed to have the potential to become a cold water fishery. However, current data is not sufficient to determine overall potential of this stream. While mitigation of erosion and improvement in habitat of this stream is desirable, further monitoring is required to determine the realistic potential for this stream.

Spring Creek

Spring Creek is located in southeastern Green County and is part of the Lower Sugar River watershed. Originating south of Juda, it flows to the east for ten miles before it drains into the Sugar River, south of Brodhead. Spring Creek flows mainly through agricultural land, and much of the stream length had been ditched for cropland drainage. The lower ten miles of the stream are currently listed on the 303(d) list for degraded habitat due to sedimentation from non-point sources. A habitat evaluation was conducted above the CTH G bridge crossing in 2002 and found that about 48% of the substrate in the surveyed section was composed of fine sediment, which is considered to be “fair” habitat based on the Department’s habitat rating guidelines. Width to depth ratios averaged 16:1 for this segment of the stream, which is also considered to be “fair” habitat quality.

A 2002 fish survey, about three miles upstream of where Spring Creek meets the Sugar River, found one brown trout (25.5 inches) two northern pike (15.5, 21.5 inches) and 16 other minnow and forage species, of which, white sucker and common shiner were most abundant. Two brassy minnows, which are cool-water indicators, were also seen during this survey. The HBI score, based on a macroinvertebrate sample taken in 2002, was 5.422, which suggests “good” water quality with some organic pollution. Currently, Spring Creek is listed as a warm water forage fishery; however, it has the potential to become a warm water sport fishery. Buffer strips and bank stabilization would enhance this stream.

Twin Grove Branch

Twin Grove Branch is located in southern Green County and is part of the Honey and Richland Creek watersheds. Originating just east of the town of Twin Grove, the six-mile long stream flows westward and empties into Richland Creek. The entire length of Twin Grove Branch is currently listed on the 303(d) list for degraded habitat resulting from sedimentation due to agricultural non-point source pollution. Fish surveys from 1974 and 1976 found 17 species of forage and minnow species between two different locations near the mouth of the stream. The most abundant species found were central stonerollers, white sucker, and creek chub; however, the stream has not been monitored in recent years. Twin Grove Branch currently supports a warm water forage fishery, but is believed to have the potential to become a warm water sport fishery.

Lafayette County

Apple Branch

Apple Branch Creek is a seven-mile spring fed trout stream in the lower east Pecatonica River watershed that flows easterly into Whiteside Creek, southwest of Argyle, WI. The upper three miles of the stream (mile 4 to mile 6.8) are listed as impaired on the 303(d) list due to degraded habitat and temperature. Sediment is the primary non-point source pollutant and in 1991, poor trout survival, bank erosion, turbidity, and high temperatures were noted as causes of impairment. The stream currently supports a warm water forage fishery, but has the potential to support a cold water fish community. The 1967 Surface Waters of Lafayette County stated that the stream, “abounds with forage fishes of varied species” and that, “rainbow and brown trout are common and brook trout are present”. In 1980, it was demonstrated that Apple Branch supported low numbers of brown trout and that natural reproduction was unlikely. A 2001 comprehensive fish survey downstream from the impaired segment showed the presence of carp, bigmouth buffalo, white suckers, and tolerant warm water forage fish, resembling a degraded system. Another 2001 downstream fish survey found an abundance of tolerant warm water forage fish, but also noted the presence of mottled sculpin, a cool-water indicator species. The lower part of Apple Branch was recently upgraded to a Class II trout fishery.

In 1990, two macroinvertebrate surveys taken at Spore Road and Apple Grove Church Road, downstream of the impaired segment, produced scores of 4.639 and 4.54, which indicate “good” water quality with some organic pollution. In addition to biological surveys, Department biologists made visual observations that at Spore Road the stream had significant silt (70%) covering the substrate. According to the Department’s habitat rating guidelines this is considered poor. Department staffs believe that sediment deposition has caused the stream to widen and become shallower to a level (width: depth 15:1) where it is considered a moderately wide and shallow stream with fair habitat. Past resource objectives were to improve trout fisheries and stream habitat, reduce erosion by greater than 50%, reduce organic loading, and improve wildlife habitat. Most recent survey data may indicate that the system is not meeting these objectives, and a more comprehensive survey looking at habitat and macroinvertebrates is needed.

Cherry Branch

Cherry Branch is a seven-mile stream that flows through east central Lafayette County. The 1967 Surface Waters of Lafayette County noted it was once thought to have potential as a trout stream because of good feeder springs located in the drainage area. Currently, Cherry Branch exists as a warm water forage fishery. The lower six miles of this stream are on the 303(d) list because of habitat degradation and sedimentation from non-point source pollution. Fish surveys conducted in 1980, 1990, and in 2001 indicate that the stream is home to a number of tolerant warm water species including white suckers, creek chubs, fathead minnows, and an occasional carp. One fish survey conducted in 2001 at Philippine Rd found no fish present, but only frogs and crayfish. A macroinvertebrate sampling conducted at Hwy N in 1990 produced an HBI of 4.153, which indicates “very good” water quality with possible slight organic pollution. In conjunction with biological sampling of the stream, WDNR aquatic biologists made visual observations that the stream bottom was mostly clay and silt (about 50 percent) and sediment accumulation continued to be a major problem in the stream. It was also noted that sediment deposition in some areas has caused the stream to become wide and shallow (width: depth 20:1). According to WDNR habitat ratings, both observations rate the habitat as fair. Mitigation of erosion and improvement in habitat of this stream is undoubtedly desirable, but additional monitoring is required to confirm the potential for this stream.

Silver Spring Creek

Silver Spring Creek is located in southeastern Lafayette County and is part of the Lower Pecatonica River watershed. Originating south of the town of Lamont, the stream flows five miles south and empties into the Pecatonica River north of Gratiot. All five miles of Silver Spring Creek are currently listed on the 303(d) list due to degraded habitat resulting from sedimentation from non-point source pollution. A 2001 fish survey from the Silver Spring Creek Rd. crossing found seven brown trout (3.0 – 14.5 inches) and eight other minnow and forage species, including the presence of brook stickleback, a cool-water indicator. Silver Spring Creek's current use is as a warm water forage fishery, but the lower 3.9 miles are classified as a Class II trout fishery.

Iowa County

Dodge Branch

Dodge Branch is a twenty-two mile long; spring fed tributary originating in central Iowa County, just north of Dodgeville. The stream is part of the Upper East Branch Pecatonica River watershed, and flows southeast, draining into the East Branch of the Pecatonica River near Hollandale. Dodge Branch is separated into three segments on the 303(d) list for modeling purposes. However, based on a review of designated uses, Dodge Branch contains four segments and all have degraded habitat due to sedimentation. The upper mile (miles 21-22) of the stream is codified as a limited forage fishery. This section receives wastewater discharge from Dodgeville, and is impacted by urban non-point source pollution.

Stream miles 17 through 21 are codified as a warm water sport fishery. Four fish surveys were conducted in this portion of the stream in 2001. Between the four surveys, 14 brown trout, three channel catfish, and 20 forage and minnow species were seen. The most abundant forage species were white sucker, central stoneroller, and creek chub. Habitat surveys in this portion of the stream found that approximately 70% of the substrate was composed of gravel or coarser material which suggests "good" habitat quality.

Stream miles 10 through 17 are codified as a cold-water fishery. Although this section of the stream receives cold water from some tributaries, urban non-point source pollution, streambank pasturing, and hydraulic manipulation negatively affect the water quality. One habitat evaluation was performed in 2001 in the section of stream codified as a cold water fishery. The survey found that about 75% of the stream bottom was composed of gravel or coarser material, and about 15% was composed of silt, indicating "good" habitat quality for this section of the stream. One fish survey was conducted in this section, also in 2001. Warm water forage species such as creek chub and white sucker were most common, and only one brown trout was found, indicating "poor" biotic integrity for a cold-water stream.

The lowest section of this stream, miles 0-10, is codified as a warm water sport fishery. Discharge from Hollandale's municipal wastewater treatment facility, stream bank pasturing, and non-point source pollution all contribute to the turbid water seen in this section of the stream. In 2004, three sites on the lower portion of Dodge Branch, downstream of Jonesdale, underwent IBI surveys. Two brown trout and one small mouth bass were found, in addition to 12 forage and minnow species, with the most abundant being common shiner and white sucker.

Load Assessment and Modeling Assumptions

To evaluate the magnitude of in-stream sediment problems in relationship to potential sediment source areas a qualitative analysis was used to reference observed biological indicators and substrate or channel conditions in several stream segments to sediment loads calculated through modeling. Given the watersheds are dominated by agricultural land use, models capable of simulating agricultural practices were evaluated including the Soil and Water Assessment Tool (SWAT), HSPF, and an approach utilizing RUSLE2. Because none of the impaired segments had flow monitoring records or any meaningful monitoring to support the calibration of a complex model, the approach utilizing RUSLE2 was selected.

RUSLE2 evolved from a series of previous erosion prediction technologies, mainly USLE and RUSLE. The USLE was entirely an empirically based equation and was limited in its application to conditions where experimental data were available for deriving factor values. A major advancement in RUSLE was the use of sub-factor relationships to compute C factor values from basic features of cover-management systems. While RUSLE retained the basic structure of the USLE, process-based relationships were added where empirical data and relationships were inadequate, such as computing the effect of strip cropping for modern conservation tillage systems.

RUSLE2 was developed primarily to guide conservation planning, inventory erosion rates and estimate sediment delivery. Values computed by RUSLE2 are supported by accepted scientific knowledge and technical judgment, are consistent with sound principles of conservation planning, and result in good conservation plans. RUSLE2 is also based on additional analysis and knowledge that were not available when RUSLE was developed. RUSLE2 is based on science and judgment that is superior to that of RUSLE. RUSLE2 is another major advancement over RUSLE. While RUSLE2 uses the USLE basic formulation of the unit plot, the soils loss calculations of RUSLE2 are performed on a daily basis.

The use of RUSLE2 had additional benefits in that implementation of erosion reduction methods in the agricultural areas will be conducted through state and county programs that rely on field scale models. NRCS has adopted RUSLE2 for its programs and as such the results from this study can be directly used by field staff when conducting field scale planning and evaluation of farm plans.

The major inputs to the RUSLE2 model include information on land use, cropping practices, soil, slope, and climate data.

> Climate Data: Climate data was obtained directly from the NRCS database contained within the RUSLE2. This data represents the long-term average conditions based on over 100-years of monitored climate data. For this study, the data for Dane County was selected.
>
> Soil Inputs: The soils for the TMDL watersheds were evaluated using digital county soil surveys. Based on the distribution of soils, the dominant textural soil class for each watershed. Soil inputs for the RUSLE2 model were obtained directly from the NRCS soil database within RUSLE2 for the state of Wisconsin based on the dominant textural class in each watershed.
>
> Slope: Slope ranges were obtained from 30-meter digital elevation models. The 30-meter DEMs values were converted from elevation data points into slope values using GIS software. These slope values were then grouped into the NRCS slope categories: A-slope (0-4% with a 200 foot slope length), B-slope (5-8% with a 200 foot slope length), C-slope (9-12% with a 200 foot slope length), D-slope (13-16% with a 150 foot slope length), and E-slope (greater than 16% slope with a 125 foot slope length).
>
> Land Use: Land use information was obtained from the WISCLAND satellite imagery. WISCLAND was derived from LANDSAT Thematic Mapper (TM) satellite imagery acquired from fly-overs in August, 1991; May, July, September, and October, 1992; and May, 1993. The WISCLAND classification scale used for this study consisted of open water, forest, urban, wetland, barren, and agricultural. Agricultural lands were further classified either as corn, forage, pasture, and other row crops. The other row crops consisted mostly of soybeans.

This data was compiled using GIS software to help generate discrete input files or conditions for RUSLE2. The WiscLAND land use grid was combined with the slope grid and soils grid to produce unique combinations of the three variables. This data was then entered into a database and sorted into cropping practices based on local NRCS recommendations representing dominant and typical regional cropping practices found in southwestern Wisconsin.

A statistical system was created to generate the rotations based on the WISCLAND coverage, USDA Agricultural Statistics, and typical cropping rotations as specified by local NRCS and county staff. The WISCLAND coverage distinguishes between corn, forage, pasture, and other row crops. The land use was combined with the slope grid. The resulting distribution of land use and slope was examined for incorporation into rotations. All land use classified as forage was put in the dairy rotation with an equal amount of corn. The remaining corn was divided between continuous corn and corn soybean rotations based on the amount of soybeans present. This process was "semi-automated" with spreadsheets but was not fully automated because examination of each watershed was required due to unique rotations and cropping combinations. The dominant rotations used in the model process include: (1) corn-soybean, (2) continuous corn, (3) and dairy rotations consisting of combinations of corn and soybeans mixed with three to five years of alfalfa or pasture.

It was important to distinguish between corn grain and corn silage because harvesting corn as silage leaves considerably lower residue on the field than corn grain. The amount of residue in turn affects the potential for erosion. Extension suggested equal amounts of corn grain and silage with the silage being dominant in a dairy rotation. Statewide average planting dates were used directly from the RUSLE2 databases.

Crop rotations were further subdivided by typical tillage practices obtained from a 1999-2000 statewide transect survey. The transect survey divided tillage practices by percent residue left on the field which was correlated to tillage implements. RUSLE2 simulates different tillage practices by adjusting the depth of tillage and the mixing efficiency. For generation of management files in RUSLE2, a hierarchy of tillage practices was applied based on the tillage trends obtained from transect survey data for Dane, Green, Lafayette, and Iowa counties.

Transect survey data shows a roughly 44% of the cropland in the study area under conventional tillage, 41% under conservation tillage, and 15% under no-till. Actual tillage employed varies slightly by county with Green and Iowa counties tending to have slightly higher percentages of conventional tillage however this variation is well within the error predictions of the modeling. The most significant variations in tillage are by cropping practice. Conventional tillage (moldboard plow) was first applied to the dairy and forage rotations because these operations typically use conventional tillage to kill off the alfalfa crop. The remaining tillage practices were then divided among the cash grain rotations following the trends of the transect survey. This data is summarized below.

Summary of Transect Survey Data by Crop

Crop	***Conventional Tillage***	***Conservation Tillage***	***No-till***
Corn	48 %	41 %	10 %
Soybeans	25 %	44 %	31 %
Small Grains (Alfalfa)	69 %	28 %	3 %

Source: 1999-2000 Transect Survey

The percent residue on a field varies over time and RUSLE2 simulates the breakdown of residue into organic matter or humus. Thus the timing of tillage affects the residue decomposition. Fall tillage leaves less-residue over the winter and early spring than tillage operations performed in the spring just prior to planting. Typically tillage occurs either in the fall or the spring and is dependent on the crop being planted, the type of soil, and soil moisture. Historically, there is a tendency to till in the fall to ensure that a wet spring will not disrupt planting operations. Again, because of the scope of this project, a hierarchy was established based on slope and crops. All moldboard plowing was performed in the fall because soil needs to be drier for moldboard use. Tillage on slopes between 0-4 percent was fall tilled because of its tendency to remain wet in the spring. All conservation tillage was performed in the spring.

These cropping practices were further modified to reflect typical conservation practices employed. Depending on the crop and slope, contouring was performed at 0.5% of absolute row grade. Strip cropping was also simulated for the dairy rotations utilizing alfalfa.

In addition to the cropland, RUSLE2 was also used to simulate the forested land. Forested land was modeled under two conditions, (1) current and (2) Pre-CRP that corresponds to the late 1970s and early 1980s prior to the CRP program. During and prior to this "Pre-CRP period" forested land was routinely grazed by dairy cattle and slopes were made barren by logging operations and burning of underbrush resulting in excessive erosion rates. While RUSLE2 is unable to directly model forested land, it can be modified to reflect the conditions through adjustment of its residue factors. These factors were adjusted until the RUSLE2 simulated C-factor matched NRCS published C-factors for forested land. C-factors for undisturbed woodland, representing existing conditions, range between 0.0001 to 0.001 (SCS, 1977). For grazed and disturbed woodland, C-factors range between 0.011 and 0.36 for trees with a good canopy but no appreciable under brush or groundcover. Just as with agricultural land, forested land was segregated by percent slope and grouped into A slope, B slope, and C/D/E slope (See Table B1).

Urban areas are identified in WISCLAND as either medium to high-density urban or low density urban. Urban areas located in the watersheds were modeled using the Source Load and Management Model (SLAMM). SLAMM estimates annual pollutant loads (sediment and phosphorus) from urban areas based on the type of urban land use and soils. Management practices can be applied to determine pollutant load reductions. Modeling was based on WISLAND land-use conditions and projected conditions for 2020.

Sediment Loads

Both the pre-CRP and current conditions were simulated using RUSLE2 to help access the historic trends in the watersheds. Current conditions are based on 1991 land use and represent current agricultural cropping practices. For both Syftesatad Creek and German Valley Branch, updated 2004 land use data was available and matched well with the 1991 land use data. Since 1991, these watersheds have had only minor changes in land use, however, there have been considerable improvements in agricultural conservation since the late 1970s and early 1980s. Monitoring data supports that much of the sediment impairment for these watersheds occurred previous to the implementation of current conservation practices, as represented by the 1991 conditions. The pre-CRP condition represents grazed-forested land (see Load Assessment and Modeling Assumptions) and all CRP land under current conditions was reverted back to dairy rotations and continuous corn on NRCS class A slopes.

The results of the modeling are summarized in Table 3 below. In all cases, through the implementation of conservation practices and CRP enrollment, the sediment loads have dropped from pre-CRP conditions to current conditions. This reduction was then looked at and compared with recent 2002 and 2004 stream assessments to establish reference conditions for the development of the TMDL total load capacity.

Table 3. Summary of Pre-CRP and Existing Conditions for Impaired Streams

Watershed	acres	Pre-CRP Condition tons/acre	Pre-CRP Condition tons	Existing Conditons tons/acre	Existing Conditons tons	% decrease
Apple Branch	2138	3.2	6761	1.1	2369	65%
Argus School Branch	1327	2.5	3329	0.9	1209	64%
Braezels Branch	4047	4.4	17726	0.8	3200	82%
Buckskin School Branch	4466	3.9	17240	0.9	4007	77%
Burgy Creek	16127	2.8	44386	1.2	19889	55%
Cherry Branch	5887	3.1	18221	1.3	7653	58%
Dodge Branch 111*	43435	3.8	166497	1.0	41486	75%
Dodge Branch 113*	16576	3.3	54902	1.3	21740	60%
Dougherty Creek	2000	2.4	4722	1.0	2030	57%
German Valley Branch	6495	4.5	29498	1.0	6694	77%
Henry Creek	464	3.9	1817	1.1	503	72%
Jockey Hollow Creek	1830	3.8	7017	1.2	2256	68%
Legler School Branch	2581	4.3	11118	1.1	2764	75%
Pioneer Valley Creek	2140	5.0	10704	0.7	1450	86%
Pleasant Valley Branch	5702	4.3	24562	0.9	5316	78%
Prairie Brook	1933	4.1	8015	1.9	3624	55%
Searles Creek	12721	2.4	29996	1.4	17916	40%
Silver School Branch	3358	2.9	9645	1.5	5172	46%
Silver Spring Creek	4330	3.2	14056	1.1	4870	65%
Spring Creek	11096	2.3	25993	1.4	16082	38%
Syftestad Creek	3770	4.5	16867	0.9	3403	80%
Twin Grove Branch	4759	1.6	7453	1.2	5865	21%

* Dodge Branch 111 for Sediment Loads includes entire watershed;
Dodge Branch 113 includes sections 112 and 113.

Total Load Capacity, Wasteload Allocation and Load Allocation

The goal of each of these TMDLs is to re-establish a balanced and sustainable aquatic community consistent with the water quality standards use designation. For a number of streams this community will be a cold water community including trout. At a minimum, these streams should be a class II trout fishery. Other streams will support a warm water sport fishery. Various measures, such as fish and macroinvertebrate (aquatic insect) indices will be used to assess whether the goal for each stream will be met. The total load capacity is identified based on meeting these goals.

To determine the total load capacity a reference stream approach was used. Syftestad Creek and German Valley Branch have shown considerable improvement in water quality from the impaired conditions used in the listing of these streams. In the best professional judgment of WDNR water quality staff, these two streams are no longer impaired. The results from modeling the current (improved) conditions were used to identify a total load capacity. Specifically, the total load capacity corresponds to a unit area load of 0.9 tons/acre/year based on comparison to nearby and similar streams. This unit area load was then extrapolated to the watersheds for each of the streams. A total load capacity does not necessarily represent the maximum attainable situation. It is the highest level of pollutant load that the stream can handle and attain and maintain water quality standards. Thus, it is possible for loads to be lower than the total load capacity designated for the stream.

The successful reduction of sediment load to the reference streams is a result of implementation of the following practices: stream channel stabilization (specifically in Syftestad Creek), the involvement of the Conservation Reserves Program (CRP), improvement in agricultural practices to reduce soil loss, and the stabilization of forested hill slopes. Control of eroding stream banks needs to be emphasized especially as upland practices are fully implemented. Modifications to channel morphology will also be needed to obtain the fully anticipated biological response. If the load reduction is sufficient to achieve the load capacity and the stream has not adequately responded, the load capacity will be reviewed and lowered appropriately. In the event that the stream adequately responds with a load reduction that is still above the load capacity, the WDNR will either pursue “de-listing” of the stream (possibly making this TMDL irrelevant) or will revise (upward) the load capacity.

Wasteload Allocation

With the exception of Cherry Branch and Dodge Branch, there are no point sources in the watersheds so the wasteload allocation is zero. If a point source discharge were proposed, one of the following would need to occur:

- An effluent limit of zero sediment loads would be included in the WPDES permit.
- An offset would need to be created through some means, such as pollutant trading.
- A re-allocation of sediment load would need to be developed and approved by EPA.

There are point sources located on two of the impaired streams: Cherry Branch and Dodge Branch. Cottonwood Dairy, permit 0059021, is located on Cherry Branch. As part of the permit for a Concentrated Animal Feeding Operation, they are required to contain waste in a detention basin. Except for episodic events, we should expect no run-off from this dairy farm, therefore the waste load allocation is zero. Also, on Dodge Branch, there are two wastewater treatment facilities: Dodgeville, permit 0026913, and Hollandale, 0031330. The treatment facilities do not discharge sediment, therefore are not directly related to the TMDL for Dodge Branch.

Load Allocation

The load allocation corresponds to the total load capacity since the waste allocation is zero and the margin of safety is implicit. All values are expressed in average annual tons of sediment reaching the stream. The total annual loading capacity for sediment is the sum of the wasteload allocation and the load allocation, as generally expressed in the following equation (see Table 4 below for total load capacities for impaired streams):

Load Capacity = *WLA* + *LA*

Load Capacity = *0 Tons/year* + *(0.9tons/year/acre* watershed acres)*

Table 4. The Average Annual Load Capacity (tons) for the Impaired Streams for the Sugar-Pecatonica Basin.

Sugar-Pecatonica TMDL Total Load Capacity for Impaired Streams					
Stream	**Waste Load Allocation** tons/year	**Load Capacity** Average Annual tons/year	**Load Allocation** Total Acreage * 0.9 tons/acre/year tons/year		
Apple Branch	0	**1925**	2139	0.9	**1925**
Argus School Branch	0	**1194**	1327	0.9	**1194**
Braezel's Branch	0	**3642**	4047	0.9	**3642**
Buckskin School Branch	0	**4020**	4466	0.9	**4020**
Burgy Creek	0	**14515**	16127	0.9	**14515**
Cherry Branch	0	**5298**	5887	0.9	**5298**
Dodge Branch 111	0	**39091**	43435	0.9	**39091**
Dodge Branch 113	0	**14918**	16576	0.9	**14918**
Dougherty Creek	0	**1800**	2000	0.9	**1800**
German Valley Branch	0	**5845**	6495	0.9	**5845**
Henry Creek	0	**418**	464	0.9	**418**
Jockey Hollow Creek	0	**1647**	1831	0.9	**1647**
Legler School Branch	0	**2323**	2581	0.9	**2323**
Pioneer Valley Creek	0	**1926**	2140	0.9	**1926**
Pleasant Valley Branch	0	**5132**	5702	0.9	**5132**
Prairie Brook	0	**1740**	1933	0.9	**1740**
Searles Creek	0	**11449**	12721	0.9	**11449**
Silver School Branch	0	**3022**	3358	0.9	**3022**
Silver Spring Creek	0	**3897**	4330	0.9	**3897**
Spring Creek	0	**9986**	11096	0.9	**9986**
Syftestad Creek	0	**3393**	3770	0.9	**3393**
Twin Grove Branch	0	**4283**	4759	0.9	**4283**

Margin of Safety

The margin of safety (MOS) accounts for uncertainty about the relationship between the sediment loads and the response in the waterbody. For these TMDLs, the MOS is accounted for both implicitly and explicitly through several steps of the modeling and loading allocation.

The MOS approaches used for these TMDLs include:

1. The numeric target set of 0.9 tons/acre/year for the sediment load allocation is set at a conservative level. Biological indicators suggested that targets as high as 1.0 tons/acre/year were adequate. Using the lower of the two, 0.9 tons/acre/year implies a 10% margin of safety.

2. The sediment loads produced by RUSLE2 for these TMDLs represent edge of field numbers and do not account for a reduction in sediment delivery due to deposition and infiltration loss in the drainage system. This means the numeric targets set for these TMDLs represents the worst case scenario in which all sediment eroding from agricultural fields is delivered to the receiving waterbody.

3. During the modeling, numerous conservative modeling assumptions were made.

- The dominant soil of the area is siltloam at about 90% of the study area. For the purpose of analysis, 100% of the study area was assumed to be siltloam, with a low to medium organic content producing a higher and more conservative erosion potential.

- The agricultural rotations were derived from the land use and the percentage of corn, soybeans, and alfalfa in each slope-land use category. When setting the rotations, the acres under soybeans were fixed and the corn and alfalfa were adjusted slightly up and down to represent actual agricultural practices. Since the fields under soybeans produce the most erosion, this resulted in a conservative assumption.

- The tillage practices vary by watershed and by type of crop. Only countywide trends in tillage practices were available. To account for these variations, tillage practices were varied based on the countywide data however again, like the crop rotations, the most erosive practice, conventional tillage, was fixed and the remaining cropland was allocated based on the percentages of other cropping practices.

- Additional controls include riparian buffers through Conservation Reserve Enhancement Program and efforts to stabilize stream banks (see Reasonable Assurance section below).

Seasonal Variation and Critical Condition

There is no critical condition in the sedimentation of these streams. Sediment is a "conservative" pollutant and does not degrade over time or during different critical periods of the year. EPA acknowledges in its 1999 Protocol for Developing Sediment TMDLs: "The Critical flow approach might be less useful for sediment TMDLs because sediment impacts can occur long after the time of discharge and sediment delivery and transport can occur under many flow conditions."

The impact from extensive sedimentation occurs year-round. Under some flow regimes, sediment is deposited, and at other times, sediment is scoured and transported downstream. Much of the sediment in these streams remains within the confines of the impaired segments until major floods scour some of the accumulated sediment out. However, over time the net result has been an accumulation of sediments in and along the streams under the current amounts of sediment reaching the stream. Undoubtedly, the amount of sediment reaching the impaired streams of the Sugar-Pecatonica River Basin through major rainfall and snowmelt runoff events varies throughout the year.[*] However, most of the sediment enters during spring runoff prior to the establishment of cover from agronomic crops and less frequently during intense summer rainstorms. This temporal variation in sediment loads has been accounted for in the URSLE2 modeling through the use of average annual conditions. Considerable sediment also enters the stream from eroding stream banks during runoff events. The best management practices to achieve the load allocation are selected and designed to function for 10-year or 25-year, 24-hour design storms, providing substantial control for the major rainfall events.

Reasonable Assurance

To ensure the reduction goals of these TMDLs are attained several management measures must be implemented or maintained. Many of these measures require local and county participation to properly implement. These measures include:

- Minimize and eliminate the grazing of cattle on the wooded hill slopes. Areas that are still adversely impacted from previous grazing operations should be stabilized with vegetation.

[*] The reader should clearly differentiate between sedimentation-the deposition of sediment-and the sediment as a pollutant reaching the stream. The first is a year-round situation where the depth of the sediment deposition may vary in response to flood flows in the stream. The second is the pollutant itself, which reaches the stream during storm events.

- Efforts to enroll areas near channels and create riparian buffers through the use of the Conservation Reserve Enhancement Program need to be continued and areas already enrolled need to be kept in enrollment.
- Although not counted in the sediment reduction goals, stream banks with active erosion can be large sources of sediment and thus need to be stabilized. Cattle need to be fenced out of channels and off channel banks. In areas where cattle need to cross, stable crossings need to be maintained.
- Efforts to promote conservation tillage need to continue. As the dairy rotations give way to cash cropping efforts need to concentrate on ensuring no-till operations for corn-soybean rotations.
- Areas with slopes greater than a C-slope (greater than 12%) that are currently being cropped should be encouraged into permanent pasture.

No new or additional enforcement authorities are provided under these TMDLs. However, future enforcement of nonpoint source performance standards and prohibitions will likely take place in the watersheds of these impaired waters. It is also anticipated that regulatory agricultural and non-agricultural performance standards and performance standards called for in Wisconsin Statutes will be implemented in the watershed for these impaired waters. For example, any new development occurring in these watersheds will need to reduce sediment erosion by 80% per NR 216 and NR 151 requirements. Administrative rules passed by the Natural Resources Board identify that watersheds with impaired waters will have the highest priority for enforcement. In addition to the implementation of enforceable nonpoint source performance standards, there are a number of voluntary programs that will assist in implementing these TMDLs.

Local participation in Dane, Lafayette, Green, and Iowa Counties has been successful. An example of a non-point source control project that has been completed in the Sugar-Pecatonica River Basin in the past is the Lower East Branch Pecatonica River Priority Watershed Project. The project implemented nonpoint source control measures to meet specific water resource objectives for the Lower East Branch Pecatonica River and its tributaries. The priority watershed project in Green County was funded through December 21st, 2002, and expended $973,252.92. Funded conservation practices included: contracts, barnyard runoff control systems, roof runoff systems, stream crossings, well decommissioning, milkhouse filter strips, grassed waterways, diversions, manure storage systems, rotational grazing systems, streambank rip rap, lunker structures, and stream fencing. The priority watershed project in Lafayette County was funded through December 31st, 2003, and expended $1,068,001.90. Practices installed included: the practices installed in Green County, streambank shaping, diversions, heavy use areas, spring developments, tile, filterstrips, eaves and downspouts, nutrient management plans, contour strips, wildlife dams, terraces, wetland restoration, wetland scrapes, lazy gates, rock wiers, cattle mounds, critical area seeding, rock lined waterway, willow matt projects, willow fascenes projects, stream meander repairs, ditch plugs, tile breaks, rock chutes, cattle water access, water tanks for grazers, and stream barbs.

Farmers may enroll in the Conservation Reserve Enhancement Program (CREP) or similar programs to establish vegetated buffers on cropland and marginal pastures. As of March 1, 2005, farmers enrolled in CREP in the counties of Dane, Green, Iowa and Lafayette maintain 1726.3, 747.2, 1340.8, and 2530.0 acres, respectively, as grass and forest riparian buffers (CREP report as of 03-01-05). Riparian buffers assist in making CREP a viable program for these impaired streams. For example, in Lafayette county, assuming an approximate buffer of 120 feet on both sides of the stream, at least 12% of the streams are buffered (this would assume all streams are on cropland, so the estimate is most likely lower than the actual amount). In addition, grass seeding is being implemented on sloped fields within 1,000 feet of the streams. The number of acres of grass seeding is as follows: Dane, 388, Green, 327, Iowa, 3323, and Lafayette, 3976. Another program available to farmers is the Conservation Reserve Program, which takes highly erodible lands out of agricultural use.

The Environmental Quality Incentives Program (EQIP) is another option available to farmers. EQIP is a federal cost-share program administered by the NRCS that provides farmers with technical and financial assistance. Farmers may receive up to 75% reimbursement for installing and implementing run-off management practices. Examples below provide information such as the amount of money invested in EQIP and what types of practices are being implemented.

Green County used $90,000.00 in EQIP last year. In 2005, they have $121,000.00 in EQIP grants to use, with only $60,000.00 allocated thus far. EQIP practices implemented in Green County include: grassed waterways, stream bank assessment and improvement, well abandonment, roof runoff collection, lined waterway diversions, and critical area stabilization. Green County has also received $100,000.00 for two manure storage structures in 2005. Dane County spent $108,000.00 in EQIP in the 2004 fiscal year. Most of EQIP in Dane County is contributed to nutrient management and planning cost sharing. Lafayette County averages $200,000.00 in EQIP funds per year. EQIP practices implemented in Lafayette County include: barnyard runoff control systems, grade stabilization and structures, diverted waterways, stream bank improvement (riprap, shading, and seeding), cattle crossings, and well abandonment.

Another program to be mentioned is the Wildlife Habitat Incentives Program (WHIP). WHIP is a voluntary program through the Natural Resources Conservation Service that provides technical and cost-share assistance primarily on private lands. Dane County is one of the counties in the Sugar-Pecatonica River Basin that uses WHIP funds to protect stream banks and implement habitat restoration.

Counties in the watersheds may also apply to the Targeted Runoff Management (TRM) grant program through the WDNR. The TRM program is a competitive grant program that provides financial assistance to control polluted runoff from both rural and urban sites. The grant period is two years, and the maximum cost-share rate is 70% of eligible costs. TRM grants given since 2004 are:

Year	Name of Grant	Grant No.	Amount Rewarded
2004	German Valley South	SP05-13000-04B	$133,000.00
2005-06	Pleasant Valley (Gordon Creek)	SP05-13000-05A	$212,500.00
2005-06	German Valley North	SP05-13000-05B	$201,250.00

Annually, all of these counties receive funding from the Department of Agriculture, Trade and Consumer Protection (DATCP) to implement their Land and Water Resources Management Plans. Impaired waters are a priority in each of the county plans.

In addition to the assurances listed above, based on agricultural cropping trends in these watersheds, the typical dairy rotation consisting of corn/alfalfa is being replaced by corn-soybean cash crop rotations on NRCS classified A-slopes (0-4%) and B-slopes (5-8%). This trend in cash cropping is anticipated to continue and Wisconsin agricultural statistics continue to show a decline in the small dairy operations that at one time dominated this region of the state. To simulate this shift in agricultural land use, all dairy rotations on A and B slopes were simulate with a two-year corn and soybean rotation under no-till and conservation tillage practices. Based on these assumptions, and assuming no change in CRP enrollment or other conservation efforts, the trend for the watersheds is a continued reduction in sediment loads. Table 5 summarizes these results.

Table 5. Summary of Existing Conditions and Future Predictions of Sediment Loads of Impaired Streams.

Summary of Sediment Loads by Watershed

Watershed		***Existing Conditons***		***Future Conditions***		***%***
Name	***acres***	***tons/acre***	***tons***	***tons/acre***	***tons***	***change***
Apple Branch	2138	1.11	2369	0.83	1774	-25%
Argus School Branch	1327	0.91	1209	0.84	1113	-8%
Braezels Branch	4047	0.79	3200	0.68	2767	-14%
Buckskin School Branch	4466	0.9	4007	0.8	3564	-11%
Burgy Creek	16127	1.23	19889	0.81	13127	-34%
Cherry Branch	5887	1.3	7653	0.93	5482	-28%
Dodge Branch 111*	43435	0.96	41486	0.88	38104	-8%
Dodge Branch 113*	16576	1.31	21740	1.22	20216	-7%
Dougherty Creek	2000	1.02	2030	0.82	1650	-20%
German Valley Branch	6495	1.03	6694	0.8	5181	-23%
Henry Creek	464	1.08	503	0.57	267	-47%
Jockey Hollow Creek	1830	1.23	2256	0.98	1802	-20%
Legler School Branch	2581	1.07	2764	0.98	2520	-9%
Pioneer Valley Creek	2140	0.68	1450	0.6	1293	-11%
Pleasant Valley Branch	5702	0.93	5316	0.76	4343	-18%
Prairie Brook	1933	1.87	3624	1.46	2820	-22%
Searles Creek	12721	1.41	17916	0.76	9727	-46%
Silver School Branch	3358	1.54	5172	1.12	3772	-27%
Silver Spring Creek	4330	1.12	4870	0.88	3800	-22%
Spring Creek	11096	1.45	16082	0.8	8888	-45%
Syftestad Creek	3770	0.9	3403	0.77	2893	-15%
Twin Grove Branch	4759	1.23	5865	0.63	2983	-49%

*Dodge Branch 111 includes the entire Dodge Branch Watershed. Dodge Branch 113 includes sections 112 and 113.

Public Participation

These TMDLs were subject to review for 30 days from May 3, 2005 through June 3, 2005. On May 3, 2005 a news release was sent to over 800 entities including: newspapers, television stations, radio stations, interest groups, and interested individuals. The news release indicated the public comment period and how to obtain copies of the public notice and draft TMDL. The news release, public notice and draft TMDL were also placed on the Wisconsin DNR's website. In addition, hard copies of the public notice and the draft TMDL were sent to: Cottonwood Dairy LLC on Cherry Branch, Hollandale Wastewater Treatment Facility on Dodge Branch, Dodgeville Wastewater Treatment Facility (also on Dodge Branch) and county conservationists in all four counties represented in these TMDLs. One written comment was received. Two verbal comments were received to verify TMDL procedures on some of the streams.

Monitoring

The WDNR intends to monitor selected streams in the Sugar-Pecatonica Basin based on the rate of implementation of the TMDLs, including sites such as German Valley and Pleasant Valley Creeks where implementation of Targeted Restoration Management (TRM) grants are aimed at removing these streams from the impaired waters list. Monitoring will continue until it is deemed that the stream has responded to the point where it is meeting its codified use or until funding for these studies is discontinued. In addition, selected streams will be monitored on a 5 to 6 year interval as part of a baseline monitoring strategy to assess temporary conditions and note trends in overall stream quality. The monitoring will consist of metrics contained in the WDNR's baseline protocol for wadeable streams, such as the Index of Biological Integrity (IBI), the current habitat assessment tool, and water quality parameters at a subset of sites.

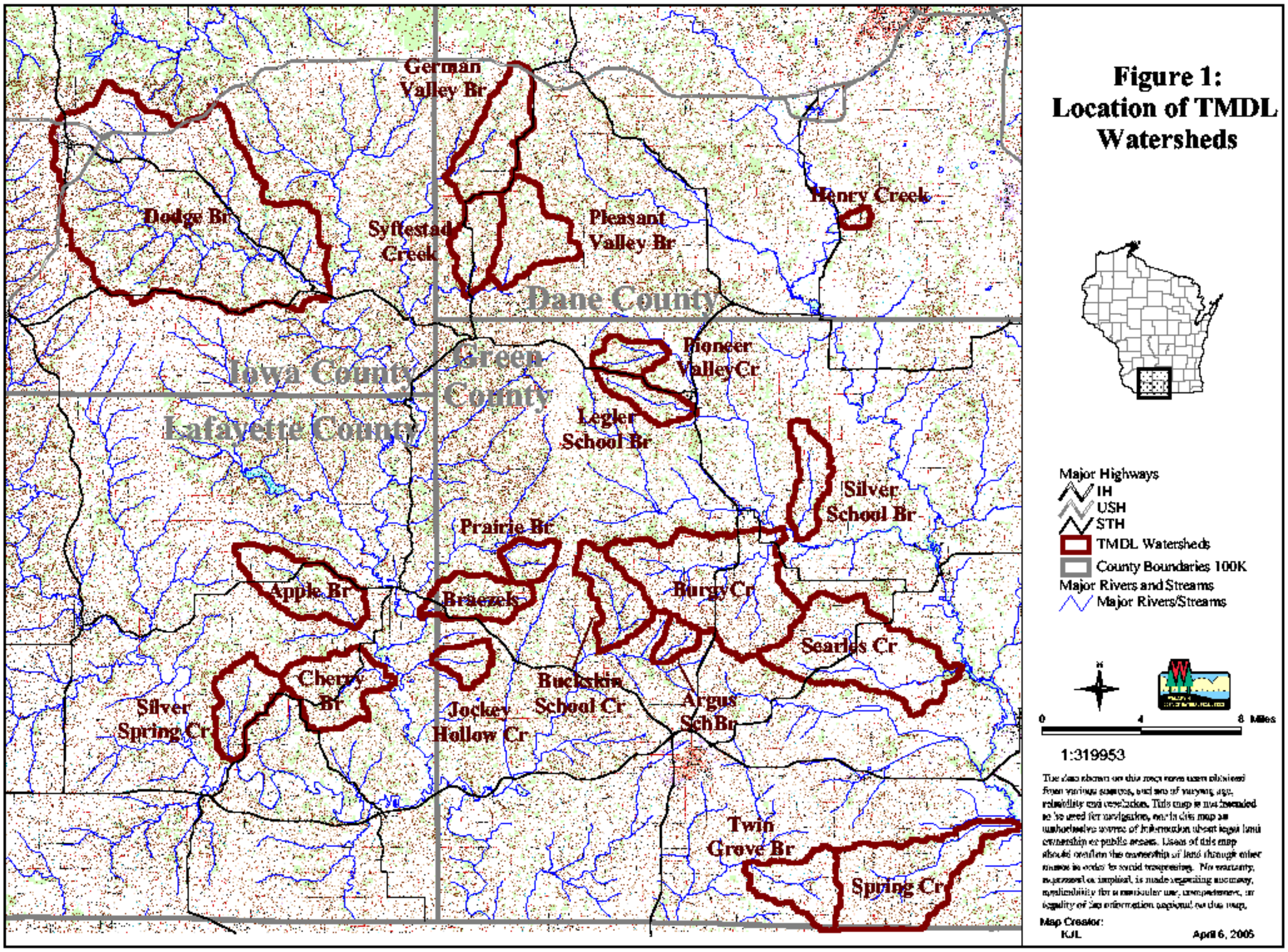
APPENDIX A

Table A1. Existing and potential uses of sediment impaired streams in the Sugar-Pecatonica River Watershed.

Stream	Watershed	County	Existing Use	Potential Use	Codified Use	Stream Length	Impaired Miles
Apple Branch	Lower East Pecatonica	Lafayette	WWFF	Cold	Default-[WWFF]	7	4-6.8
Argus School Branch	Jordan/Skinner Creek	Green	WWFF	Cold	Default-[Cold]	2	0-2
Braezels Branch	Lower East Pecatonica	Green/Lafayette	WWFF	Cold	Default-[Cold]	7	0-4
Buckskin School Branch	Jordan/Skinner Creek	Green	WWFF	Cold	Default-[Cold]	6	0-6
Burgy Creek	Little Sugar River	Green	WWFF	Cold	Cold	10	0-10
Cherry Branch	Lower East Pecatonica	Lafayette	WWFF	Cold	Default-[WWFF]	7	0-5.8
Dodge Branch (1)	Upper East Pecatonica	Iowa	Various	Various	Default-[WWSF]	22	0-9.7
Dodge Branch (2)	Upper East Pecatonica	Iowa	Various	Various	Cold	22	9.7-16.9
Dodge Branch (3)	Upper East Pecatonica	Iowa	Various	Various	Default-[WWSF]	22	16.9-21.3
Dodge Branch (4)	Upper East Pecatonica	Iowa	WWFF	WWFF	LFF	22	21.3-22
Dougherty Creek	Lower East Pecatonica	Green	LFF	WWFF	Default-[LFF]	17	14.6-16.6
German Valley Branch	Gordon Creek	Dane	WWFF	Cold	Default-[Cold]	7	0-7
Henry Creek	Upper Sugar River	Dane	WWFF	Cold	Default-[Cold]	1	0-1
Jockey Hollow Creek	Lower East Pecatonica	Green/Lafayette	LFF	WWFF	Default-[WWFF]	2	0-2.4
Legler School Branch	Little Sugar River	Green	LFF	WWFF	Default-[WWFF]	9	0-9
Pioneer Valley Creek	Little Sugar River	Green	LFF	WWFF	Default-[WWFF]	5	0-5
Pleasant Valley Branch	Gordon Creek	Dane	WWFF	Cold	Default-[Cold]	5	0-5
Prairie Brook	Lower East Pecatonica	Green	Cold III	Cold	Default-[Cold]	2	2
Searles Creek	Lower-Middle Sugar River	Green	WWFF	WWSF	Default-[WWFF]	9	0-9
Silver School Branch	Little Sugar River	Green	WWFF	Cold	Default-[WWFF]	3	0-3
Silver Spring Creek	Lower Pecatonica River	Lafayette	WWFF	Cold	Default-[WWFF]	5	0-5
Spring Creek	Lower Sugar River	Green	WWFF	WWSF	Default-[WWFF]	10	0-10
Syftestad Creek	Gordon Creek	Dane	WWFF	Cold	Default-[Cold]	5	0-5
Twin Grove Branch	Honey/Richland Creek	Green	WWFF	WWSF	Default-[WWFF]	6	0-6

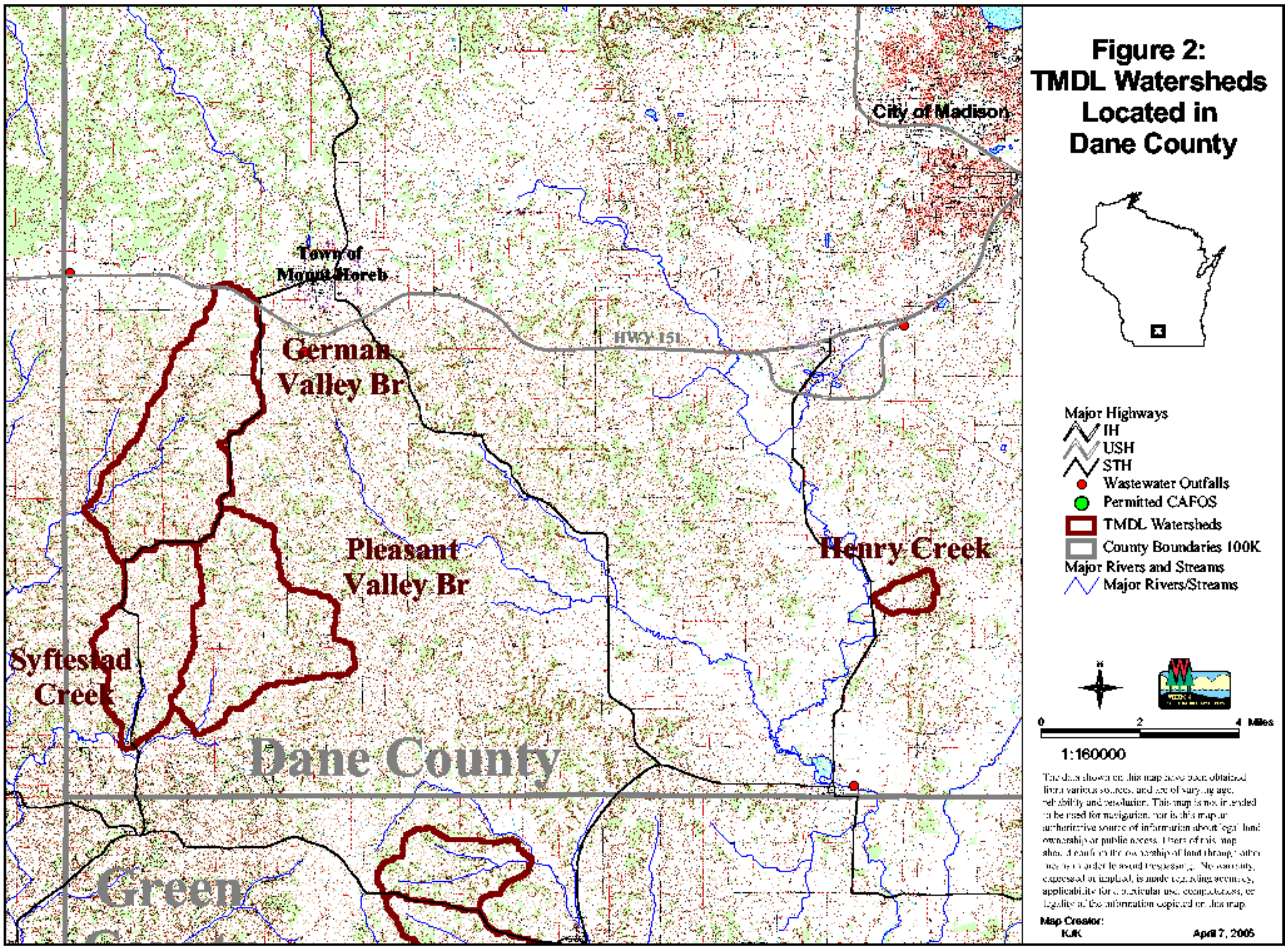
APPENDIX A

Figure A1. Map of the Sugar-Pecatonica River Basin; Impaired streams watersheds are highlighted in red.



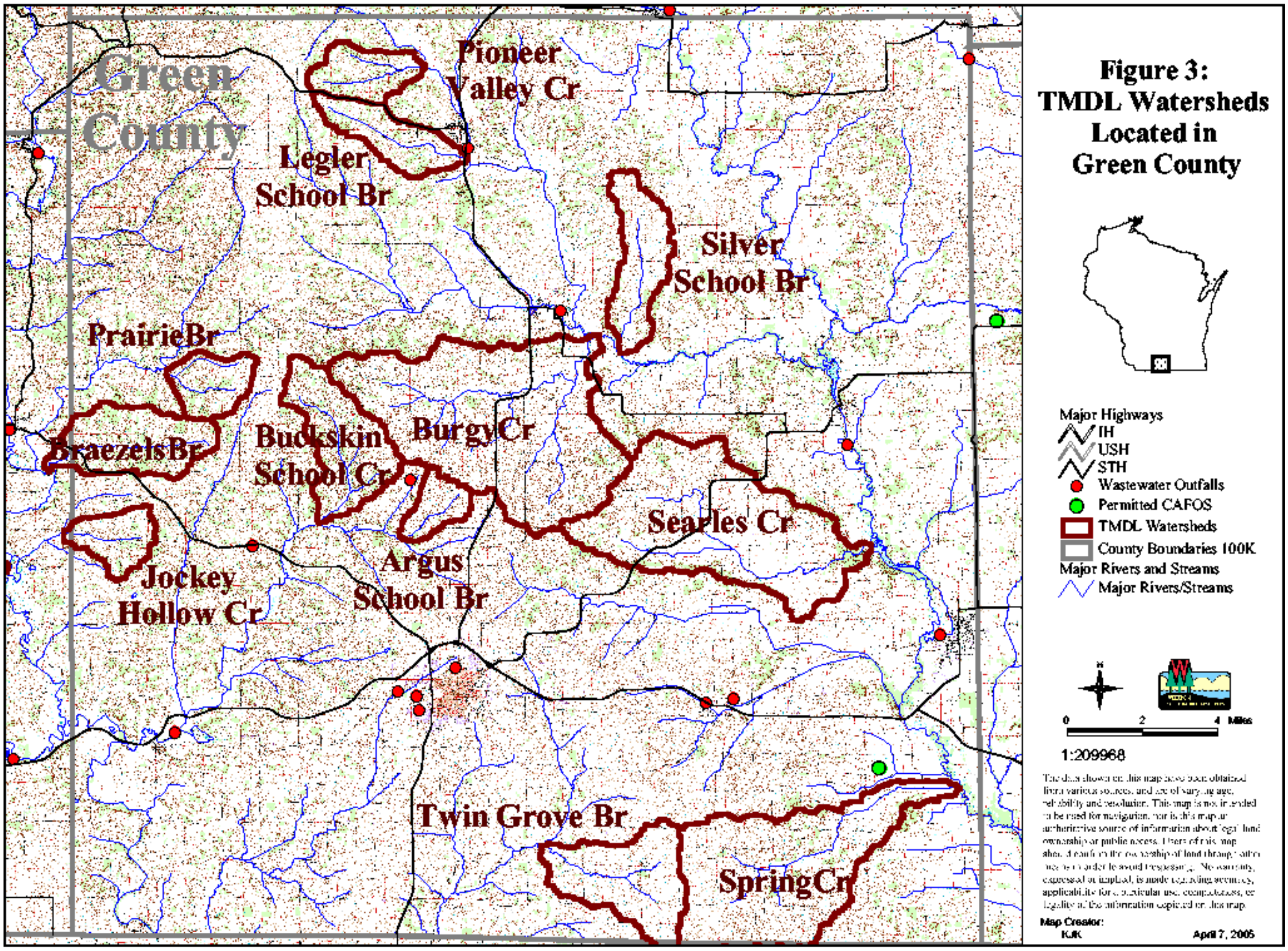
APPENDIX A

Figure A2. Map of TMDL Watersheds Located in Dane County



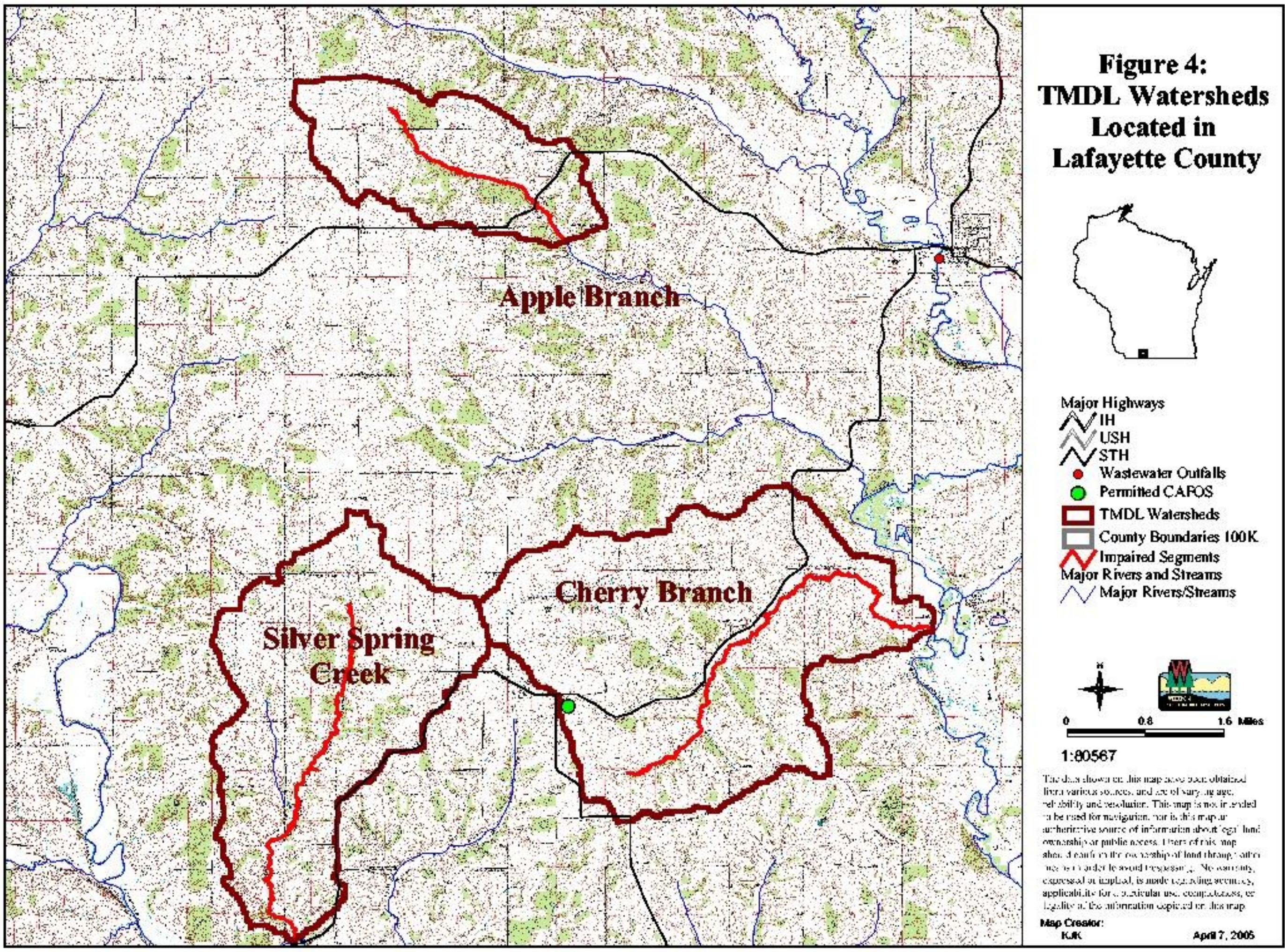
APPENDIX A

Figure A3. Map of TMDL Watersheds Located in Green County



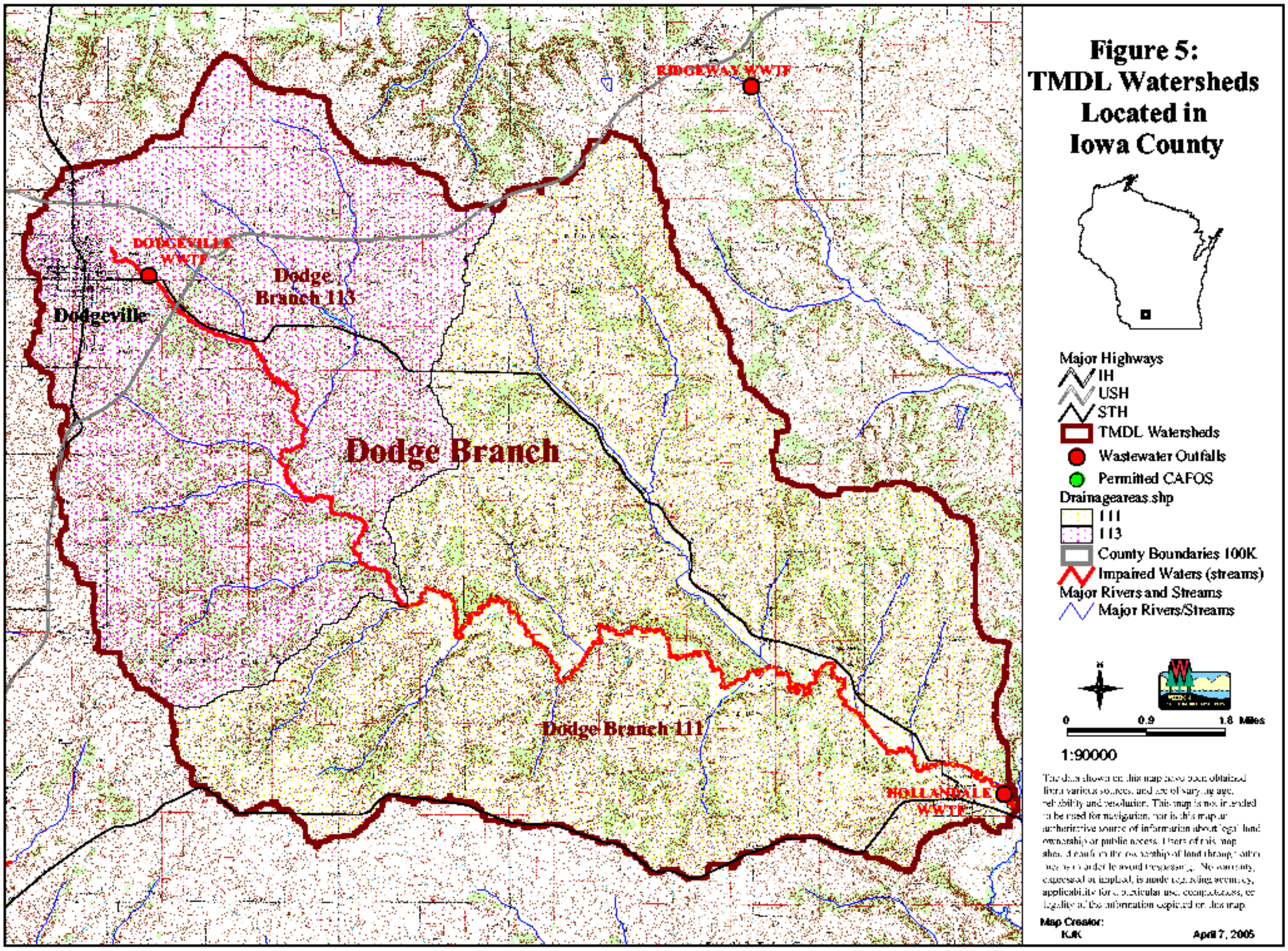
APPENDIX A

Figure A4. Map of TMDL Watersheds Located in Lafayette County.



APPENDIX A

Figure A5. TMDL Watersheds Located in Iowa County



APPENDIX A

Table A2. Definitions of use classifications.

Definitions of use classifications: (from s. NR 102.04(3), Wis. Adm. Code)
COLD: Cold Water Communities; capable of supporting a community of cold water fish and other aquatic life. This classification includes all the streams referenced in *Wisconsin Trout Streams.* **Class I:** high-quality streams where populations are sustained by natural reproduction. **Class II:** streams with some natural reproduction but need stocking to maintain a desirable fishery. **Class III:** streams that sustain no natural reproduction and require annual stocking of legal-size fish for sport fishing.
WWSF: Warm Water Sport Fish Communities; capable of supporting a community of warm water sport fish or of serving as a spawning area for warm water sport fish.
WWFF: Warm Water Forage Fish Communities; capable of supporting an abundant diverse community of forage fish and other aquatic life.
LFF: Limited Forage Fish Communities; capable of supporting only a limited community of forage fish and aquatic life.
LAL: Limited aquatic life; capable of supporting only a limited community of aquatic life.

APPENDIX B

Table B1. provides a summary of the RUSLE2 management files and the resulting unit loads produced for each management file expressed in tons/acre/year.

TMDL Management File	Rotation	Soil	Slope	SL	Management File	Contouring	Strips	y t/ac/y	Contouring	Strips	y t/ac/y
PEC TMDL Rotation 1A	C2OH3	SL	2	200	TMDL Rotation1 Fall	a.	no	0.55	no	no	0.55
PEC TMDL Rotation 1B	C2OH3	SL	6	200	TMDL Rotation1 Spring	a.	no	1.5	b. .5% Abs	no	1.1
PEC TMDL Rotation 1C	C2OH3	SL	11	200	TMDL Rotation1 Spring	a.	no	2.9	b. .5% Abs	2 strip 0-3	1.3
PEC TMDL Rotation 1D	C2OH3	SL	14	150	TMDL Rotation1 Spring	a.	no	3.7	b. .5% Abs	2 strip 0-3	1.7
PEC TMDL Rotation 1E	C2OH3	SL	18	130	TMDL Rotation1 Spring	a.	no	4.7	b. .5% Abs	2 strip 0-3	2.2
PEC TMDL Rotation 2A	CS	SL	2	200	corn grain; Sfcult, soybean, wr, FC, twist, fcult z4	a.	no	2.2	no	no	2.2
PEC TMDL Rotation 2B	CS	SL	6	200	corn grain; Sfcult, soybean, wr, SC, st pt, fcult z4	a.	no	6.1	b. .5% Abs	no	4
PEC TMDL Rotation 2C	CS	SL	11	200	corn grain; Sfcult, soybean, wr, SC, st pt, fcult z4	a.	no	14	b. .5% Abs	no	8.3
PEC TMDL Rotation 2D	CS	SL	14	150	corn grain; Sfcult, soybean, wr, SC, st pt, fcult z4	a.	no	16	b. .5% Abs	no	11
PEC TMDL Rotation 2E	CS	SL	18	130	corn grain; Sfcult, soybean, wr, SC, st pt, fcult z4	a.	no	21	b. .5% Abs	no	15
PEC TMDL Rotation 3A	CC	SL	2	200	corn grain;FC, st pt, disk, 120 bu z4	a.	no	1.2	no	no	1.2
PEC TMDL Rotation 3B	CC	SL	6	200	corn grain;SC, st pt, disk, 120 bu z4	a.	no	4.1	b. .5% Abs	no	2.8
PEC TMDL Rotation 3C	CC	SL	11	200	corn grain;SC, st pt, disk, 120 bu z4	a.	no	9	b. .5% Abs	no	5.6
PEC TMDL Rotation 3D	CC	SL	14	150	corn grain;SC, st pt, disk, 120 bu z4	a.	no	13	b. .5% Abs	no	7.8
PEC TMDL Rotation 3E	CC	SL	18	130	corn grain;SC, st pt, disk, 120 bu z4	a.	no	18	b. .5% Abs	no	11
PEC TMDL Rotation 4A	COH3	SL	2	200	TMDL Rotation4 Fall	a.	no	0.38	no	no	0.38
PEC TMDL Rotation 4B	COH3	SL	6	200	TMDL Rotation4 Spring	a.	no	0.79	b. .5% Abs	no	0.65
PEC TMDL Rotation 4C	COH3	SL	11	200	TMDL Rotation4 Spring	a.	no	1.7	b. .5% Abs	2 strip 0-3	1.3
PEC TMDL Rotation 4D	COH3	SL	14	150	TMDL Rotation4 Spring	a.	no	2.1	b. .5% Abs	2 strip 0-3	1.7
PEC TMDL Rotation 4E	COH3	SL	18	130	TMDL Rotation4 Spring	a.	no	2.9	b. .5% Abs	2 strip 0-3	2.3
PEC TMDL Rotation 5A	COH5	SL	2	200	TMDL Rotation5 Fall	a.	no	0.29	no	no	0.29
PEC TMDL Rotation 5B	COH5	SL	6	200	TMDL Rotation5 Spring	a.	no	0.84	b. .5% Abs	no	0.61
PEC TMDL Rotation 5C	COH5	SL	11	200	TMDL Rotation5 Spring	a.	no	1.5	b. .5% Abs	2 strip 0-3	0.89
PEC TMDL Rotation 5D	COH5	SL	14	150	TMDL Rotation5 Spring	a.	no	1.9	b. .5% Abs	2 strip 0-3	1.1
PEC TMDL Rotation 5E	COH5	SL	18	130	TMDL Rotation5 Spring	a.	no	2.5	b. .5% Abs	2 strip 0-3	1.5
PEC TMDL Rotation 6A	CSOH3	SL	2	200	TMDL Rotation6 Fall	a.	no	0.65	no	no	0.65
PEC TMDL Rotation 6B	CSOH3	SL	6	200	TMDL Rotation6 Spring	a.	no	1.7	b. .5% Abs	no	1.2
PEC TMDL Rotation 6C	CSOH3	SL	11	200	TMDL Rotation6 Spring	a.	no	3.8	b. .5% Abs	2 strip 0-3	1.6
PEC TMDL Rotation 6D	CSOH3	SL	14	150	TMDL Rotation6 Spring	a.	no	4.7	b. .5% Abs	2 strip 0-3	2
PEC TMDL Rotation 6E	CSOH3	SL	18	130	TMDL Rotation6 Spring	a.	no	6	b. .5% Abs	2 strip 0-3	2.7
PEC TMDL Rotation 7A	CS	SL	2	200	corn grain;NT Soybean, wr, NT z4	a.	no	0.42	no	no	0.42
PEC TMDL Rotation 7B	CS	SL	6	200	corn grain;NT Soybean, wr, NT z4	a.	no	0.96	b. .5% Abs	no	0.96
PEC TMDL Grazed Forest A	Forest	SL	2	200	Grazed forest	a.	no	3.1	no	no	3.1
PEC TMDL Grazed Forest B	Forest	SL	6	200	Grazed forest	a.	no	6.4	no	no	6.4
PEC TMDL Grazed Forest C/D/E	Forest	SL	11	200	Grazed forest, reduced grazing	a.	no	11	no	no	11
T value (T/ac/yr) = 3											

APPENDIX B

Table B2. Summary of Sediment Loads for German Valley Branch

Summary of Loads for German Valley Branch								
Land Use	***Pre-CRP***			***Existing Conditions***			***Future Conditions***	
	Unit Load	***Area***	***Load***	***Unit Load***	***Area***	***Load***	***Area***	***Load***
	(t/acre)	**(acres)**	**(t)**	**(t/acre)**	**(acres)**	**(t)**	**(acres)**	**(t)**
CRP A	0.10	0.0	0.0	0.10	178.1	17.8	178.1	17.8
Rotation 1A	0.55	479.9	264.0	0.55	479.9	264.0	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	144.6	318.0	0.0	0.0
Rotation 3A	1.20	535.3	642.3	1.20	212.6	255.1	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	317.1	31.7	317.1	31.7
Rotation 1B	1.50	1378.1	2067.2	1.10	837.7	921.5	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	223.3	893.1	0.0	0.0
Rotation 3B	4.10	126.1	516.9	2.80	126.1	353.0	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	0.0	0.0	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	219.5	21.9	219.5	21.9
Rotation 1C	2.90	895.0	2595.4	1.30	522.9	679.8	522.9	679.8
Rotation 2C	14.00	0.0	0.0	8.30	152.6	1266.2	152.6	1266.2
Rotation 3C	9.00	82.9	745.7	5.60	82.9	464.0	82.9	464.0
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	0.0	0.0	0.0	0.0
CRP D	0.10	0.0	0.0	0.10	108.3	10.8	108.3	10.8
Rotation 1D	3.70	305.8	1131.4	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	121.6	255.5	1.70	121.6	206.8	121.6	206.8
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	197.5	395.0	197.5	395.0
CRP E	0.10	0.0	0.0	0.10	117.9	11.8	117.9	11.8
Rotation 1E	4.70	117.9	554.0	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	191.5	478.7	1.50	191.5	287.2	191.5	287.2
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	177.9	551.5	0.14	177.9	24.9	177.9	24.9
Forest B	6.40	360.5	2307.1	0.14	360.5	50.5	360.5	50.5
ForestC/D/E	11.00	1580.7	17388.0	0.14	1580.7	221.3	1580.7	221.3
water	0.00	1.6	0.0	0.00	1.6	0.0	1.6	0.0
wetland	0.00	88.3	0.0	0.00	88.3	0.0	88.3	0.0
barren	0.00	51.6	0.0	0.00	51.6	0.0	51.6	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	837.1	351.6
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	1187.1	1139.6
Totals		6,494.6	**29,498**		6,494.6	**6,694**	6,494.6	**5,181**
Average Tons/Acre/Year			**4.54**			**1.03**		**0.80**
Note: Loads represent 100% sediment delivery coefficient.								

APPENDIX B

Table B3. Summary of Sediment Loads for Henry Creek

Summary of Loads for Henry Creek								
Land Use	Pre-CRP			Existing Conditions			Future Conditions	
	Unit Load (t/acre)	Area (acres)	Load (t)	Unit Load (t/acre)	Area (acres)	Load (t)	Area (acres)	Load (t)
CRP A	0.10	0.0	0.0	0.10	11.6	1.2	11.6	1.2
Rotation 1A	0.55	22.2	12.2	0.55	22.2	12.2	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	55.2	121.3	0.0	0.0
Rotation 3A	1.20	88.5	106.2	1.20	21.8	26.2	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	22.7	2.3	22.7	2.3
Rotation 1B	1.50	80.0	120.0	1.10	19.3	21.2	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	38.1	152.2	0.0	0.0
Rotation 3B	4.10	0.0	0.0	2.80	0.0	0.0	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	0.0	0.0	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	23.1	2.3	23.1	2.3
Rotation 1C	2.90	48.0	139.3	1.30	16.9	22.0	16.9	22.0
Rotation 2C	14.00	0.0	0.0	8.30	8.0	66.4	8.0	66.4
Rotation 3C	9.00	5.6	50.1	5.60	5.6	31.2	5.6	31.2
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	0.0	0.0	0.0	0.0
CRP D	0.10	0.0	0.0	0.10	8.5	0.8	8.5	0.8
Rotation 1D	3.70	18.5	68.3	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	0.0	0.0	1.70	0.0	0.0	0.0	0.0
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	10.0	20.0	10.0	20.0
CRP E	0.10	0.0	0.0	0.10	4.4	0.4	4.4	0.4
Rotation 1E	4.70	4.4	20.9	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	3.1	7.8	1.50	3.1	4.7	3.1	4.7
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	10.5	32.4	0.14	10.5	1.5	10.5	1.5
Forest B	6.40	19.1	122.4	0.14	19.1	2.7	19.1	2.7
ForestC/D/E	11.00	103.4	1137.5	0.14	103.4	14.5	103.4	14.5
water	0.00	0.0	0.0	0.00	0.0	0.0	0.0	0.0
wetland	0.00	44.3	0.0	0.00	44.3	0.0	44.3	0.0
barren	0.00	16.5	0.0	0.00	16.5	0.0	16.5	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	99.2	41.7
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	57.3	55.0
Totals		464.1	**1,817**		464.1	**503**	464.1	**267**
Average Tons/Acre/Year			**3.92**			**1.08**		**0.57**
Note: Loads represent 100% sediment delivery coefficient.								

APPENDIX B

Table B4. Summary of Sediment Loads for Pleasant Valley Branch.

Summary of Loads for Pleasant Valley Branch								
Land Use	***Pre-CRP***			***Existing Conditions***			***Future Conditions***	
	Unit Load	***Area***	***Load***	***Unit Load***	***Area***	***Load***	***Area***	***Load***
	(t/acre)	**(acres)**	**(t)**	**(t/acre)**	**(acres)**	**(t)**	**(acres)**	**(t)**
CRP A	0.10	0.0	0.0	0.10	206.8	20.7	206.8	20.7
Rotation 1A	0.55	322.2	177.2	0.55	322.2	177.2	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	110.7	243.6	0.0	0.0
Rotation 3A	1.20	399.9	479.8	1.20	82.3	98.7	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	410.1	41.0	410.1	41.0
Rotation 1B	1.50	1271.1	1906.7	1.10	690.7	759.8	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	170.3	681.4	0.0	0.0
Rotation 3B	4.10	30.3	124.1	2.80	30.3	84.8	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	0.0	0.0	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	383.6	38.4	383.6	38.4
Rotation 1C	2.90	1160.9	3366.7	1.30	650.1	845.1	650.1	845.1
Rotation 2C	14.00	0.0	0.0	8.30	127.2	1055.8	127.2	1055.8
Rotation 3C	9.00	18.8	169.6	5.60	18.8	105.5	18.8	105.5
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	0.0	0.0	0.0	0.0
CRP D	0.10	0.0	0.0	0.10	195.0	19.5	195.0	19.5
Rotation 1D	3.70	356.5	1319.0	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	173.7	364.7	1.70	173.7	295.3	173.7	295.3
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	161.5	322.9	161.5	322.9
CRP E	0.10	0.0	0.0	0.10	145.9	14.6	145.9	14.6
Rotation 1E	4.70	145.9	685.7	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	194.6	486.5	1.50	194.6	291.9	194.6	291.9
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	91.0	282.0	0.14	91.0	12.7	91.0	12.7
Forest B	6.40	239.5	1532.9	0.14	239.5	33.5	239.5	33.5
ForestC/D/E	11.00	1242.5	13667.2	0.14	1242.5	173.9	1242.5	173.9
water	0.00	4.4	0.0	0.00	4.4	0.0	4.4	0.0
wetland	0.00	15.1	0.0	0.00	15.1	0.0	15.1	0.0
barren	0.00	36.0	0.0	0.00	36.0	0.0	36.0	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	515.3	216.4
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	891.3	855.7
Totals		5,702.4	**24,562**		5,702.4	**5,316**	5,702.4	**4,343**
Average Tons/Acre/Year			**4.31**			**0.93**		**0.76**
Note: Loads represent 100% sediment delivery coefficient.								

APPENDIX B

Table B5. Summary of Sediment Loads for Syftestad Creek

Summary of Loads for Syftestad Creek								
Land Use	***Pre-CRP***			***Existing Conditions***			***Future Conditions***	
	Unit Load	***Area***	***Load***	***Unit Load***	***Area***	***Load***	***Area***	***Load***
	(t/acre)	**(acres)**	**(t)**	**(t/acre)**	**(acres)**	**(t)**	**(acres)**	**(t)**
CRP A	0.10	0.0	0.0	0.10	101.9	10.2	101.9	10.2
Rotation 1A	0.55	221.4	121.8	0.55	221.4	121.8	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	72.9	160.5	0.0	0.0
Rotation 3A	1.20	176.2	211.4	1.20	1.4	1.7	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	198.6	19.9	198.6	19.9
Rotation 1B	1.50	760.6	1140.8	1.10	468.1	514.9	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	93.8	375.4	0.0	0.0
Rotation 3B	4.10	0.0	0.0	2.80	0.0	0.0	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	0.0	0.0	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	238.6	23.9	238.6	23.9
Rotation 1C	2.90	830.2	2407.5	1.30	508.4	660.9	508.4	660.9
Rotation 2C	14.00	0.0	0.0	8.30	83.2	690.3	83.2	690.3
Rotation 3C	9.00	0.0	0.0	5.60	0.0	0.0	0.0	0.0
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	0.0	0.0	0.0	0.0
CRP D	0.10	0.0	0.0	0.10	141.4	14.1	141.4	14.1
Rotation 1D	3.70	224.2	829.4	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	159.0	333.9	1.70	159.0	270.3	159.0	270.3
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	82.7	165.5	82.7	165.5
CRP E	0.10	0.0	0.0	0.10	79.6	8.0	79.6	8.0
Rotation 1E	4.70	79.6	374.2	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	137.9	344.7	1.50	137.9	206.8	137.9	206.8
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	74.1	229.6	0.14	74.1	10.4	74.1	10.4
Forest B	6.40	179.2	1147.2	0.14	179.2	25.1	179.2	25.1
ForestC/D/E	11.00	884.2	9726.3	0.14	884.2	123.8	884.2	123.8
water	0.00	4.0	0.0	0.00	4.0	0.0	4.0	0.0
wetland	0.00	27.1	0.0	0.00	27.1	0.0	27.1	0.0
barren	0.00	12.2	0.0	0.00	12.2	0.0	12.2	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	295.8	124.2
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	562.0	539.5
Totals		3,769.9	**16,867**		3,769.9	**3,403**	3,769.9	**2,893**
Average Tons/Acre/Year			**4.47**			**0.90**		**0.77**
Note: Loads represent 100% sediment delivery coefficient.								

APPENDIX B

Table B6. Summary of Sediment Loads for Argus School Branch.

Summary of Loads for Argus School Branch									
Land Use	***Pre-CRP***			***Existing Conditions***			***Future Conditions***		
	Unit Load	***Area***	***Load***	***Unit Load***	***Area***	***Load***	***Area***	***Load***	
	(t/acre)	**(acres)**	**(t)**	**(t/acre)**	**(acres)**	**(t)**	**(acres)**	**(t)**	
CRP A	0.10	0.0	0.0	0.10	64.3	6.4	64.3	6.4	
Rotation 1A	0.55	134.9	74.2	0.55	134.9	74.2	0.0	0.0	
Rotation 2A	2.20	0.0	0.0	2.20	13.8	30.3	0.0	0.0	
Rotation 3A	1.20	93.1	111.7	1.20	15.0	18.0	0.0	0.0	
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0	
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0	
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0	
CRP B	0.10	0.0	0.0	0.10	160.1	16.0	160.1	16.0	
Rotation 1B	1.50	463.2	694.8	1.10	303.1	333.4	0.0	0.0	
Rotation 2B	6.10	0.0	0.0	4.00	0.0	0.0	0.0	0.0	
Rotation 3B	4.10	0.0	0.0	2.80	0.0	0.0	0.0	0.0	
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0	
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0	
Rotation 6B	1.70	0.0	0.0	1.20	0.0	0.0	0.0	0.0	
CRP C	0.10	0.0	0.0	0.10	130.1	13.0	130.1	13.0	
Rotation 1C	2.90	164.3	476.6	1.30	0.0	0.0	0.0	0.0	
Rotation 2C	14.00	0.0	0.0	8.30	34.2	284.3	34.2	284.3	
Rotation 3C	9.00	0.0	0.0	5.60	0.0	0.0	0.0	0.0	
Rotation 4C	1.70	229.5	390.2	1.30	229.5	298.4	229.5	298.4	
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0	
Rotation 6C	3.80	0.0	0.0	1.60	0.0	0.0	0.0	0.0	
CRP D	0.10	0.0	0.0	0.10	30.0	3.0	30.0	3.0	
Rotation 1D	3.70	83.6	309.4	1.70	0.0	0.0	0.0	0.0	
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0	
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0	
Rotation 4D	2.10	0.0	0.0	1.70	0.0	0.0	0.0	0.0	
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0	
Rotation 6D	4.70	0.0	0.0	2.00	53.6	107.2	53.6	107.2	
CRP E	0.10	0.0	0.0	0.10	1.3	0.1	1.3	0.1	
Rotation 1E	4.70	1.3	6.3	2.20	0.0	0.0	0.0	0.0	
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0	
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0	
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0	
Rotation 5E	2.50	2.7	6.7	1.50	2.7	4.0	2.7	4.0	
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0	
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0	
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0	
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0	
Forest A	3.10	21.6	66.9	0.14	21.6	3.0	21.6	3.0	
Forest B	6.40	50.3	321.7	0.14	50.3	7.0	50.3	7.0	
ForestC/D/E	11.00	79.2	870.9	0.14	79.2	11.1	79.2	11.1	
water	0.00	0.2	0.0	0.00	0.2	0.0	0.2	0.0	
wetland	0.00	0.0	0.0	0.00	0.0	0.0	0.0	0.0	
barren	0.00	2.7	0.0	0.00	2.7	0.0	2.7	0.0	
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	163.7	68.7	
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	303.1	291.0	
Totals		1,326.5	**3,329**		1,326.5	**1,209**	1,326.5	**1,113**	
Average Tons/Acre/Year			**2.51**			**0.91**		**0.84**	
Note: Loads represent 100% sediment delivery coefficient.									

APPENDIX B

Table B7. Summary of Sediment Loads for Braezels Branch.

Summary of Loads for Braezels Branch								
Land Use	***Pre-CRP***			***Existing Conditions***			***Future Conditions***	
	Unit Load	***Area***	***Load***	***Unit Load***	***Area***	***Load***	***Area***	***Load***
	(t/acre)	**(acres)**	**(t)**	**(t/acre)**	**(acres)**	**(t)**	**(acres)**	**(t)**
CRP A	0.10	0.0	0.0	0.10	119.6	12.0	119.6	12.0
Rotation 1A	0.55	302.7	166.5	0.55	302.7	166.5	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	56.9	125.2	0.0	0.0
Rotation 3A	1.20	217.1	260.5	1.20	40.5	48.6	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	167.9	16.8	167.9	16.8
Rotation 1B	1.50	687.4	1031.1	1.10	465.7	512.3	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	53.8	215.3	0.0	0.0
Rotation 3B	4.10	17.3	71.0	2.80	17.3	48.5	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	0.0	0.0	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	226.6	22.7	226.6	22.7
Rotation 1C	2.90	807.0	2340.3	1.30	526.6	684.5	526.6	684.5
Rotation 2C	14.00	0.0	0.0	8.30	53.8	446.7	53.8	446.7
Rotation 3C	9.00	0.0	0.4	5.60	0.0	0.2	0.0	0.2
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	0.0	0.0	0.0	0.0
CRP D	0.10	0.0	0.0	0.10	183.5	18.3	183.5	18.3
Rotation 1D	3.70	266.2	984.9	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	246.8	518.4	1.70	246.8	419.6	246.8	419.6
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	82.7	165.5	82.7	165.5
CRP E	0.10	0.0	0.0	0.10	58.9	5.9	58.9	5.9
Rotation 1E	4.70	58.9	277.0	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	73.4	183.5	1.50	73.4	110.1	73.4	110.1
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	150.8	467.4	0.14	150.8	21.1	150.8	21.1
Forest B	6.40	256.2	1639.6	0.14	256.2	35.9	256.2	35.9
ForestC/D/E	11.00	889.5	9785.0	0.14	889.5	124.5	889.5	124.5
water	0.00	4.0	0.0	0.00	4.0	0.0	4.0	0.0
wetland	0.00	54.7	0.0	0.00	54.7	0.0	54.7	0.0
barren	0.00	15.1	0.0	0.00	15.1	0.0	15.1	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	400.1	168.0
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	536.8	515.4
Totals		4,047.2	**17,726**		4,047.2	**3,200**	4,047.2	**2,767**
Average Tons/Acre/Year			**4.38**			**0.79**		**0.68**
Note: Loads represent 100% sediment delivery coefficient.								

APPENDIX B

Table B8. Summary of Sediment Loads for Buckskin School Branch.

Summary of Loads for Buckskin School Creek								
Land Use	***Pre-CRP***			***Existing Conditions***			***Future Conditions***	
	Unit Load	***Area***	***Load***	***Unit Load***	***Area***	***Load***	***Area***	***Load***
	(t/acre)	**(acres)**	**(t)**	**(t/acre)**	**(acres)**	**(t)**	**(acres)**	**(t)**
CRP A	0.10	0.0	0.0	0.10	131.4	13.1	131.4	13.1
Rotation 1A	0.55	331.7	182.4	0.55	331.7	182.4	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	37.4	82.2	0.0	0.0
Rotation 3A	1.20	222.7	267.2	1.20	53.9	64.7	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	235.7	23.6	235.7	23.6
Rotation 1B	1.50	896.7	1345.0	1.10	597.3	657.1	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	63.6	254.4	0.0	0.0
Rotation 3B	4.10	7.6	31.0	2.80	7.6	21.2	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	0.0	0.0	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	302.4	30.2	302.4	30.2
Rotation 1C	2.90	1054.8	3058.9	1.30	695.9	904.6	695.9	904.6
Rotation 2C	14.00	0.0	0.0	8.30	56.5	468.8	56.5	468.8
Rotation 3C	9.00	0.0	0.0	5.60	0.0	0.0	0.0	0.0
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	0.0	0.0	0.0	0.0
CRP D	0.10	0.0	0.0	0.10	181.9	18.2	181.9	18.2
Rotation 1D	3.70	302.0	1117.4	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	365.6	767.8	1.70	365.6	621.5	365.6	621.5
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	120.1	240.2	120.1	240.2
CRP E	0.10	0.0	0.0	0.10	68.9	6.9	68.9	6.9
Rotation 1E	4.70	68.9	324.0	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	184.8	462.0	1.50	184.8	277.2	184.8	277.2
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	83.6	259.2	0.14	83.6	11.7	83.6	11.7
Forest B	6.40	152.1	973.5	0.14	152.1	21.3	152.1	21.3
ForestC/D/E	11.00	768.3	8451.8	0.14	768.3	107.6	768.3	107.6
water	0.00	2.2	0.0	0.00	2.2	0.0	2.2	0.0
wetland	0.00	10.2	0.0	0.00	10.2	0.0	10.2	0.0
barren	0.00	14.9	0.0	0.00	14.9	0.0	14.9	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	423.0	177.7
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	668.5	641.8
Totals		4,466.2	**17,240**		4,466.2	**4,007**	4,466.2	**3,564**
Average Tons/Acre/Year			**3.86**			**0.90**		**0.80**
Note: Loads represent 100% sediment delivery coefficient.								

APPENDIX B

Table B9. Summary of Sediment Loads for Burgy Creek.

Summary of Loads for Burgy Creek								
Land Use	***Pre-CRP***			***Existing Conditions***			***Future Conditions***	
	Unit Load	***Area***	***Load***	***Unit Load***	***Area***	***Load***	***Area***	***Load***
	(t/acre)	**(acres)**	**(t)**	**(t/acre)**	**(acres)**	**(t)**	**(acres)**	**(t)**
CRP A	0.10	0.0	0.0	0.10	488.8	48.9	488.8	48.9
Rotation 1A	0.55	1643.8	904.1	0.55	1643.8	904.1	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	951.8	2094.0	0.0	0.0
Rotation 3A	1.20	3403.5	4084.2	1.20	1962.9	2355.5	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	656.7	65.7	656.7	65.7
Rotation 1B	1.50	3505.2	5257.8	1.10	2394.4	2633.8	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	454.1	1816.5	0.0	0.0
Rotation 3B	4.10	873.6	3581.8	2.80	873.6	2446.1	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	0.0	0.0	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	651.4	65.1	651.4	65.1
Rotation 1C	2.90	2754.8	7989.0	1.30	1882.4	2447.1	1882.4	2447.1
Rotation 2C	14.00	0.0	0.0	8.30	221.1	1834.7	221.1	1834.7
Rotation 3C	9.00	222.5	2002.4	5.60	222.5	1245.9	222.5	1245.9
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	0.0	0.0	0.0	0.0
CRP D	0.10	0.0	0.0	0.10	258.9	25.9	258.9	25.9
Rotation 1D	3.70	483.0	1787.2	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	512.4	1076.0	1.70	512.4	871.0	512.4	871.0
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	224.2	448.3	224.2	448.3
CRP E	0.10	0.0	0.0	0.10	82.5	8.3	82.5	8.3
Rotation 1E	4.70	82.5	387.8	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	198.6	496.5	1.50	198.6	297.9	198.6	297.9
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	317.8	985.2	0.14	317.8	44.5	317.8	44.5
Forest B	6.40	591.5	3785.9	0.14	591.5	82.8	591.5	82.8
ForestC/D/E	11.00	1095.3	12047.8	0.14	1095.3	153.3	1095.3	153.3
water	0.00	14.5	0.0	0.00	14.5	0.0	14.5	0.0
wetland	0.00	360.7	0.0	0.00	360.7	0.0	360.7	0.0
barren	0.00	67.6	0.0	0.00	67.6	0.0	67.6	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	4558.5	1914.6
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	3722.1	3573.2
Totals		16,127.3	**44,386**		16,127.3	**19,889**	16,127.3	**13,127**
Average Tons/Acre/Year			**2.75**			**1.23**		**0.81**
Note: Loads represent 100% sediment delivery coefficient.								

APPENDIX B

Table B10. Summary of Sediment Loads for Dougherty Creek.

Summary of Loads for Dougherty Creek								
Land Use	***Pre-CRP***			***Existing Conditions***			***Future Conditions***	
	Unit Load **(t/acre)**	***Area*** **(acres)**	***Load*** **(t)**	***Unit Load*** **(t/acre)**	***Area*** **(acres)**	***Load*** **(t)**	***Area*** **(acres)**	***Load*** **(t)**
CRP A	0.10	0.0	0.0	0.10	62.3	6.2	62.3	6.2
Rotation 1A	0.55	307.3	169.0	0.55	307.3	169.0	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	33.8	74.4	0.0	0.0
Rotation 3A	1.20	186.6	223.9	1.20	90.5	108.6	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	87.8	8.8	87.8	8.8
Rotation 1B	1.50	691.4	1037.1	1.10	560.4	616.5	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	43.1	172.6	0.0	0.0
Rotation 3B	4.10	0.0	0.0	2.80	0.0	0.0	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	0.0	0.0	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	73.8	7.4	73.8	7.4
Rotation 1C	2.90	423.9	1229.2	1.30	0.0	0.0	0.0	0.0
Rotation 2C	14.00	0.0	0.0	8.30	0.0	0.0	0.0	0.0
Rotation 3C	9.00	0.0	0.0	5.60	0.0	0.0	0.0	0.0
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	350.0	560.1	350.0	560.1
CRP D	0.10	0.0	0.0	0.10	32.9	3.3	32.9	3.3
Rotation 1D	3.70	144.6	534.8	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	0.0	0.0	1.70	0.0	0.0	0.0	0.0
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	111.6	223.3	111.6	223.3
CRP E	0.10	0.0	0.0	0.10	8.5	0.8	8.5	0.8
Rotation 1E	4.70	32.2	151.6	2.20	23.8	52.3	23.8	52.3
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	0.0	0.0	1.50	0.0	0.0	0.0	0.0
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	53.6	166.1	0.14	53.6	7.5	53.6	7.5
Forest B	6.40	69.8	446.9	0.14	69.8	9.8	69.8	9.8
ForestC/D/E	11.00	69.4	763.2	0.14	69.4	9.7	69.4	9.7
water	0.00	0.9	0.0	0.00	0.9	0.0	0.9	0.0
wetland	0.00	4.7	0.0	0.00	4.7	0.0	4.7	0.0
barren	0.00	15.6	0.0	0.00	15.6	0.0	15.6	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	431.7	181.3
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	603.6	579.4
Totals		1,999.9	**4,722**		1,999.9	**2,030**	1,999.9	**1,650**
Average Tons/Acre/Year			**2.36**			**1.02**		**0.82**

Note: Loads represent 100% sediment delivery coefficient.

APPENDIX B

Table B11. Summary of Sediment Loads for Jockey Hollow Creek.

Summary of Loads for Jockey Hollow Creek								
Land Use	***Pre-CRP***			***Existing Conditions***			***Future Conditions***	
	Unit Load	***Area***	***Load***	***Unit Load***	***Area***	***Load***	***Area***	***Load***
	(t/acre)	**(acres)**	**(t)**	**(t/acre)**	**(acres)**	**(t)**	**(acres)**	**(t)**
CRP A	0.10	0.0	0.0	0.10	35.6	3.6	35.6	3.6
Rotation 1A	0.55	95.2	52.3	0.55	95.2	52.3	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	56.5	124.3	0.0	0.0
Rotation 3A	1.20	120.1	144.1	1.20	28.0	33.7	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	97.4	9.7	97.4	9.7
Rotation 1B	1.50	437.3	655.9	1.10	252.3	277.5	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	87.6	350.5	0.0	0.0
Rotation 3B	4.10	9.3	37.9	2.80	9.3	25.9	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	0.0	0.0	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	111.9	11.2	111.9	11.2
Rotation 1C	2.90	470.7	1365.1	1.30	279.2	363.0	279.2	363.0
Rotation 2C	14.00	0.0	0.0	8.30	79.6	660.8	79.6	660.8
Rotation 3C	9.00	0.1	0.6	5.60	0.1	0.4	0.1	0.4
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	0.0	0.0	0.0	0.0
CRP D	0.10	0.0	0.0	0.10	54.0	5.4	54.0	5.4
Rotation 1D	3.70	112.8	417.2	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	62.5	131.2	1.70	62.5	106.2	62.5	106.2
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	58.7	117.4	58.7	117.4
CRP E	0.10	0.0	0.0	0.10	14.7	1.5	14.7	1.5
Rotation 1E	4.70	14.7	69.0	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	31.4	78.4	1.50	31.4	47.0	31.4	47.0
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	57.8	179.2	0.14	57.8	8.1	57.8	8.1
Forest B	6.40	131.7	842.6	0.14	131.7	18.4	131.7	18.4
ForestC/D/E	11.00	276.6	3043.1	0.14	276.6	38.7	276.6	38.7
water	0.00	1.8	0.0	0.00	1.8	0.0	1.8	0.0
wetland	0.00	0.0	0.0	0.00	0.0	0.0	0.0	0.0
barren	0.00	8.7	0.0	0.00	8.7	0.0	8.7	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	179.7	75.5
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	349.1	335.2
Totals		1,830.5	**7,017**		1,830.5	**2,256**	1,830.5	**1,802**
Average Tons/Acre/Year			**3.83**			**1.23**		**0.98**
Note: Loads represent 100% sediment delivery coefficient.								

APPENDIX B

Table B12. Summary of Sediment Loads for Legler School Branch.

Summary of Loads for Legler School Branch								
Land Use	***Pre-CRP***			***Existing Conditions***			***Future Conditions***	
	Unit Load	***Area***	***Load***	***Unit Load***	***Area***	***Load***	***Area***	***Load***
	(t/acre)	**(acres)**	**(t)**	**(t/acre)**	**(acres)**	**(t)**	**(acres)**	**(t)**
CRP A	0.10	0.0	0.0	0.10	35.1	3.5	35.1	3.5
Rotation 1A	0.55	189.7	104.3	0.55	189.7	104.3	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	49.8	109.6	0.0	0.0
Rotation 3A	1.20	126.3	151.5	1.20	41.3	49.6	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	86.3	8.6	86.3	8.6
Rotation 1B	1.50	494.4	741.5	1.10	0.0	0.0	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	0.0	0.0	0.0	0.0
Rotation 3B	4.10	0.0	0.0	2.80	0.0	0.0	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	408.1	489.7	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	112.8	11.3	112.8	11.3
Rotation 1C	2.90	565.8	1640.8	1.30	412.1	535.8	412.1	535.8
Rotation 2C	14.00	0.0	0.0	8.30	40.9	339.6	40.9	339.6
Rotation 3C	9.00	0.0	0.0	5.60	0.0	0.0	0.0	0.0
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	0.0	0.0	0.0	0.0
CRP D	0.10	0.0	0.0	0.10	50.5	5.0	50.5	5.0
Rotation 1D	3.70	90.5	334.9	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	114.8	241.0	1.70	114.8	195.1	114.8	195.1
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	40.0	80.1	40.0	80.1
CRP E	0.10	0.0	0.0	0.10	28.5	2.8	28.5	2.8
Rotation 1E	4.70	28.5	133.8	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	71.8	179.6	1.50	71.8	107.7	71.8	107.7
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	39.6	63.3	15.00	39.6	593.8	39.6	593.8
Low Urban	0.98	1.6	1.5	9.00	1.6	14.0	1.6	14.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	71.4	221.3	0.14	71.4	10.0	71.4	10.0
Forest B	6.40	176.6	1130.1	0.14	176.6	24.7	176.6	24.7
ForestC/D/E	11.00	561.3	6174.4	0.14	561.3	78.6	561.3	78.6
water	0.00	0.9	0.0	0.00	0.9	0.0	0.9	0.0
wetland	0.00	32.7	0.0	0.00	32.7	0.0	32.7	0.0
barren	0.00	15.3	0.0	0.00	15.3	0.0	15.3	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	280.9	118.0
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	408.1	391.8
Totals		2,581.1	**11,118**		2,581.1	**2,764**	2,581.1	**2,520**
Average Tons/Acre/Year			**4.31**			**1.07**		**0.98**
Note: Loads represent 100% sediment delivery coefficient.								

APPENDIX B

Table B13. Summary of Sediment Loads for Pioneer Valley Creek.

Summary of Loads for Pioneer Valley Creek								
	Pre-CRP			***Existing Conditions***			***Future Conditions***	
Land Use	***Unit Load*** **(t/acre)**	***Area*** **(acres)**	***Load*** **(t)**	***Unit Load*** **(t/acre)**	***Area*** **(acres)**	***Load*** **(t)**	***Area*** **(acres)**	***Load*** **(t)**
CRP A	0.10	0.0	0.0	0.10	49.4	4.9	49.4	4.9
Rotation 1A	0.55	173.1	95.2	0.55	173.1	95.2	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	8.9	19.6	0.0	0.0
Rotation 3A	1.20	130.9	157.1	1.20	72.6	87.1	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	69.4	6.9	69.4	6.9
Rotation 1B	1.50	329.1	493.7	1.10	0.0	0.0	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	0.0	0.0	0.0	0.0
Rotation 3B	4.10	0.0	0.0	2.80	0.0	0.0	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	259.7	311.7	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	72.9	7.3	72.9	7.3
Rotation 1C	2.90	335.4	972.5	1.30	0.0	0.0	0.0	0.0
Rotation 2C	14.00	0.0	0.0	8.30	0.0	0.0	0.0	0.0
Rotation 3C	9.00	0.0	0.0	5.60	0.0	0.0	0.0	0.0
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	262.4	419.9	262.4	419.9
CRP D	0.10	0.0	0.0	0.10	39.8	4.0	39.8	4.0
Rotation 1D	3.70	101.2	374.4	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	84.1	176.5	1.70	84.1	142.9	84.1	142.9
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	61.4	122.8	61.4	122.8
CRP E	0.10	0.0	0.0	0.10	39.8	4.0	39.8	4.0
Rotation 1E	4.70	39.8	187.1	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	70.9	177.4	1.50	70.9	106.4	70.9	106.4
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	62.9	195.1	0.14	62.9	8.8	62.9	8.8
Forest B	6.40	148.8	952.2	0.14	148.8	20.8	148.8	20.8
ForestC/D/E	11.00	629.4	6922.9	0.14	629.4	88.1	629.4	88.1
water	0.00	1.1	0.0	0.00	1.1	0.0	1.1	0.0
wetland	0.00	27.4	0.0	0.00	27.4	0.0	27.4	0.0
barren	0.00	6.2	0.0	0.00	6.2	0.0	6.2	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	254.6	106.9
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	259.7	249.4
Totals		2,140.3	**10,704**		2,140.3	**1,450**	2,140.3	**1,293**
Average Tons/Acre/Year			**5.00**			**0.68**		**0.60**
Note: Loads represent 100% sediment delivery coefficient.								

APPENDIX B

Table B14. Summary of Sediment Loads for Prairie Brook.

Summary of Loads for Prairie Brook Creek									
Land Use	***Pre-CRP***			***Existing Conditions***			***Future Conditions***		
	Unit Load	***Area***	***Load***	***Unit Load***	***Area***	***Load***	***Area***	***Load***	
	(t/acre)	**(acres)**	**(t)**	**(t/acre)**	**(acres)**	**(t)**	**(acres)**	**(t)**	
CRP A	0.10	0.0	0.0	0.10	6.7	0.7	6.7	0.7	
Rotation 1A	0.55	110.9	61.0	0.55	110.9	61.0	0.0	0.0	
Rotation 2A	2.20	0.0	0.0	2.20	50.7	111.5	0.0	0.0	
Rotation 3A	1.20	179.8	215.7	1.20	122.4	146.9	0.0	0.0	
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0	
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0	
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0	
CRP B	0.10	0.0	0.0	0.10	21.1	2.1	21.1	2.1	
Rotation 1B	1.50	339.1	508.6	1.10	255.2	280.8	0.0	0.0	
Rotation 2B	6.10	0.0	0.0	4.00	62.7	250.9	0.0	0.0	
Rotation 3B	4.10	205.3	841.8	2.80	205.3	574.9	0.0	0.0	
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0	
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0	
Rotation 6B	1.70	0.0	0.0	1.20	0.0	0.0	0.0	0.0	
CRP C	0.10	0.0	0.0	0.10	20.2	2.0	20.2	2.0	
Rotation 1C	2.90	219.2	635.6	1.30	165.1	214.7	165.1	214.7	
Rotation 2C	14.00	0.0	0.0	8.30	33.8	280.6	33.8	280.6	
Rotation 3C	9.00	200.0	1800.4	5.60	200.0	1120.2	200.0	1120.2	
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0	
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0	
Rotation 6C	3.80	0.0	0.0	1.60	0.0	0.0	0.0	0.0	
CRP D	0.10	0.0	0.0	0.10	8.7	0.9	8.7	0.9	
Rotation 1D	3.70	54.0	199.9	1.70	0.0	0.0	0.0	0.0	
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0	
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0	
Rotation 4D	2.10	157.7	331.1	1.70	157.7	268.0	157.7	268.0	
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0	
Rotation 6D	4.70	0.0	0.0	2.00	45.4	90.7	45.4	90.7	
CRP E	0.10	0.0	0.0	0.10	1.6	0.2	1.6	0.2	
Rotation 1E	4.70	1.6	7.3	2.20	0.0	0.0	0.0	0.0	
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0	
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0	
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0	
Rotation 5E	2.50	113.6	284.1	1.50	113.6	170.5	113.6	170.5	
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0	
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0	
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0	
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0	
Forest A	3.10	40.3	124.8	0.14	40.3	5.6	40.3	5.6	
Forest B	6.40	60.9	390.0	0.14	60.9	8.5	60.9	8.5	
ForestC/D/E	11.00	237.7	2615.0	0.14	237.7	33.3	237.7	33.3	
water	0.00	3.6	0.0	0.00	3.6	0.0	3.6	0.0	
wetland	0.00	0.0	0.0	0.00	0.0	0.0	0.0	0.0	
barren	0.00	9.8	0.0	0.00	9.8	0.0	9.8	0.0	
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	284.0	119.3	
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	523.3	502.3	
Totals		1,933.4	**8,015**		1,933.4	**3,624**	1,933.4	**2,820**	
Average Tons/Acre/Year			**4.15**			**1.87**		**1.46**	
Note: Loads represent 100% sediment delivery coefficient.									

APPENDIX B

Table B15. Summary of Sediment Loads for Searles Creek.

Summary of Loads for Searles Creek								
Land Use	***Pre-CRP***			***Existing Conditions***			***Future Conditions***	
	Unit Load (t/acre)	***Area*** (acres)	***Load*** (t)	***Unit Load*** (t/acre)	***Area*** (acres)	***Load*** (t)	***Area*** (acres)	***Load*** (t)
CRP A	0.10	0.0	0.0	0.10	537.1	53.7	537.1	53.7
Rotation 1A	0.55	1505.6	828.1	0.55	1505.6	828.1	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	749.4	1648.8	0.0	0.0
Rotation 3A	1.20	6028.8	7234.6	1.20	4742.3	5690.8	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	440.3	44.0	440.3	44.0
Rotation 1B	1.50	1430.8	2146.2	1.10	830.3	913.4	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	160.1	640.5	0.0	0.0
Rotation 3B	4.10	1281.5	5254.0	2.80	1281.5	3588.1	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	0.0	0.0	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	266.6	26.7	266.6	26.7
Rotation 1C	2.90	672.0	1948.9	1.30	369.4	480.2	369.4	480.2
Rotation 2C	14.00	0.0	0.0	8.30	36.0	299.0	36.0	299.0
Rotation 3C	9.00	567.5	5107.9	5.60	567.5	3178.3	567.5	3178.3
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	0.0	0.0	0.0	0.0
CRP D	0.10	0.0	0.0	0.10	82.5	8.3	82.5	8.3
Rotation 1D	3.70	89.2	330.0	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	182.4	383.0	1.70	182.4	310.0	182.4	310.0
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	6.7	13.3	6.7	13.3
CRP E	0.10	0.0	0.0	0.10	34.7	3.5	34.7	3.5
Rotation 1E	4.70	34.7	163.1	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	56.3	140.7	1.50	56.3	84.4	56.3	84.4
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	114.1	353.7	0.14	114.1	16.0	114.1	16.0
Forest B	6.40	198.8	1272.4	0.14	198.8	27.8	198.8	27.8
ForestC/D/E	11.00	439.4	4833.8	0.14	439.4	61.5	439.4	61.5
water	0.00	1.8	0.0	0.00	1.8	0.0	1.8	0.0
wetland	0.00	117.9	0.0	0.00	117.9	0.0	117.9	0.0
barren	0.00	0.0	0.0	0.00	0.0	0.0	0.0	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	6997.4	2938.9
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	2271.9	2181.0
Totals		12,720.8	**29,996**		12,720.8	**17,916**	12,720.8	**9,727**
Average Tons/Acre/Year			**2.36**			**1.41**		**0.76**
Note: Loads represent 100% sediment delivery coefficient.								

APPENDIX B

Table B16. Summary of Sediment Loads for Silver School Branch.

Summary of Loads for Silver School Branch								
Land Use	*Pre-CRP*			*Existing Conditions*			*Future Conditions*	
	Unit Load (t/acre)	*Area* (acres)	*Load* (t)	*Unit Load* (t/acre)	*Area* (acres)	*Load* (t)	*Area* (acres)	*Load* (t)
CRP A	0.10	0.0	0.0	0.10	128.1	12.8	128.1	12.8
Rotation 1A	0.55	302.4	166.3	0.55	302.4	166.3	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	94.7	208.4	0.0	0.0
Rotation 3A	1.20	684.8	821.8	1.20	462.0	554.4	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	166.3	16.6	166.3	16.6
Rotation 1B	1.50	727.8	1091.7	1.10	501.0	551.1	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	60.5	242.0	0.0	0.0
Rotation 3B	4.10	313.6	1285.8	2.80	313.6	878.1	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	0.0	0.0	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	155.9	15.6	155.9	15.6
Rotation 1C	2.90	643.4	1865.9	1.30	451.5	586.9	451.5	586.9
Rotation 2C	14.00	0.0	0.0	8.30	36.0	299.0	36.0	299.0
Rotation 3C	9.00	234.6	2111.2	5.60	234.6	1313.7	234.6	1313.7
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	0.0	0.0	0.0	0.0
CRP D	0.10	0.0	0.0	0.10	33.6	3.4	33.6	3.4
Rotation 1D	3.70	46.9	173.6	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	142.8	299.8	1.70	142.8	242.7	142.8	242.7
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	13.3	26.7	13.3	26.7
CRP E	0.10	0.0	0.0	0.10	0.7	0.1	0.7	0.1
Rotation 1E	4.70	0.7	3.1	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	15.6	38.9	1.50	15.6	23.4	15.6	23.4
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	35.8	111.0	0.14	35.8	5.0	35.8	5.0
Forest B	6.40	72.9	466.8	0.14	72.9	10.2	72.9	10.2
ForestC/D/E	11.00	109.9	1208.5	0.14	109.9	15.4	109.9	15.4
water	0.00	1.1	0.0	0.00	1.1	0.0	1.1	0.0
wetland	0.00	23.6	0.0	0.00	23.6	0.0	23.6	0.0
barren	0.00	2.2	0.0	0.00	2.2	0.0	2.2	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	859.1	360.8
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	875.1	840.1
Totals		3,358.0	**9,645**		3,358.0	**5,172**	3,358.0	**3,772**
Average Tons/Acre/Year			**2.87**			**1.54**		**1.12**
Note: Loads represent 100% sediment delivery coefficient.								

APPENDIX B

Table B17. Summary of Sediment Loads for Spring Creek.

Summary of Loads for Spring Creek								
Land Use	***Pre-CRP***			***Existing Conditions***			***Future Conditions***	
	Unit Load	***Area***	***Load***	***Unit Load***	***Area***	***Load***	***Area***	***Load***
	(t/acre)	**(acres)**	**(t)**	**(t/acre)**	**(acres)**	**(t)**	**(acres)**	**(t)**
CRP A	0.10	0.0	0.0	0.10	282.7	28.3	282.7	28.3
Rotation 1A	0.55	1360.4	748.2	0.55	1360.4	748.2	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	1121.7	2467.8	0.0	0.0
Rotation 3A	1.20	2787.8	3345.4	1.20	1383.4	1660.1	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	519.5	51.9	519.5	51.9
Rotation 1B	1.50	3457.5	5186.3	1.10	2416.3	2657.9	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	521.7	2086.9	0.0	0.0
Rotation 3B	4.10	1096.5	4495.8	2.80	1096.5	3070.3	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	0.0	0.0	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	146.1	14.6	146.1	14.6
Rotation 1C	2.90	903.7	2620.7	1.30	666.4	866.3	666.4	866.3
Rotation 2C	14.00	0.0	0.0	8.30	91.2	756.8	91.2	756.8
Rotation 3C	9.00	238.7	2148.4	5.60	238.7	1336.8	238.7	1336.8
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	0.0	0.0	0.0	0.0
CRP D	0.10	0.0	0.0	0.10	10.7	1.1	10.7	1.1
Rotation 1D	3.70	20.0	74.1	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	69.6	146.2	1.70	69.6	118.3	69.6	118.3
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	9.3	18.7	9.3	18.7
CRP E	0.10	0.0	0.0	0.10	3.3	0.3	3.3	0.3
Rotation 1E	4.70	3.3	15.7	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	34.7	86.7	1.50	34.7	52.0	34.7	52.0
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	282.9	876.9	0.14	282.9	39.6	282.9	39.6
Forest B	6.40	456.6	2922.0	0.14	456.6	63.9	456.6	63.9
ForestC/D/E	11.00	302.4	3326.9	0.14	302.4	42.3	302.4	42.3
water	0.00	12.5	0.0	0.00	12.5	0.0	12.5	0.0
wetland	0.00	37.8	0.0	0.00	37.8	0.0	37.8	0.0
barren	0.00	31.1	0.0	0.00	31.1	0.0	31.1	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	3865.5	1623.5
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	4034.5	3873.2
Totals		11,095.6	**25,993**		11,095.6	**16,082**	11,095.6	**8,888**
Average Tons/Acre/Year			**2.34**			**1.45**		**0.80**

Note: Loads represent 100% sediment delivery coefficient.

APPENDIX B

Table B18. Summary of Sediment Loads for Twin Grove Branch.

Summary of Loads for Twin Grove Branch								
Land Use	***Pre-CRP***			***Existing Conditions***			***Future Conditions***	
	Unit Load	***Area***	***Load***	***Unit Load***	***Area***	***Load***	***Area***	***Load***
	(t/acre)	**(acres)**	**(t)**	**(t/acre)**	**(acres)**	**(t)**	**(acres)**	**(t)**
CRP A	0.10	0.0	0.0	0.10	168.6	16.9	168.6	16.9
Rotation 1A	0.55	1091.5	600.3	0.55	1091.5	600.3	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	402.1	884.6	0.0	0.0
Rotation 3A	1.20	1318.3	1581.9	1.20	747.6	897.2	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	187.0	18.7	187.0	18.7
Rotation 1B	1.50	1490.6	2235.8	1.10	1014.4	1115.9	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	289.1	1156.4	0.0	0.0
Rotation 3B	4.10	228.5	936.8	2.80	228.5	639.8	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	0.0	0.0	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	34.7	3.5	34.7	3.5
Rotation 1C	2.90	222.5	645.2	1.30	158.9	206.6	158.9	206.6
Rotation 2C	14.00	0.0	0.0	8.30	28.9	240.0	28.9	240.0
Rotation 3C	9.00	3.0	27.0	5.60	3.0	16.8	3.0	16.8
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	0.0	0.0	0.0	0.0
CRP D	0.10	0.0	0.0	0.10	4.4	0.4	4.4	0.4
Rotation 1D	3.70	5.8	21.4	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	11.8	24.8	1.70	11.8	20.0	11.8	20.0
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	1.3	2.7	1.3	2.7
CRP E	0.10	0.0	0.0	0.10	0.9	0.1	0.9	0.1
Rotation 1E	4.70	0.9	4.2	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	0.7	1.7	1.50	0.7	1.0	0.7	1.0
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0
Golf	0.10	67.2	6.7	0.10	67.2	6.7	67.2	6.7
Forest A	3.10	153.4	475.7	0.14	153.4	21.5	153.4	21.5
Forest B	6.40	80.7	516.6	0.14	80.7	11.3	80.7	11.3
ForestC/D/E	11.00	34.0	374.3	0.14	34.0	4.8	34.0	4.8
water	0.00	4.4	0.0	0.00	4.4	0.0	4.4	0.0
wetland	0.00	14.5	0.0	0.00	14.5	0.0	14.5	0.0
barren	0.00	31.6	0.0	0.00	31.6	0.0	31.6	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	2241.2	941.3
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	1532.0	1470.7
Totals		4,759.3	**7,453**		4,759.3	**5,865**	4,759.3	**2,983**
Average Tons/Acre/Year			**1.57**			**1.23**		**0.63**
Note: Loads represent 100% sediment delivery coefficient.								

APPENDIX B

Table B19. Summary of Sediment Loads for Apple Branch.

Summary of Loads for Apple Branch								
Land Use	***Pre-CRP***			***Existing Conditions***			***Future Conditions***	
	Unit Load	***Area***	***Load***	***Unit Load***	***Area***	***Load***	***Area***	***Load***
	(t/acre)	**(acres)**	**(t)**	**(t/acre)**	**(acres)**	**(t)**	**(acres)**	**(t)**
CRP A	0.10	0.0	0.0	0.10	50.9	5.1	50.9	5.1
Rotation 1A	0.55	297.0	163.4	0.55	297.0	163.4	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	89.4	196.7	0.0	0.0
Rotation 3A	1.20	174.6	209.6	1.20	34.3	41.2	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	88.1	8.8	88.1	8.8
Rotation 1B	1.50	663.4	995.0	1.10	475.2	522.7	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	100.1	400.3	0.0	0.0
Rotation 3B	4.10	0.0	0.0	2.80	0.0	0.0	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	0.0	0.0	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	32.7	3.3	32.7	3.3
Rotation 1C	2.90	351.6	1019.7	1.30	276.7	359.7	276.7	359.7
Rotation 2C	14.00	0.0	0.0	8.30	42.3	350.7	42.3	350.7
Rotation 3C	9.00	0.0	0.0	5.60	0.0	0.0	0.0	0.0
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	0.0	0.0	0.0	0.0
CRP D	0.10	0.0	0.0	0.10	7.3	0.7	7.3	0.7
Rotation 1D	3.70	31.4	116.0	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	93.6	196.6	1.70	93.6	159.2	93.6	159.2
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	24.0	48.0	24.0	48.0
CRP E	0.10	0.0	0.0	0.10	3.3	0.3	3.3	0.3
Rotation 1E	4.70	3.3	15.7	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	30.2	75.6	1.50	30.2	45.4	30.2	45.4
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	62.7	194.4	0.14	62.7	8.8	62.7	8.8
Forest B	6.40	112.8	721.6	0.14	112.8	15.8	112.8	15.8
ForestC/D/E	11.00	277.5	3052.9	0.14	277.5	38.9	277.5	38.9
water	0.00	2.7	0.0	0.00	2.7	0.0	2.7	0.0
wetland	0.00	25.1	0.0	0.00	25.1	0.0	25.1	0.0
barren	0.00	12.5	0.0	0.00	12.5	0.0	12.5	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	420.8	176.7
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	575.3	552.3
Totals		2,138.5	**6,761**		2,138.5	**2,369**	2,138.5	**1,774**
Average Tons/Acre/Year			**3.16**			**1.11**		**0.83**
Note: Loads represent 100% sediment delivery coefficient.								

APPENDIX B

Table B20. Summary of Sediment Loads for Cherry Branch.

Summary of Loads for Cherry Branch								
Land Use	Pre-CRP			Existing Conditions			Future Conditions	
	Unit Load (t/acre)	Area (acres)	Load (t)	Unit Load (t/acre)	Area (acres)	Load (t)	Area (acres)	Load (t)
CRP A	0.10	0.0	0.0	0.10	115.4	11.5	115.4	11.5
Rotation 1A	0.55	643.9	354.1	0.55	643.9	354.1	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	338.5	744.6	0.0	0.0
Rotation 3A	1.20	752.5	903.0	1.20	298.6	358.3	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	0.0	0.0	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	214.2	21.4	214.2	21.4
Rotation 1B	1.50	1508.5	2262.7	1.10	1011.5	1112.6	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	282.9	1131.5	0.0	0.0
Rotation 3B	4.10	136.5	559.7	2.80	136.5	382.2	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	0.0	0.0	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	206.2	20.6	206.2	20.6
Rotation 1C	2.90	1254.9	3639.1	1.30	889.9	1156.9	889.9	1156.9
Rotation 2C	14.00	0.0	0.0	8.30	158.8	1317.9	158.8	1317.9
Rotation 3C	9.00	46.8	421.0	5.60	46.8	261.9	46.8	261.9
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	0.0	0.0	0.0	0.0
CRP D	0.10	0.0	0.0	0.10	93.2	9.3	93.2	9.3
Rotation 1D	3.70	182.6	675.5	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	227.5	477.8	1.70	227.5	386.8	227.5	386.8
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	89.4	178.8	89.4	178.8
CRP E	0.10	0.0	0.0	0.10	21.6	2.2	21.6	2.2
Rotation 1E	4.70	21.6	101.4	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	42.5	106.2	1.50	42.5	63.7	42.5	63.7
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	123.2	381.9	0.14	123.2	17.2	123.2	17.2
Forest B	6.40	266.0	1702.2	0.14	266.0	37.2	266.0	37.2
ForestC/D/E	11.00	603.3	6636.7	0.14	603.3	84.5	603.3	84.5
water	0.00	3.6	0.0	0.00	3.6	0.0	3.6	0.0
wetland	0.00	42.5	0.0	0.00	42.5	0.0	42.5	0.0
barren	0.00	31.4	0.0	0.00	31.4	0.0	31.4	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	1280.9	538.0
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	1430.8	1373.6
Totals		5,887.0	**18,221**		5,887.0	**7,653**	5,887.0	**5,482**
Average Tons/Acre/Year			**3.10**			**1.30**		**0.93**
Note: Loads represent 100% sediment delivery coefficient.								

APPENDIX B

Table B21. Summary of Sediment Loads for Dodge Branch 111
(Dodge Branch 111 includes the entire Dodge Branch Watershed).

Summary of Loads for Dodge Branch 111									
Land Use	***Pre-CRP***			***Existing Conditions***			***Future Conditions***		
	Unit Load	***Area***	***Load***	***Unit Load***	***Area***	***Load***	***Area***	***Load***	
	(t/acre)	**(acres)**	**(t)**	**(t/acre)**	**(acres)**	**(t)**	**(acres)**	**(t)**	
CRP A	0.10	0.0	0.0	0.10	1288.7	128.9	1288.7	128.9	
Rotation 1A	0.55	4177.1	2297.4	0.55	327.6	180.2	0.0	0.0	
Rotation 2A	2.20	0.0	0.0	2.20	0.0	0.0	0.0	0.0	
Rotation 3A	1.20	2060.7	2472.8	1.20	771.9	926.3	0.0	0.0	
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0	
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0	
Rotation 6A	0.65	0.0	0.0	0.65	3849.5	2502.2	0.0	0.0	
CRP B	0.10	0.0	0.0	0.10	2112.9	211.3	2112.9	211.3	
Rotation 1B	1.50	9649.2	14473.8	1.10	1992.2	2191.4	0.0	0.0	
Rotation 2B	6.10	0.0	0.0	4.00	0.0	0.0	0.0	0.0	
Rotation 3B	4.10	131.8	540.4	2.80	131.8	369.1	0.0	0.0	
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0	
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0	
Rotation 6B	1.70	0.0	0.0	1.20	5544.1	6652.9	0.0	0.0	
CRP C	0.10	0.0	0.0	0.10	2315.9	231.6	2315.9	231.6	
Rotation 1C	2.90	6217.5	18030.7	1.30	0.0	0.0	0.0	0.0	
Rotation 2C	14.00	0.0	0.0	8.30	0.0	0.0	0.0	0.0	
Rotation 3C	9.00	0.0	0.0	5.60	0.0	0.0	0.0	0.0	
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0	
Rotation 5C	1.50	2451.8	3677.7	0.89	2451.8	2182.1	2451.8	2182.1	
Rotation 6C	3.80	0.0	0.0	1.60	3901.6	6242.5	3901.6	6242.5	
CRP D	0.10	0.0	0.0	0.10	1336.8	133.7	1336.8	133.7	
Rotation 1D	3.70	2724.5	10080.5	1.70	0.0	0.0	0.0	0.0	
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0	
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0	
Rotation 4D	2.10	1337.2	2808.1	1.70	1337.2	2273.3	1337.2	2273.3	
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0	
Rotation 6D	4.70	0.0	0.0	2.00	1387.7	2775.4	1387.7	2775.4	
CRP E	0.10	0.0	0.0	0.10	934.0	93.4	934.0	93.4	
Rotation 1E	4.70	934.0	4389.9	2.20	0.0	0.0	0.0	0.0	
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0	
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0	
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0	
Rotation 5E	2.50	1156.2	2890.5	1.50	1156.2	1734.3	1156.2	1734.3	
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0	
High Urban	1.60	636.0	1017.6	15.00	636.0	9540.4	636.0	9540.4	
Low Urban	0.98	175.7	172.2	9.00	175.7	1581.2	175.7	1581.2	
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0	
Forest A	3.10	1047.2	3246.4	0.14	1047.2	146.6	1047.2	146.6	
Forest B	6.40	1913.4	12245.9	0.14	1913.4	267.9	1913.4	267.9	
ForestC/D/E	11.00	8013.9	88153.3	0.14	8013.9	1122.0	8013.9	1122.0	
water	0.00	40.3	0.0	0.00	40.3	0.0	40.3	0.0	
wetland	0.00	258.9	0.0	0.00	258.9	0.0	258.9	0.0	
barren	0.00	509.3	0.0	0.00	509.3	0.0	509.3	0.0	
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	4949.0	2078.6	
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	7668.1	7361.4	
Totals		43,434.6	**166,497**		43,434.6	**41,486**	43,434.6	**38,104**	
Average Tons/Acre/Year			**3.83**			**0.96**		**0.88**	
Note: Loads represent 100% sediment delivery coefficient.									

APPENDIX B

Table B22. Summary of Sediment Loads for Dodge Branch 113.
(Dodge Branch 113 represents both sections 112 and 113)

Summary of Loads for Dodge Branch 113								
	Pre-CRP			*Existing Conditions*			*Future Conditions*	
Land Use	*Unit Load* (t/acre)	*Area* (acres)	*Load* (t)	*Unit Load* (t/acre)	*Area* (acres)	*Load* (t)	*Area* (acres)	*Load* (t)
CRP A	0.10	0.0	0.0	0.10	601.6	60.2	601.6	60.2
Rotation 1A	0.55	1703.0	936.7	0.55	116.5	64.1	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	0.0	0.0	0.0	0.0
Rotation 3A	1.20	850.2	1020.2	1.20	248.7	298.4	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	1586.5	1031.2	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	1042.1	104.2	1042.1	104.2
Rotation 1B	1.50	4334.1	6501.1	1.10	662.0	728.3	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	0.0	0.0	0.0	0.0
Rotation 3B	4.10	122.8	503.3	2.80	122.8	343.7	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	2629.9	3155.9	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	1051.2	105.1	1051.2	105.1
Rotation 1C	2.90	2508.3	7274.1	1.30	0.0	0.0	0.0	0.0
Rotation 2C	14.00	0.0	0.0	8.30	0.0	0.0	0.0	0.0
Rotation 3C	9.00	0.0	0.0	5.60	0.0	0.0	0.0	0.0
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	801.5	1202.2	0.89	801.5	713.3	801.5	713.3
Rotation 6C	3.80	0.0	0.0	1.60	1457.1	2331.3	1457.1	2331.3
CRP D	0.10	0.0	0.0	0.10	543.1	54.3	543.1	54.3
Rotation 1D	3.70	1331.7	4927.1	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	0.0	0.0	1.70	0.0	0.0	0.0	0.0
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	788.6	1577.2	788.6	1577.2
CRP E	0.10	0.0	0.0	0.10	267.5	26.8	267.5	26.8
Rotation 1E	4.70	267.5	1257.4	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	274.9	687.2	1.50	274.9	412.3	274.9	412.3
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	593.3	949.3	15.00	593.3	8899.9	593.3	8899.9
Low Urban	0.98	153.7	150.6	9.00	153.7	1383.0	153.7	1383.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	353.6	1096.1	0.14	353.6	49.5	353.6	49.5
Forest B	6.40	681.2	4359.5	0.14	681.2	95.4	681.2	95.4
ForestC/D/E	11.00	2185.2	24036.9	0.14	2185.2	305.9	2185.2	305.9
water	0.00	22.0	0.0	0.00	22.0	0.0	22.0	0.0
wetland	0.00	40.5	0.0	0.00	40.5	0.0	40.5	0.0
barren	0.00	352.3	0.0	0.00	352.3	0.0	352.3	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	1951.7	819.7
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	3414.8	3278.2
Totals		16,575.6	**54,902**		16,575.6	**21,740**	16,575.6	**20,216**
Average Tons/Acre/Year			**3.31**			**1.31**		**1.22**
Note: Loads represent 100% sediment delivery coefficient.								

APPENDIX B

Table B23. Summary of Sediment Loads for Silver Spring Creek.

Summary of Loads for Silver Spring Creek								
Land Use	***Pre-CRP***			***Existing Conditions***			***Future Conditions***	
	Unit Load	***Area***	***Load***	***Unit Load***	***Area***	***Load***	***Area***	***Load***
	(t/acre)	**(acres)**	**(t)**	**(t/acre)**	**(acres)**	**(t)**	**(acres)**	**(t)**
CRP A	0.10	0.0	0.0	0.10	48.9	4.9	48.9	4.9
Rotation 1A	0.55	637.1	350.4	0.55	0.0	0.0	0.0	0.0
Rotation 2A	2.20	0.0	0.0	2.20	0.0	0.0	0.0	0.0
Rotation 3A	1.20	342.3	410.7	1.20	293.3	352.0	0.0	0.0
Rotation 4A	0.38	0.0	0.0	0.38	0.0	0.0	0.0	0.0
Rotation 5A	0.29	0.0	0.0	0.29	0.0	0.0	0.0	0.0
Rotation 6A	0.65	0.0	0.0	0.65	637.1	414.1	0.0	0.0
CRP B	0.10	0.0	0.0	0.10	115.6	11.6	115.6	11.6
Rotation 1B	1.50	1087.9	1631.9	1.10	0.0	0.0	0.0	0.0
Rotation 2B	6.10	0.0	0.0	4.00	0.0	0.0	0.0	0.0
Rotation 3B	4.10	250.4	1026.7	2.80	250.4	701.1	0.0	0.0
Rotation 4B	0.79	0.0	0.0	0.65	0.0	0.0	0.0	0.0
Rotation 5B	0.84	0.0	0.0	0.61	0.0	0.0	0.0	0.0
Rotation 6B	1.70	0.0	0.0	1.20	972.3	1166.7	0.0	0.0
CRP C	0.10	0.0	0.0	0.10	121.0	12.1	121.0	12.1
Rotation 1C	2.90	765.0	2218.5	1.30	0.0	0.0	0.0	0.0
Rotation 2C	14.00	0.0	0.0	8.30	0.0	0.0	0.0	0.0
Rotation 3C	9.00	98.3	884.7	5.60	98.3	550.5	98.3	550.5
Rotation 4C	1.70	0.0	0.0	1.30	0.0	0.0	0.0	0.0
Rotation 5C	1.50	0.0	0.0	0.89	0.0	0.0	0.0	0.0
Rotation 6C	3.80	0.0	0.0	1.60	644.0	1030.5	644.0	1030.5
CRP D	0.10	0.0	0.0	0.10	55.8	5.6	55.8	5.6
Rotation 1D	3.70	175.9	650.9	1.70	0.0	0.0	0.0	0.0
Rotation 2D	16.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 3D	13.00	0.0	0.0	7.80	0.0	0.0	0.0	0.0
Rotation 4D	2.10	129.4	271.8	1.70	129.4	220.0	129.4	220.0
Rotation 5D	1.90	0.0	0.0	1.10	0.0	0.0	0.0	0.0
Rotation 6D	4.70	0.0	0.0	2.00	120.1	240.2	120.1	240.2
CRP E	0.10	0.0	0.0	0.10	18.9	1.9	18.9	1.9
Rotation 1E	4.70	18.9	88.8	2.20	0.0	0.0	0.0	0.0
Rotation 2E	21.00	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Rotation 3E	18.00	0.0	0.0	11.00	0.0	0.0	0.0	0.0
Rotation 4E	2.90	0.0	0.0	2.30	0.0	0.0	0.0	0.0
Rotation 5E	2.50	35.4	88.4	1.50	35.4	53.0	35.4	53.0
Rotation 6E	6.00	0.0	0.0	2.70	0.0	0.0	0.0	0.0
High Urban	1.60	0.0	0.0	15.00	0.0	0.0	0.0	0.0
Low Urban	0.98	0.0	0.0	9.00	0.0	0.0	0.0	0.0
Golf	0.10	0.0	0.0	0.10	0.0	0.0	0.0	0.0
Forest A	3.10	102.7	318.5	0.14	102.7	14.4	102.7	14.4
Forest B	6.40	230.4	1474.5	0.14	230.4	32.3	230.4	32.3
ForestC/D/E	11.00	421.9	4640.5	0.14	421.9	59.1	421.9	59.1
water	0.00	3.1	0.0	0.00	3.1	0.0	3.1	0.0
wetland	0.00	0.0	0.0	0.00	0.0	0.0	0.0	0.0
barren	0.00	30.9	0.0	0.00	30.9	0.0	30.9	0.0
Rotation 7A	0.42	0.0	0.0	0.42	0.0	0.0	930.5	390.8
Rotation 7B	0.96	0.0	0.0	0.96	0.0	0.0	1222.7	1173.8
Totals		4,329.7	**14,056**		4,329.7	**4,870**	4,329.7	**3,800**
Average Tons/Acre/Year			**3.25**			**1.12**		**0.88**
Note: Loads represent 100% sediment delivery coefficient.								