

Isle Of Wight Stream Corridor Assessment Survey



Watershed Restoration Division
Chesapeake & Coastal Watershed Services
Maryland Department of Natural Resources
April 2002





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ISLE OF WIGHT BAY

STREAM CORRIDOR ASSESSMENT SURVEY

BY

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SUMMARY

The Isle of Wight Bay watershed encompasses over 47,400 acres (74 sq miles). Approximately 87% of the land in the watershed is in Maryland with the upper 13% of the watershed in Delaware. In 1998, the Maryland Clean Water Action Plan identified the Isle of Wight Bay as one of the State's water bodies that did not meet water quality requirements. In response to this finding, the Maryland Department of Natural Resources and Worcester County formed a partnership to develop a Watershed Restoration Action Strategy (WRAS) for the Maryland portion of the Isle of Wight Watershed. As part of the WRAS development process, a Stream Corridor Assessment (SCA) survey of the stream system in the Isle of Wight performed from January through April, 2001.

The SCA survey was developed by the Watershed Restoration Division of the Maryland Dept. of Natural Resources to provide a rapid examination of the stream network in a watershed. The survey is done using specially trained field teams that walked the entire stream network and note the location of a variety of potential environmental problems. As part of the survey, field teams also collected some basic information about stream habitat conditions in different areas. This survey is not intended to be a detailed scientific evaluation and the data collected about any specific problem is limited. Instead the survey is designed to give an overview of the condition of the stream system so that future restoration efforts can be better targeted.

Approximately 259 miles of non-tidal streams were surveyed and 349 potential environmental problems were identified during the Isle of Wight survey. The two most common environmental concerns seen during the SCA survey were channel alterations, which were reported at 152 sites, and inadequate buffers, which were reported at 118 sites. Other potential environmental problems identified during the survey include: 32 fish migration barriers, 31 erosion sites, 8 active construction sites near the stream, 4 trash dumping sites, 3 unusual condition sites, and 1 pipe outfall.

At each site, data was collected about the problem, its location noted on field maps, and photographs taken to document existing conditions. To aid in prioritizing future restoration work, field crews rated all problem sites on a scale of 1 to 5 in three categories. They were: 1) the severity of the problem; 2) how correctable the specific problem was; and 3) how accessible the site was. Field teams also collected information on both in and near stream habitat conditions at 115 representative sites that were spaced at approximately ½ mile intervals along the streams.

The SCA survey was specifically developed as a watershed management tool. One of the main goals of the SCA survey is to compile a list of observable environmental problems so that future restoration efforts can be better targeted. It is hoped that once a list of environmental problems has been compiled, a dialog can be initiated among resource managers on the goals and targets of future environmental restoration efforts in the Isle of Wight Watershed. It is important to note that all of the problems identified as part of the Isle of Wight Stream Corridor Assessment survey can be addressed through existing State or Local government programs. The value of the present survey is that it can help to place the problems in a watershed context, and can be used by a variety of resource managers to plan future restoration work. Results of the present survey have been given to the Isle of Wight WRAS committee, which is developing a Watershed Restoration Action Strategy for the Isle of Wight. Information on the Isle of Wight Watershed Action Strategy can be found on DNR's site (www.dnr.state.md.us) or by contacting the Worcester County Department of Public Works in Snow Hill, Maryland.

ACKNOWLEDGMENTS

Without the hard work of the Lower Eastern Shore Crew of the Maryland Conservation Corps, this survey would not have been possible. The crew chief during the survey was Angela Baldwin. The crewmembers were Lisa Hoeben, Liz Houser, Eddie Pierce, David Simpson, Erica Wagenhals, and John Wilkens.

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INTRODUCTION

In 1998, Maryland's Clean Water Action Plan identified bodies of water that failed to meet water quality requirements or other natural resource goals. One of the water bodies identified in the report was the Isle of Wight Bay. The watershed encompasses approximately 47,400 acres in the Mid-Atlantic coastal plain of Maryland and Delaware. A map showing the location of the Isle of Wight Watershed is presented in Figure 1. Approximately 13% (6,300 acres) of the watershed lies in Delaware with the remaining 41,120 acres in Worcester County, Maryland (Shanks, 2001). In response to the findings of the Maryland Clean Water Action Plan, the Maryland Department of Natural Resources has formed a partnership with Worcester County to work together to assess and improve environmental conditions in the Isle of Wight watershed. The main focus to this work is on the Maryland portion of the watershed. The main goals of this partnership are to develop and implement a Watershed Restoration Action Strategy (WRAS) for Isle of Wight Bay in Worcester County.

The first step in developing a Restoration Action Strategy for the Isle of Wight Watershed is to do an overall assessment of the condition of the watershed and the streams within it. This initial step is being accomplished using two approaches. First, a watershed characterization was done that compiles and analyzes existing water quality, land use, and living resources data about the Isle of Wight watershed (Shanks, 2001). While the watershed characterization provides good overall information on environmental conditions within the Isle of Wight watershed, for the most part, information on the location of specific environmental problems is limited. To provide specific information on the present location of environmental problems and restoration opportunities, a Stream Corridor Assessment (SCA) survey of the Isle of Wight Bay Watershed was also done.

The Stream Corridor Assessment survey is a new survey that has been developed by DNR's Watershed Restoration Division as a watershed management tool to identify environmental problems and helps prioritize restoration opportunities on a watershed basis. As part of the survey, specially trained personnel walk the watershed's entire stream network and record information on a variety of environmental problems that can be easily observed within the stream corridor. The SCA survey of the Isle of Wight watershed was done over a 5-month period from January through April 2001.

The SCA survey was done only in the Maryland portion of the watershed. The targeted area encompasses 33,611 acres (52.5 square miles) of land and 7,500 acres of open tidal waters. Approximately 37% (12,463 acres) of the land in the watershed is in agricultural use, with another 37% (12,463 acres) forested (Shanks, 2001). Approximately 23% of the watershed is classified as being in urban land use and the remaining 3 percent in other uses. Additional information on land use and other information about the watershed can be found in Isle of Wight Bay Watershed Characterization by Shanks (2001).

There is an estimated 259 miles of non-tidal stream within the Maryland portion of the watershed, which was the focus of the SCA survey. A digital orthophoto map of the Isle of Wight Bay watershed is shown in Figure 2. The map is based on aerial photographs taken in April 1988, and April 1989. Figure 3 shows the same watershed boundaries superimposed on a seven and ½ minute USGS topographic quadrangle maps.

Isle of Wight Watershed Worchester County, Maryland

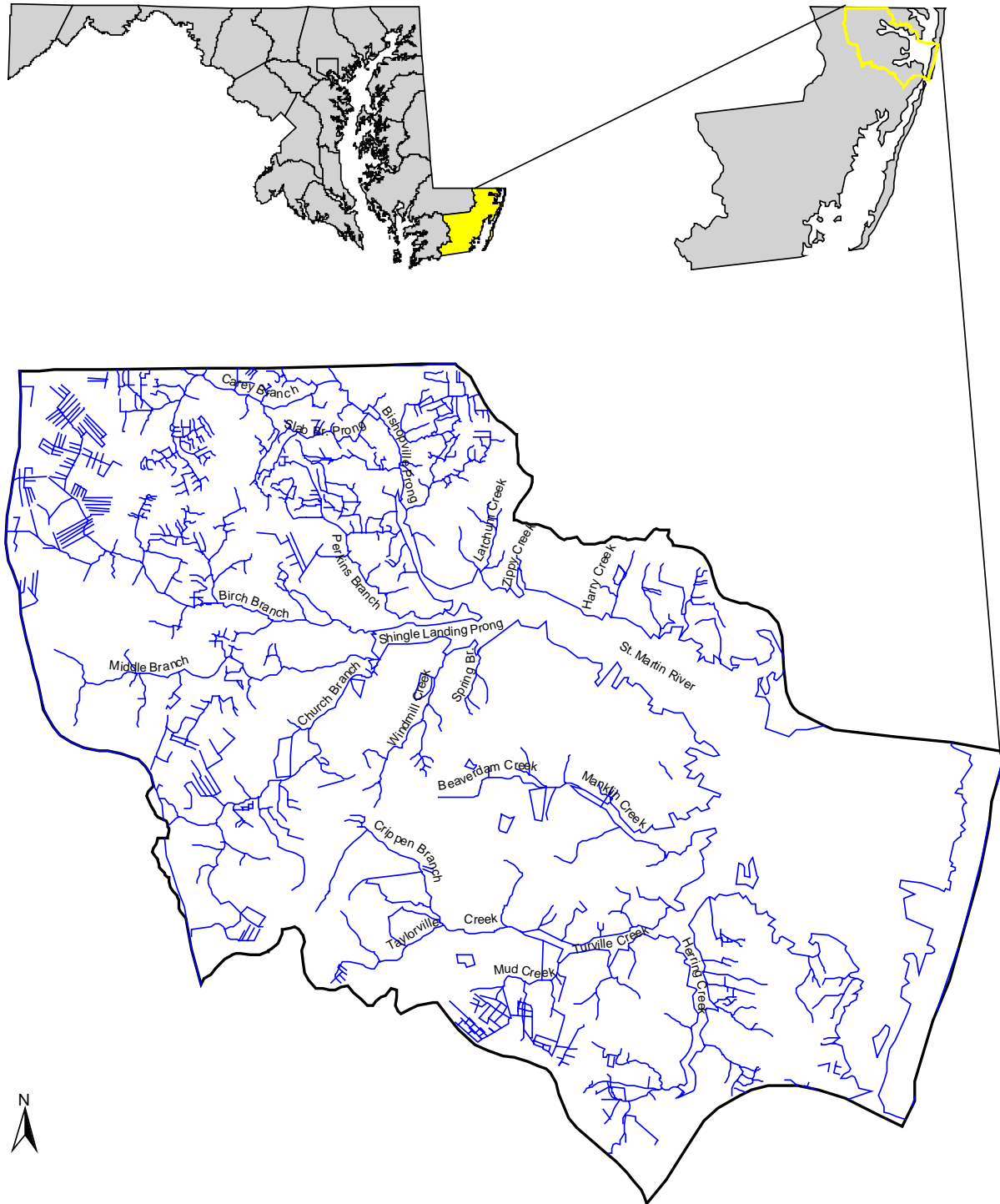


Figure 1: Isle of Wight Bay SCA Survey Location.

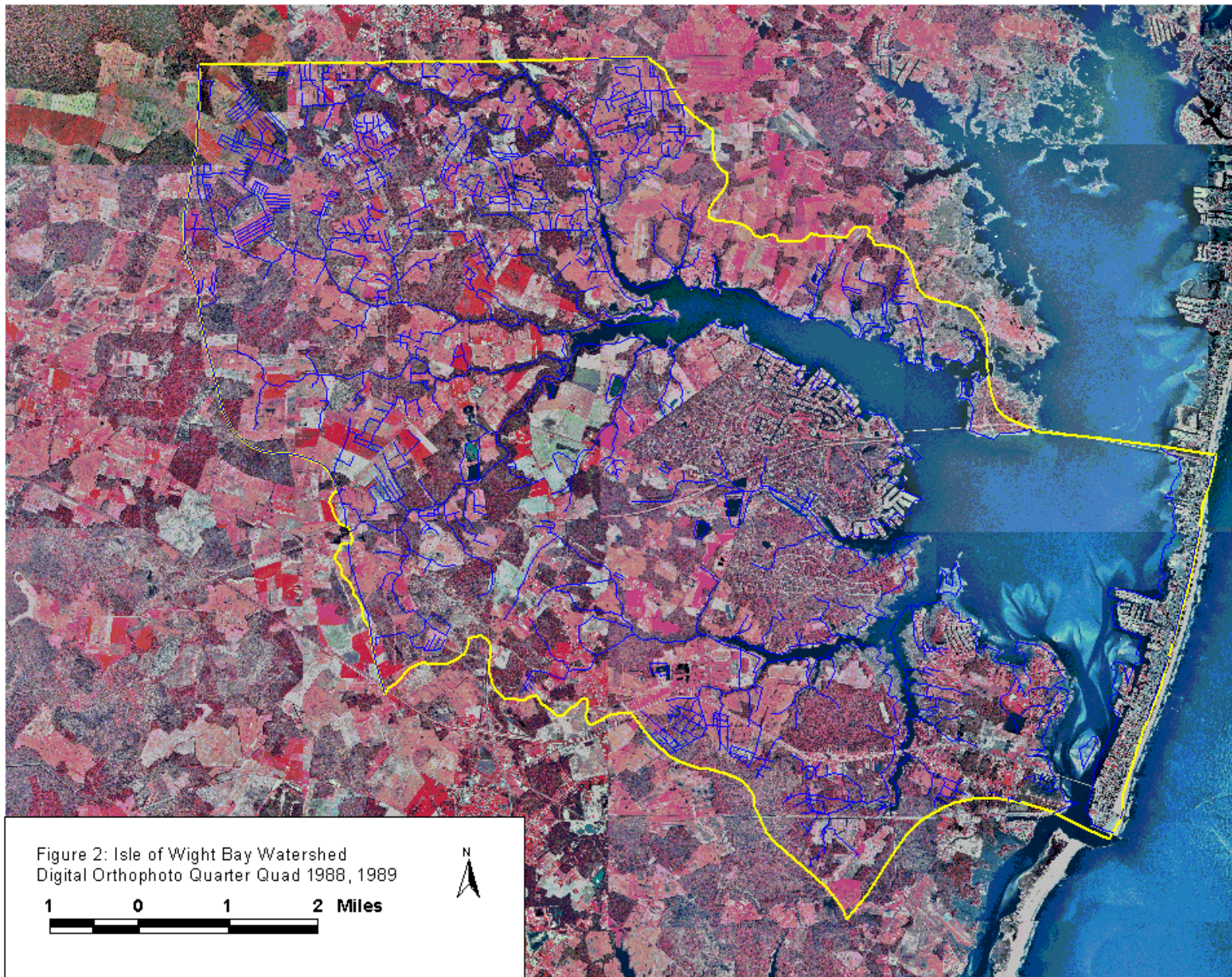


Figure 2: Isle of Wight Bay Watershed
Digital Orthophoto Quarter Quad 1988, 1989

1 0 1 2 Miles



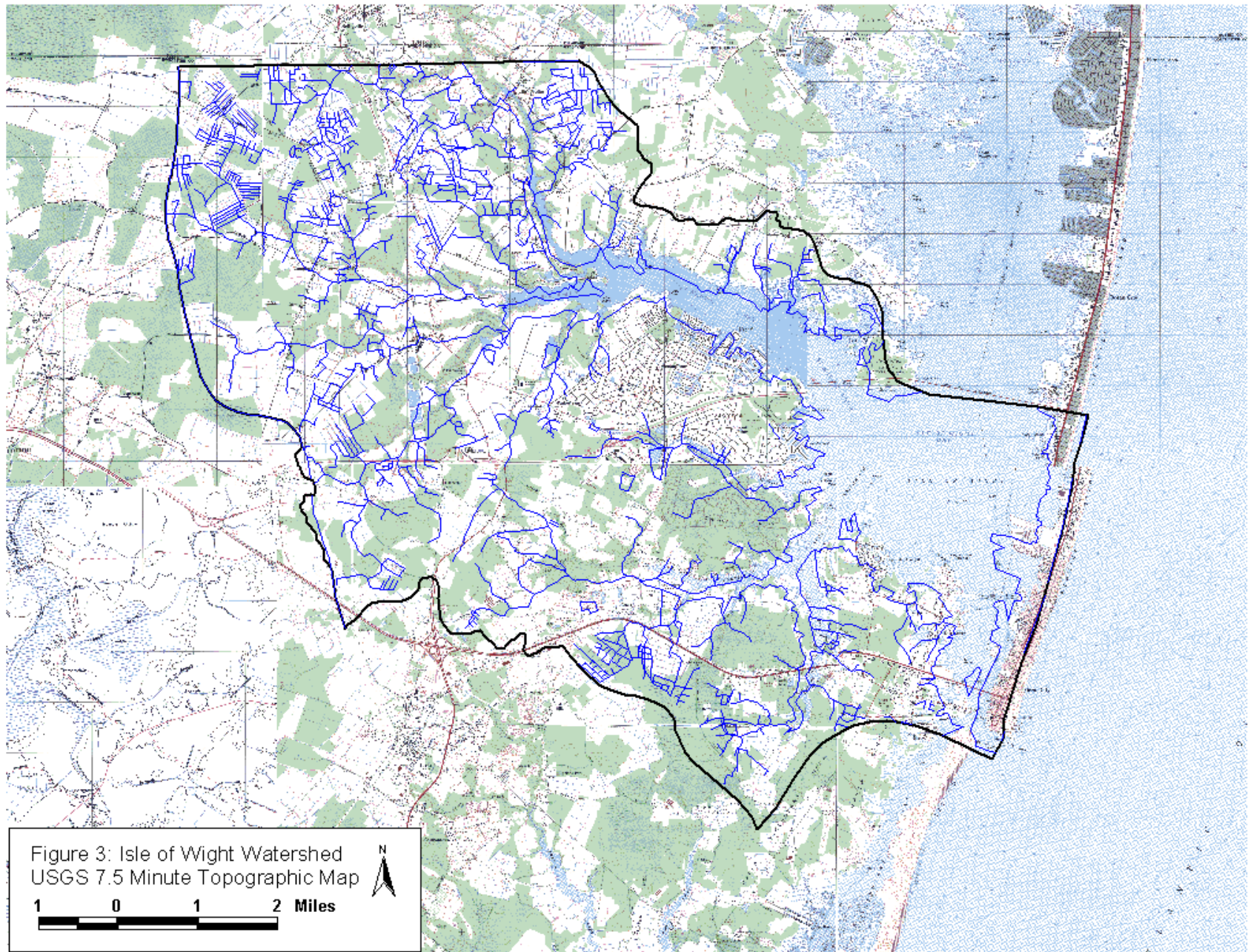


Figure 3: Isle of Wight Watershed
USGS 7.5 Minute Topographic Map

1 0 1 2 Miles

As mentioned earlier the Maryland Department of Natural Resources is working with Worcester County to develop a Watershed Restoration Action Strategy (WRAS) of the Isle of Wight Watershed. As part of this process, data collected during the SCA survey will be used to help define present environmental conditions, as well as possible restoration opportunities in the watershed. This information combined with the watershed characterization and other local knowledge of the watershed, will be used to develop and Action Strategy for the Isle of Wight. The Watershed Restoration Action Strategy in turn, will help guide future restoration efforts with the ultimate goals of restoring the areas natural resources and meeting State water quality standards.

METHODS

To help identify some of the common problems that affect streams in a rapid and cost effective manner, the Watershed Restoration Division of the Maryland Department of Natural Resource has been working for the last several years to develop the Stream Corridor Assessment (SCA) survey. The four main objectives of the survey are:

1. To provide a list of observable environmental problems present within a stream system and along its riparian corridor.
2. To provide sufficient information on each problem so that a preliminary determination of both the severity and correctability of a problem can be made.
3. To provide sufficient information so that restoration efforts can be prioritized.
4. To provide a quick assessment of both in- and near-stream habitat conditions so that comparative assessments can be made of the condition of different stream segments.

It is important to note that the SCA survey is not intended to be a detailed scientific survey, nor will it replace the more traditional chemical and biological surveys. Instead, the SCA survey provides a rapid method of examining an entire drainage network so that future monitoring, management and/or conservation efforts can be better targeted. One advantage of the SCA survey over chemical and biological surveys is that the SCA survey can be done on a watershed basis both quickly and at relatively low cost. A copy of the survey protocols is available on DNR web site at <http://dnrweb.dnr.state.md.us/download/bays/streams/surveyprotocols2.pdf>.

Maryland's SCA survey is really not a new concept but a refinement of an old approach, which in its simplest form is often referred to as a stream walk survey. Many of the common environmental problems affecting streams, such as excessive stream bank erosion or blockages to fish migration, are fairly easy to identify by an individual walking along a stream. Furthermore, an advanced degree in forestry is not needed to identify a stream segment that doesn't have any trees along its banks, nor does one need a degree in sanitary engineering to see that a sewage pipeline has been exposed by stream bank erosion and is leaking sewage into the stream. With a limited amount of training, most people can correctly identify these common environmental problems.

As mentioned earlier, a walking survey of stream systems is not a new concept and there have been several attempts to standardize this approach over the years. Many earlier approaches such as EPA's, "Streamwalk Manual" (EPA, 1992), Maryland Save our Stream's "Conducting a Stream Survey," (SOS, 1970) and Maryland Public Interest Research Foundation "Streamwalk Manual" (Hosmer, 1988) were designed to be done by citizen volunteers with little or no training. While these surveys can be a good guide for citizens that are interested in looking at their community streams, the data collected during these surveys can vary significantly based on the background of the surveyor. In the Maryland Save our Stream "Stream Survey," for example, citizen groups are given some guidance on how to organize a survey and are provided a slide show explaining how to do the survey. After approximately one hour of training, citizen volunteers are then sent out in groups to walk designated stream segments. During the survey, volunteers usually walk their assigned stream segment in a couple of hours and return their data sheets to the survey organizers to be analyzed. While these surveys can help make communities more aware of the problems present in their local stream, citizen groups normally do not have the expertise or

resources to properly analyze or fully interpret the information collected. In addition, the data collected is usually only enough to indicate that a potential environmental problem exists at a specific location but does not provide sufficient information to judge the severity of the problem.

Other visual stream surveys, such as the National Resources Conservation Service's "Stream Visual Assessment Protocols" (NRCS, 1998), are designed to be done by trained professionals looking at a very specific stream reach, such as at a stream passing through an individual farmer's property. While this survey can provide useful information on a specific stream segment, it is usually not done on a watershed basis.

The Maryland SCA survey has been designed to bridge the gap between these two approaches. The survey is designed to be done by a small group of well-trained individuals that walk the entire stream network in a watershed. While the individuals doing the survey are usually not be a professional natural resource managers, they do receive several days of training in both stream ecology and SCA survey methods.

While almost any group of dedicated volunteers can be trained to do a SCA survey, the Maryland Conservation Corps (MCC) has proven to be an ideal group to do this work in Maryland. The Maryland Conservation Corps is part of the AmeriCorps Program, which was started to promote greater involvement of young volunteers in their communities and the environment. The MCC program is managed by DNR's Forest and Park Service. Volunteers with the MCC are 17-25 years old and can have educational backgrounds ranging from high school to graduate degrees. With the proper training and supervision, these young, intelligent and motivated volunteers are able to significantly contribute to the State's efforts to inventory and evaluate water quality and habitat problems from a watershed perspective. For more information on the Maryland Conservation Corps call their main office in Annapolis at (410) 260-8166 or visit their web site at: www.dnr.state.md.us/mcc.

Prior to the start of the Isle of Wight SCA Survey, the 7 members of the MCC's Lower Eastern Shore Crew received a week of training. As part of this training, crewmembers learn how to identify common problems observable within the stream corridor, how to record problem locations on survey maps and how to fill out data sheets for specific problem. Procedures for documenting general stream conditions at reference sites were also reviewed during training. Reference sites are located at approximately 1/2-mile intervals along the stream. In addition to filling out a half page data sheet, field crews took photographs at all problem and reference sites to help document existing conditions. Detail information on the procedures used in the Maryland SCA survey can be found in, "Stream Corridor Assessment Survey – Survey Protocols" (Yetman, 2001). Copies of the survey protocols can be obtained by contacting the Watershed Restoration Division of the Maryland Department of Natural Resources in Annapolis, MD.

Several weeks prior to the beginning of the survey, letters were sent out to individual that own land along the stream. The letter was used to inform property owners that the survey was being done and gave them a phone number to call if they did not want MCC crews surveying the stream on their property. In addition, survey crews were instructed not to cross fence lines or enter any areas that are marked "No Trespassing" unless they have specific permission from the property owner. Figure 4 shows the areas that crews were not able to access directly during the survey. The area includes 3,358 acres (5.29 sq. miles), which was approximately 10 % of the land in the watershed. In some cases MCC crews were able to observe some environmental problems such as inadequate stream buffers and channel alteration from roads adjacent to these properties.

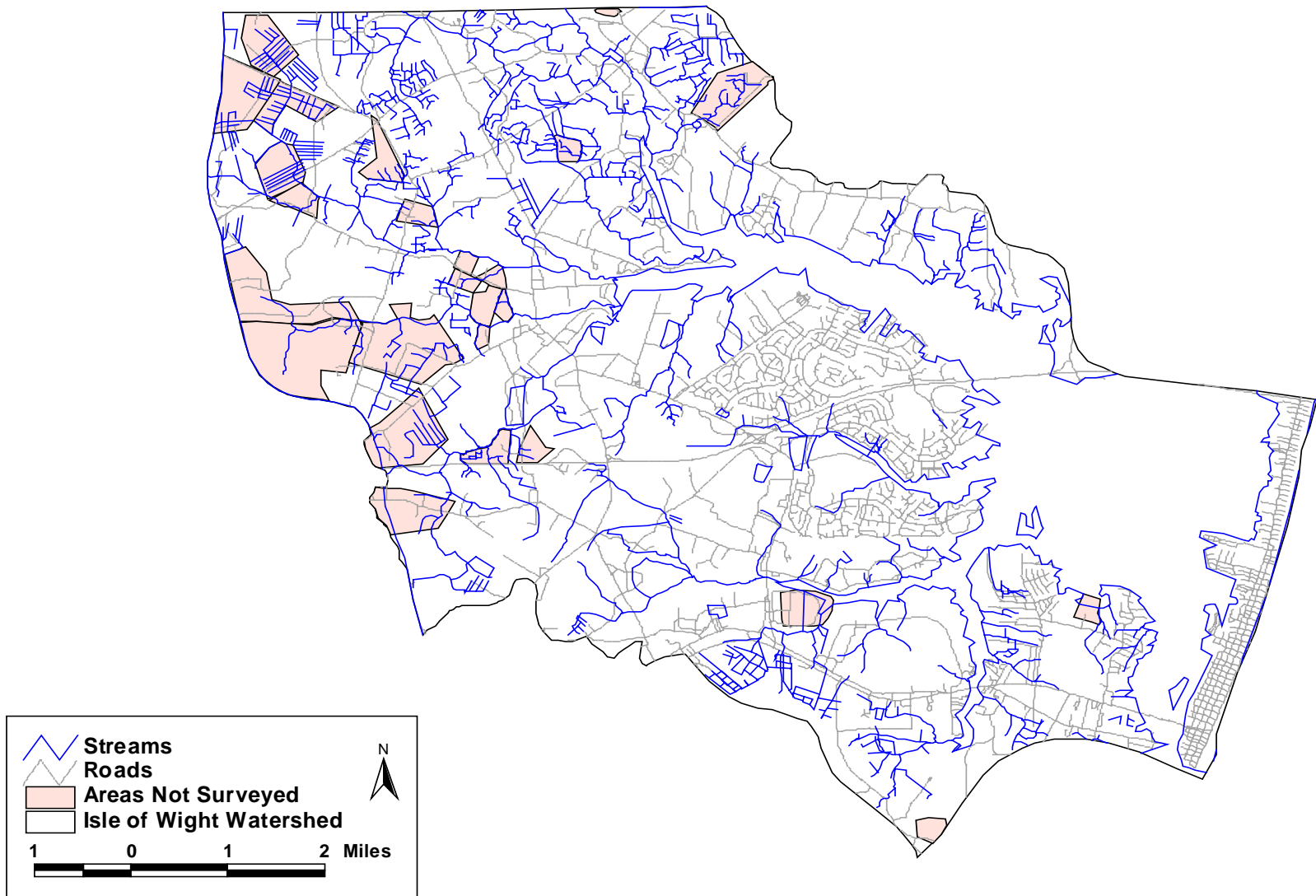


Figure 4: Isle of Wight Bay Watershed Areas of No Access.

Field surveys of the Isle of Wight watershed began in January 2001, and over the next several months, the survey teams walked the stream's drainage network collecting information on potential environmental problems. Potential environmental problems commonly identified during the SCA Survey include: channelized stream sections, inadequate stream buffers, fish migration blockages, excessive bank erosion, near stream construction, trash dumping sites, unusual conditions, and pipe outfalls. In addition, the survey records information on the location of potential wetlands creation sites and collects data on the general condition of in-stream and riparian habitats.

It is not unusual for an SCA survey to identify large number of problems in each problem category. For example, in an earlier survey of the Swan Creek Watershed in Harford County, a total of 453 potential environmental problems were identified along 96 miles of stream. The most frequently reported problem during the survey was stream bank erosion, which was reported at 179 different locations (Yetman et. al., 1996). Follow up surveys found that while stream bank erosion was a common problem throughout the watershed, the severity of the erosion problem varied substantially among the sites and that the erosion problems at many sites were fairly minor. Based on this experience the SCA survey has field crews evaluate and score all problems on a scale of 1 to 5 in three separate areas: problem severity, correctability, and accessibility. A major part of the crews training is devoted to how to properly rate the different problems identified during the survey.

While the ratings are subjective, they have proven to be very valuable in providing a starting point for more detailed follow-up evaluations. This is because in many cases, resource professionals such as fisheries biologists, foresters, hydrologists and engineers do not have the time to walk hundreds of miles of streams to determine where the problems are. What the SCA survey does is train the MCC and other groups to walk streams for them and collect some very basic information about commonly seen problems. Once the SCA survey has been completed, the data collected can then be used by different resource professionals to help target future restoration efforts. A regional forester for example can use data collected on inadequate stream buffers to help target future riparian buffer plantings, while the local fishery biologist can use the data on fish blockages to help target future fish passage projects to reestablish spawning runs. The inclusion of a rating system in the survey gives resource professional an idea of which sites the field crew believed were the most severe, easiest to correct and easiest to access. This information combined with photographs of the site can help resource managers focus their own follow up evaluations and fieldwork at the most important sites.

A general description of the rating system is given below. More specific information on the criteria used to rate each problem category is provided in the SCA – Survey Protocols (Yetman, 2000). It is important to note that the rating system is designed to contrast problems within a specific problem category. When assigning a severity rating to a site with an inadequate stream buffer for example, the rating is only intended to compare the site to other in the State with inadequate stream buffers. The rating is not intended to be applied across categories. A trash dumping site with a very severe rating may not necessarily be a more significant environmental problem than a stream bank erosion site that received a moderate severity rating.

The **problem severity** rating has generally been found to be the most useful rating and indicates how bad a specific problem is relative to others in the same problem category. The severity rating is used to answer questions such as, where are the worst stream bank erosion sites in the watershed, or where is

the largest section of stream with an inadequate buffer. The scoring is based on the overall impression of the survey team of the severity of the problem at the time of the survey.

- * A very severe rating of 1 is used to identify problems that have a direct and wide reaching impact on the stream's aquatic resources. Within a specific problem category, a very severe rating indicates that the problem is among the worst that the field teams have seen or would expect to see. Examples would include a discharge from a pipe that was discoloring the water over a long stream reach (greater than 1000 feet) or a long section of stream (greater than 1000 feet) with high raw vertical banks that appear to be unstable and eroding at a fast rate.
- * A moderate severity rating of 3 is used to identify problems that appear to be having some adverse environmental impacts but the severity and/or length of stream affected is fairly limited. While a moderate severity rating would indicate that field crews did believe it was a significant problem, it also indicates that they have seen or would expect to see much worse problems in that specific problem category. Examples would include: a small fish blockage that was passable by strong swimming fish like trout, but a barrier to resident species such as sculpins; or a site where several hundred feet of stream had an inadequate forest buffer.
- * A minor severity rating of 5 is given to problems that do not appear to be having a significant impact on stream and aquatic resources. A minor rating indicates that a problem was present but compared to other problems in the same category it would be considered minor. Examples would include: an outfall pipe from a storm water management structure that is not discharging during dry weather and does not have any erosion problem either at the outfall or immediately downstream, or a section of stream that has stable banks and some trees along both banks but the forest buffer is less than 50 feet.

The **correctability rating** provides a relative measure on how easily the field teams believe the problem can be corrected. The correctability rating can be helpful in determining which problems can be easily dealt with when developing a restoration plan for a drainage basin. One restoration strategy would initially target the severest problems that are the easiest to fix. The correctability rating can also be useful in identifying simple projects that can be done by volunteers, as opposed to projects that require more significant planning and engineering efforts.

- * A minor correctability rating of 1 is assigned to problems that can be corrected quickly and easily using hand labor, with a minimum amount of planning. These types of projects would usually not need any Federal, State or local government permits. It is a job that small group of volunteers (10 people or less) could fix in a day or two without using heavy equipment. Examples would be removing debris from a blocked culvert pipe, removing less than two pickup truck loads of trash from an easily accessible area or planting trees along a short stretch of stream.
- * A moderate correctability rating of 3 is given to sites that may require a small piece of equipment, such as a backhoe, and some planning to correct the problem. This would not be the type of project that volunteers would usually do by themselves, although volunteers could assist in some aspects of the project, such as final landscaping. This type of project would usually require a week or more to complete. The project may require some local, State or Federal government notification or permits, however, environmental disturbance would be small and approval should be easy to obtain.

- * A very difficult correctability rating of 5 is given to problems that would require a large expensive effort to correct. These projects would usually require heavy equipment, significant amount of funding (\$100,000.00 or more), and construction could take a month or more. The amount of disturbance would be large and the project would need to obtain a variety of Federal, State and/or local permits. Examples would include a potential restoration area where the stream has deeply incised several feet over a long distance (i.e., several thousand feet) or a fish blockage at a large dam.

The **accessibility rating** is used to provide a relative measure of how difficult it is to reach a specific problem site. The rating is made at the site by the field survey team, using their field map and field observations. While factors such as land ownership and surrounding land use can enter into the field judgments of accessibility, the rating assumes that access to the site could be obtained if requested from the property owner.

- * A very easy accessibility rating of 1 is assigned to sites that are readily accessible both by car and on foot. Examples would include a problem in an open area inside a public park where there is sufficient room to park safely near the site.
- * A moderate accessibility rating of 3 is assigned to sites that are easily accessible by foot but not easily accessible by a vehicle. Examples would include a stream section that could be reached by crossing a large field or a site that was accessible only by 4-wheel drive vehicles.
- * A very difficult accessibility rating of 5 is assigned to sites that are difficult to reach both on foot and by a vehicle. Examples would include a site where there are no roads or trails nearby. To reach the site it would be necessary to hike at least a mile. If equipment were needed to do the restoration work, an access road would need to be built through rough terrain.

Following the completion of the survey, information from the field data sheets were entered into a Microsoft Access database and verified by the field teams. In addition, the 415 photographs were taken during the survey were labeled and organized by site number in a binder so they can be easily worked with. The photographs were also digitized using a flat bed scanner and placed on a photo CD so they can be distributed to interested parties. Finally, all data collected during the survey was incorporated into an ArcView Geographical Information System (GIS). A final copy of ArcView files were given to the Worcester County for their use in developing an Watershed Action Strategy for the Isle of Wight.

RESULTS

The Stream Corridor Assessment of the Isle of Wight Bay watershed started in January 2001, and most field data collection was completed by April 2001. The present survey only examined the portion of the watershed that is within Maryland.

An overall summary of survey results is presented in Table 1, while Table 2 summarizes the data by major stream segments. All data collected during the survey is presented in Appendices A and B. Appendix A provides a listing of information by problem number along with its location, using latitude and longitude coordinates. Information in this format is useful when working with maps showing the location of problem sites to determine what problems may be present along a specific stream reach. In Appendix B, the data is presented by problem type, with more detailed information about each problem. Presenting the data by problem type allows the reader to see which problems the field crews rated the most severe or easiest to fix within each category.

Table 1: Summary of results from the Isle of Wight SCA Survey.

Potential Problems Identified	Number	Estimated Length	Very Severe	Severe	Moderate	Low Severity	Minor
Channel Alterations	152	947,401 feet (179.4 miles)	0	124	20	6	2
Inadequate Buffers	118	1,752,266 feet (331.9 miles)	87	18	12	1	0
Fish Barriers	32	NA	0	1	3	3	25
Erosion Sites	31	12,455 feet (2.4 miles)	0	1	4	7	19
In/Near Stream Construction	8	NA	1	1	3	2	1
Trash Dumpings	4	NA	0	1	1	1	1
Unusual Conditions	3	NA	0	0	1	2	0
Pipe Outfalls	1	NA	0	1	0	0	0
Total	349		88	147	44	22	48
Representative Sites	115						

Table 2: Summary of survey results by major stream segments.

	Channel Alterations	Inadequate Buffers	Fish Barriers	Erosion Sites	In/Near Stream Construction	Trash Dumpings	Unusual Conditions	Pipe Outfalls	Representative Sites
Beaver Dam Creek	3	1							4
Birch Branch	19	18		3	2				10
Bishopville Prong	1		1	1					
Buck Island Creek	2	2							
Carey Branch	13	15				1	1		7
Church Branch	19	14	1	4	1			1	10
Crippen Brnach	7	5	3	2			1		2
Herring Creek	26	10	7	9	2	1			16
Jake Gut	1								2
Latchum Creek	1	1							3
Lower Isle of Wight Bay	1	1			2				6
Manklin Ceek	4	1		1					2
Middle Branch	5	7	1	2	1				5
Mud Creek	14	13	13	5			1		14
Perch Gut	3	4		4					1
Perkins Branch	4	3							4
Slab Bridge Prong	5	6				1			2
Taylorville Creek	10	8	6			1			7
Turville Creek	5								6
Unnamed NE Bishopville Prong	4	3							3
Unnamed NW Bishopville Prong	1	1							2
Unnamed SE Bishopville Prong									3
Unnamed SW Bishopville Prong	1	2							1
Unnamed NE St. Martin River	1	1							
Unnamed SW St. Martin River									1
Windmill Creek	2	2							4

Channel Alterations

Channel alteration sites are stream sections where the stream's banks and channel have been significantly altered from a natural condition. This includes areas where the stream may have been straightened and/or where the stream banks have been hardened using rock, gabion baskets or concrete over a significant length (usually 100 feet or more). It does not include road crossings unless a significant portion of the stream above or below the road has also been channelized. In addition, places where a small section of only one side of the stream's banks may have been stabilized to reduce erosion were not reported as channel alterations. For the purposes of this survey, channel alteration also does not include tributaries where storm drains were placed in the stream channel and the entire tributary is now piped underground. While these stream sections have been significantly altered, it is not possible to tell by walking the stream corridor precisely where this was done.

Channel alteration was the most frequently reported problem. Survey crews found 152 areas in the Isle of Wight Watershed where the stream channel had been recognizably altered. Location of channel alteration sites are shown in Figure 5b. The total length of stream affected by channelization was estimated to be 947,401 feet or about 179.43 miles. This accounts for 69.11% of stream miles in the non-tidal area of the Isle of Wight. Channel alterations were found to be widespread throughout the headwaters of the watershed, especially in the watershed northern area. The majority of the sites (146 sites) were earthen channels or agricultural ditches. One site was reported to have rip-rap present in the channel, 1 site had gabion baskets and at 1 site cinder blocks were being used to armor an eroding stream bank. Most of the sites in the Isle of Wight watershed were given a severity rating of severe (Figure 5a). The rating reflects the extensive nature of most of the stream canalization sites. In one site (Site IW059109) it was estimated that there were over 11 miles of channelized stream present. Channel alteration sites in the Isle of Wight were not given the highest severity rating of very severe because this rating is usually only given in areas where cement channels have been constructed and there is virtually no natural in-stream habitat present. The lengths of stream present at channel alteration sites varied from 7ft to 61,073ft. Bottom widths ranged from 3 inches to 50 feet. Perennial flow was reported to be present at 90 % (136 sites) and sediment deposition was reported at 70 sites.

While the stream in the Isle of Wight watershed have been highly manipulated, for the most part the streams are stable and bank erosion problems were only reported at a few sites in the entire watershed (see erosion site section). The lack of serious erosion problems, despite the fact that the stream network has been so extensively manipulated, is believed to be due mainly to the very flat topography of the area. Stream slopes in the watershed are very low and even during large rain events the water does not usually move at very high velocities.

Almost all of the channel alteration sites in the Isle of Wight Watershed can best be described as agricultural ditches. Agricultural ditching is extensive on Maryland's Eastern Shore and was done to improve the agricultural use of poorly drained land. In areas with large agricultural ditch networks, Public Drainage Associations (PDAs) and Public Watershed Association (PWA) were established to manage and maintain the ditches. As part of the normal maintenance procedures along most agricultural ditches, the banks of the ditches are periodically mowed to prevent the growth of trees and other woody vegetation that could interfere with future maintenance of the ditches. It is not surprising then that the presence of inadequate stream buffers coincided with the presence of ditches at over 100 sites.

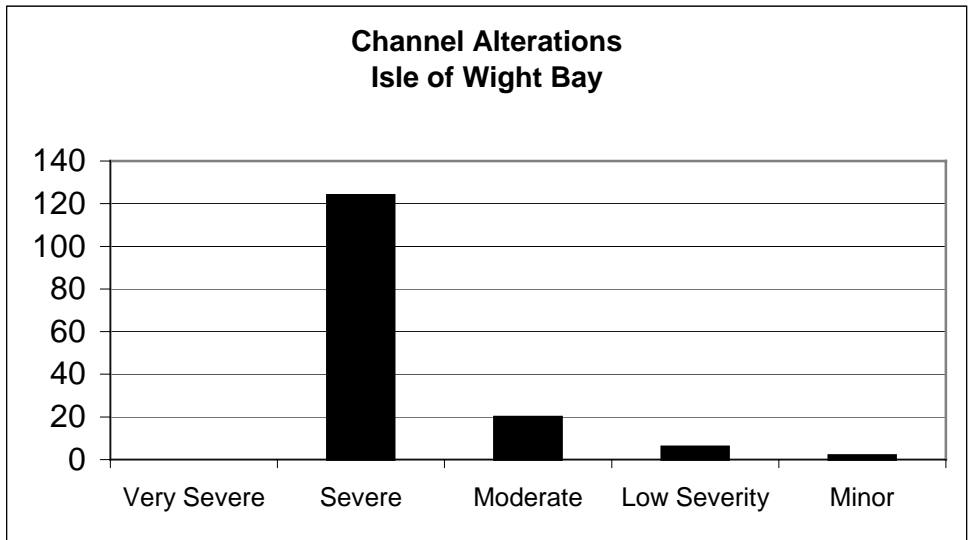


Figure 5a: Histogram showing the frequency of severity ratings given to channel alteration sites during the Isle of Wight Bay SCA survey.

Inadequate Buffers

Forested stream buffers are very important for maintaining healthy Maryland streams. They help shade the stream to prevent excessive solar heating and their roots stabilize the streams banks. Forest buffers also help remove nutrients, sediment and other pollutants from runoff and the leaves from trees are a major component of the stream's food web. Because of the importance of stream buffers, the state of Maryland has set a goal of recreating 1200 miles of forest stream buffers by the year 2010.

While there is no single minimum standard for how wide a forested stream buffer should be in Maryland, for the purposes of this study a forest buffer is generally considered inadequate if it is less than 50 feet wide, measured from the edge of the stream's banks. Inadequate buffers were the second most frequently reported problem. Survey crews reported inadequate stream buffers at 118 sites in the Isle of Wight Bay watershed survey. The locations of the inadequate buffer sites are shown in Figure 6b.

As part of the data collected by the field crews, a rough estimate of the length of the inadequate stream buffer at each site was made. Based on this data, there is an estimated 1,752,266 feet (331.87 miles) of inadequately buffered stream banks in the Isle of Wight watershed. This accounts for 63.91% of the total stream miles that were surveyed by the field crews. The length of inadequate buffers ranged from 180 feet to 59,892 feet (11.3 miles). Most sites (87 sites) received a severity rating of very severe. These sites involve areas were over 1000 ft of stream with no buffer on either stream bank. Another 18 sites received severe ratings. The 18 severe sites were sites in which there were no buffer on either side for 500ft. – 1000ft long, or sites where there was a buffer on one side and inadequate buffer on the other for over 1000ft.

Agriculture is an important activity in the Isle of Wight watershed with approximately 37% of the land inside the Isle of Wight Bay watershed was categorized as being in agriculture land use (Shanks, 2001). As discussed in the preceding channel alteration section, many of the area's natural streams in the Isle of Wight Watershed were ditched during the early 1900s. The ditching was done to lower the ground water table in areas where it was previously too wet to grow crops. Once a stream has been converted into an agricultural ditch it is a very common practice to mow the side banks of the ditches to prevent the growth of trees that could interfere with future maintenance work. This mowing activity is the main reason that approximately 64 % of the waterways that were surveyed were reported to have inadequate forest buffers along their banks. The majority of these sites (96 out of 118) were reported as having no trees present on either side of the waterway.

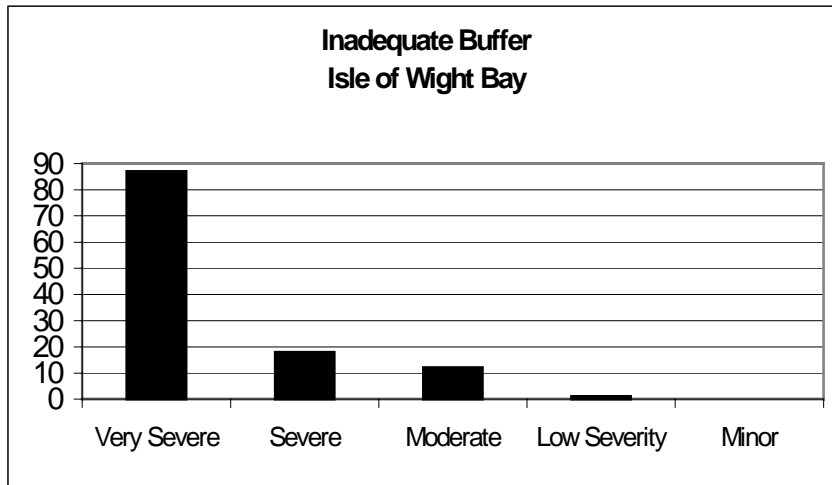


Fig. 6a: Histogram showing the frequency of severity ratings given to inadequate buffer sites during the Isle of Wight Bay SCA survey.

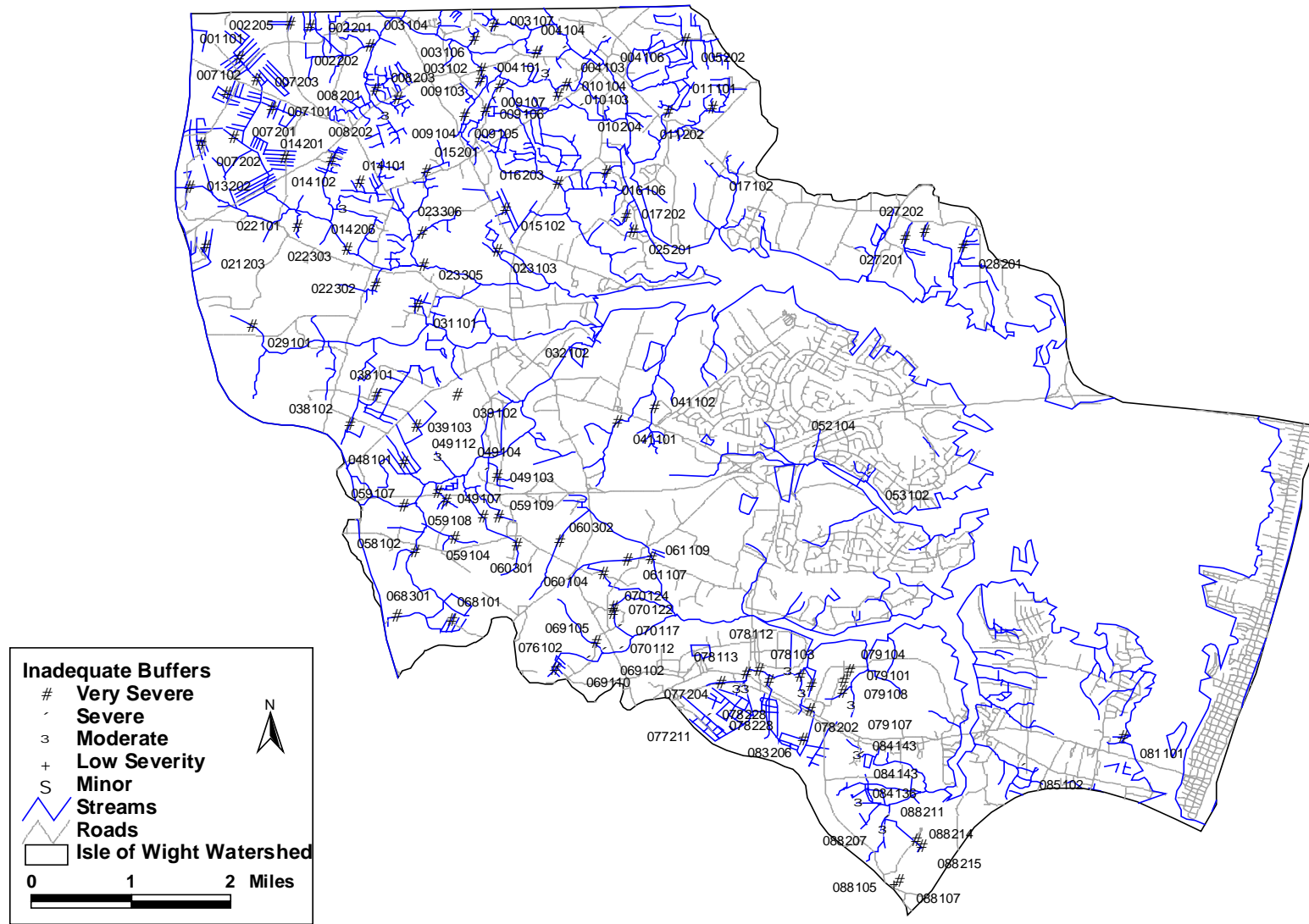


Figure 6b: Isle of Wight Bay Watershed Inadequate Buffers.

Fish Migration Barriers

Fish migration barriers are anything in the stream that significantly interferes with the free movement of fish upstream. Unimpeded fish passage is especially important for anadromous fish that live much of their lives in tidal waters but must move into non-tidal rivers and streams to spawn. Unimpeded upstream movement is also important for resident fish species, many of which also move both up and down stream during different parts of their life cycle. Without free fish passage, some of the sections in a stream network can become isolated. If a disturbance occurs in an isolated stretch of stream, such as a sewage line break that discharges a large amount of raw sewage into a small tributary, some or all fish species may be eliminated from that isolated section of stream. With a fish blockage present and no natural way for a fish to repopulate the isolated stream section, the diversity of the fish community in an area will be reduced and the remaining biological community may be out of natural balance.

Fish blockages can be caused by man-made structures such as dams or road culverts, and by natural features such as waterfalls or beaver dams. Fish blockages occur for three main reasons. First, a vertical water drop such as a dam can be too high for fish to jump or swim over the obstacle. A vertical drop of 6 inches may cause a fish passage problem for some resident fish species, while anadromous fish can usually move through water drops of up to 1 foot, providing there is sufficient flow and water depth. The second reason a structure may be a fish passage problem is because the water is too shallow. This can often occur in channelized stream sections or at road crossing where the water from a small stream has been spread over a large flat area and the water is not deep enough for fish to swim through. Finally, a structure may be a fish blockage if the water is moving too fast through it for fish to swim through. This can occur at road crossings where the culvert pipe has been placed at a steep angle and the water moving through the pipe has a velocity that is higher than a fish's swimming ability.

Survey crews identified 32 fish migration barriers during the survey. The locations of fish migration blockages are shown in Figure 7b. At 19 sites the survey crews reported that the water was too shallow for fish migration, while at an additional 13 sites they reported that there was a water drop that was too high for some fish to move upstream. Debris dams were cited as the main type of fish barrier and were reported at 20 sites. Other causes of fish barriers in the watershed were road crossings (6 sites), pipe crossings (3 sites), a foot path (1 site) and channelized sections of stream (1 site). Only one dam was reported during the survey (Site IW005206). The dam is located just above Bishopville Road (Rt. 367) near the town of Bishopville. A review of historical information indicates that white perch and river herring are present in the Isle of Wight Bay and may spawn in the area. Surveys in 1969 however were not able to document the presence of the fish just below the dam (DNR, 2000)

The majority (20 of 32 sites) of the fish migration blockages were characterized as being either temporary or partial fish migration barriers. Most of the fish migration blockages were also given a minor or low severity rating (Figure 7a). The only exception was at the dam near Bishopville (Site IS005206), which was given a severe rating because it may be interfering with the migration of some anadromous fish.

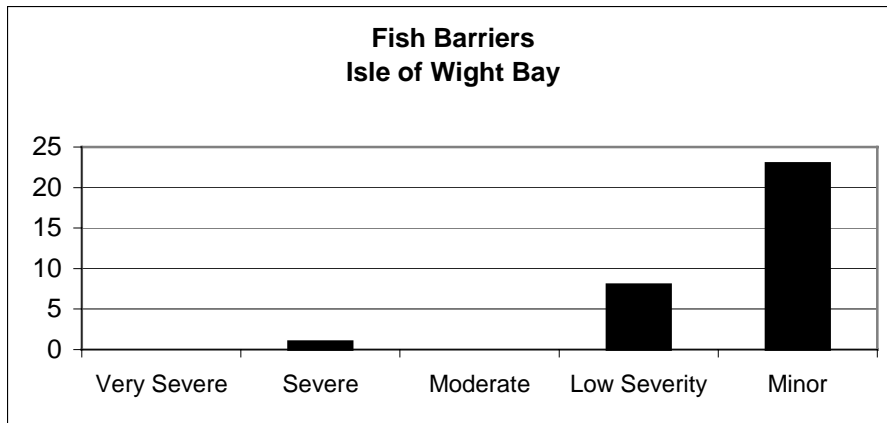


Figure 7a: Histogram showing the frequency of severity ratings given to fish migration blockages seen during Isle of Wight Bay SCA survey.

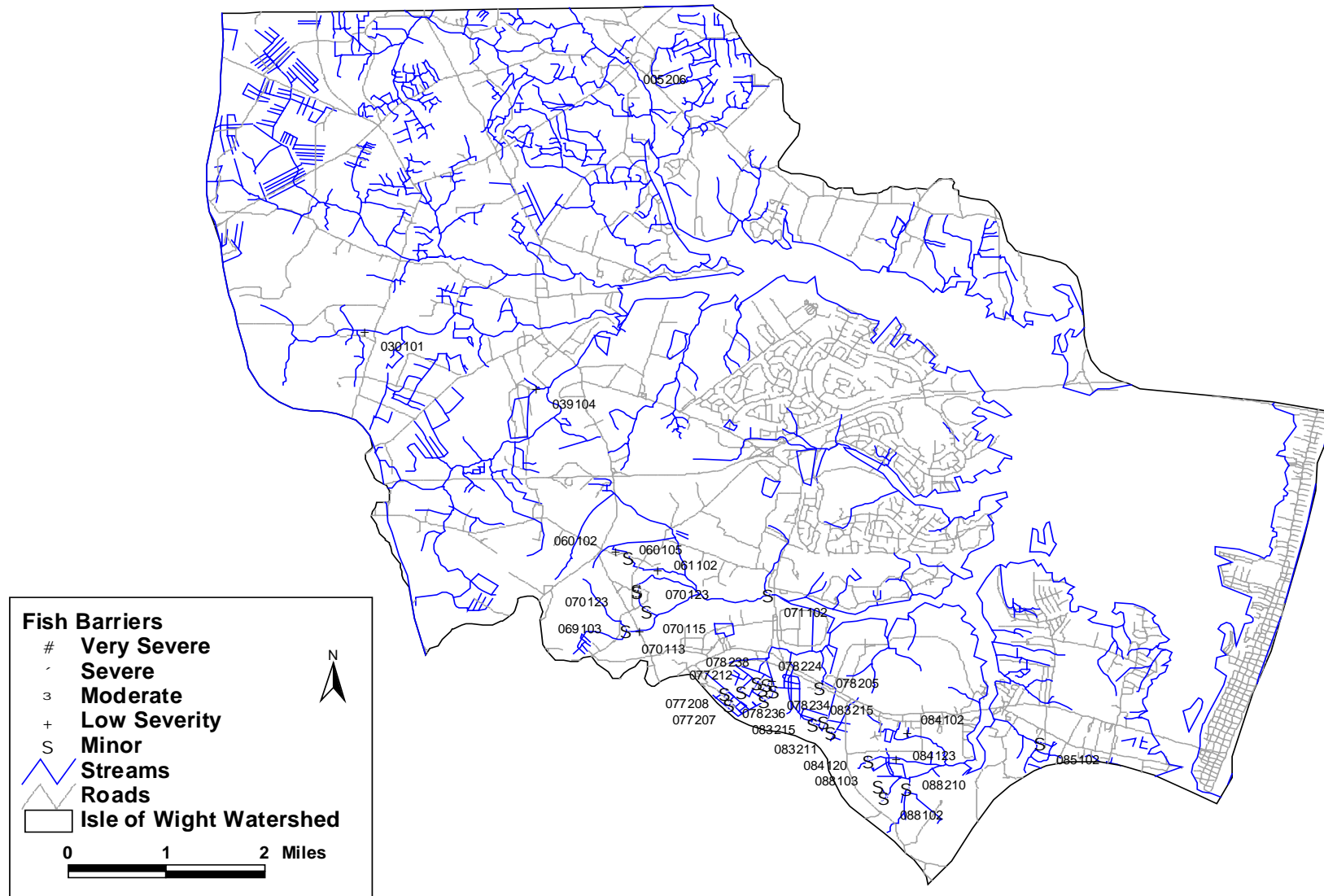


Figure 7b: Isle of Wight Bay Fish Barriers.

Erosion Sites

Erosion is a natural process, and it is necessary to maintain good aquatic habitat in a stream. Too much erosion, however, can have the opposite effect, destabilizing stream banks, destroying in-stream habitat and causing significant sediment pollution problems downstream. Severe erosion problems occur when a stream's hydrology, geometry and/or sediment supply have been significantly altered. This often occurs when land use in a watershed changes. Increases in the amount of impervious surfaces, construction in the floodplain and alterations to channel alignments can all destabilize stream banks. These activities can set off a series of channel readjustments and these changes can extend over decades, during which time excessive amounts of sediment from unstable eroding stream banks can have very detrimental impacts on the stream's aquatic resources.

In this survey, unstable eroding streams are defined as areas where the stream banks are almost vertical and the roots from the vegetation along the stream's banks are unable to hold the soil on the banks. Unstable eroding stream banks were reported at 31 sites. It is important to note that the SCA survey is only a visual survey of the stream network. While survey teams are asked to comment whether they believed the stream was down-cutting, widening, or headcutting at a specific site, the only way to really know the full significance of the erosion processes at a specific site is to do more detailed surveys.

The locations of bank erosion sites are shown in Figure 8b. Eleven sites are in Turville Creek, 9 sites are in Herring Creek, 9 sites are in Shingle Landing Prong, 1 site is in Manklin Creek, and 1 is in Bishopville Prong. The length of the erosion problems range from 25 to 2000 feet. The majority of the erosion sites in the Isle of Wight Bay watershed were fairly small and were given moderate to minor severity ratings (Figure 8a). Only one site (Site 039105) was given a severe rating. The site is located on the Church Branch of the Shingle Landing Prong. Field crews estimate the length of the erosion problem at this site to be 1000 feet with an average bank height of 11 feet.

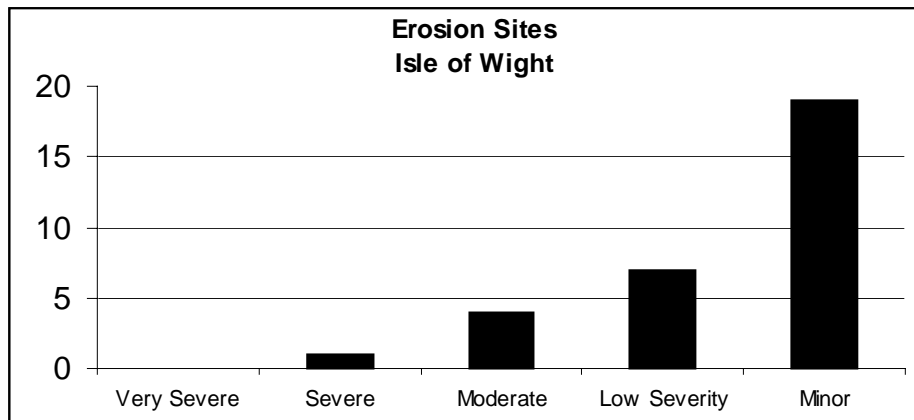


Figure 8a: Histogram showing the frequency of severity ratings given to stream bank erosion site during Isle of Wight Bay SCA survey.

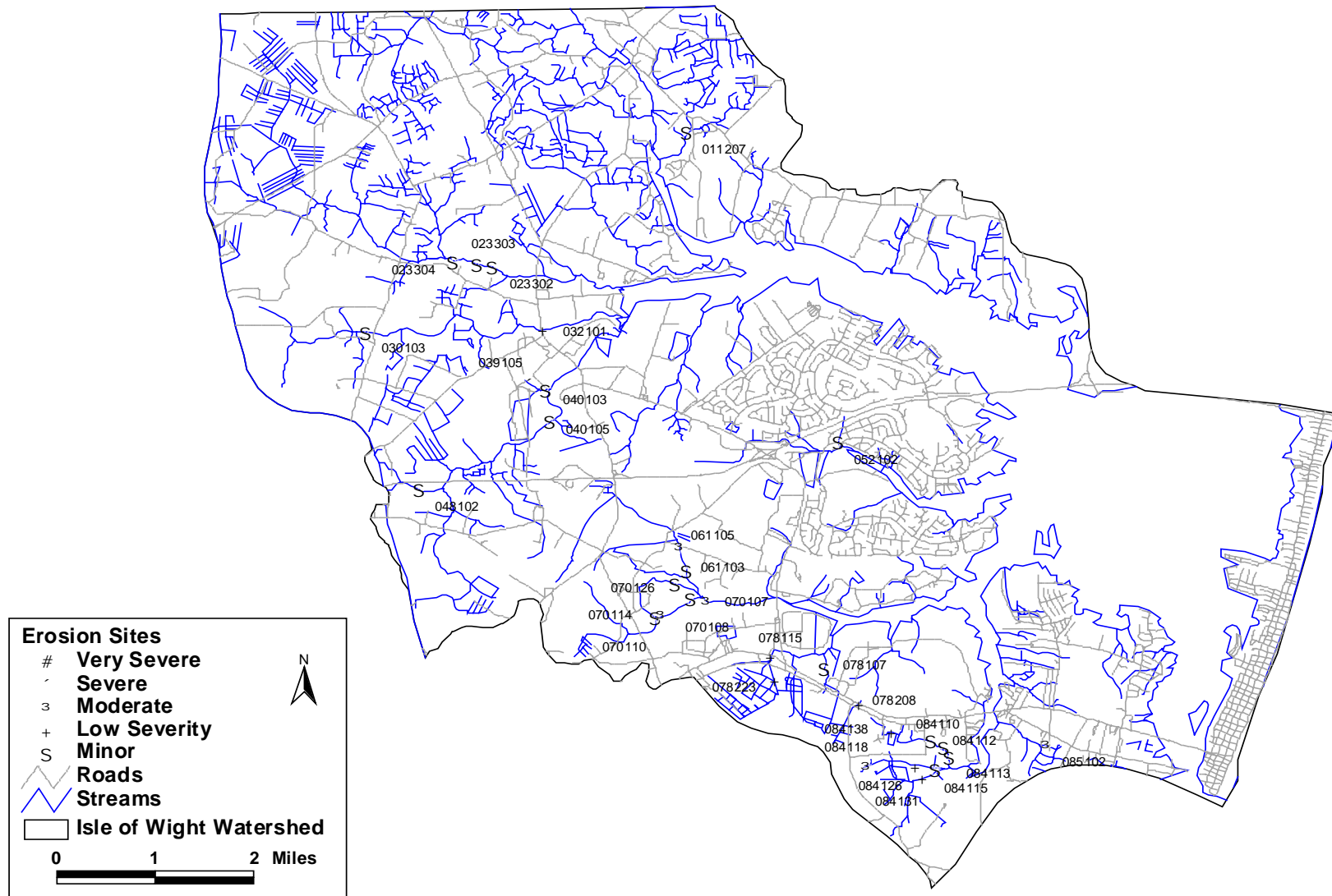


Figure 8b: Isle of Wight Bay Watershed Erosion Sites.

In/Near Stream Construction

In or near stream construction data sheets are used to document the locations of construction disturbances seen by the survey teams inside or near the stream corridor. Survey team members are not trained sediment inspectors but as part of their training they do receive a quick review of the different type of sediment control measures they may see while doing a SCA survey. Survey teams report evidence of inadequate sediment control measures or if sediment pollution from the site has affected the stream. In or near stream construction was reported at 8 sites during the Isle of Wight survey. Two sites were found on Birch Branch, Herring Creek, and the lower section of the Isle of Wight Bay. One site was on Church Branch, and one site in Middle Branch. The location of in/near stream construction sites is shown in Figure 9b.

Most sites were given a moderate to minor severity rating (Figure 9a). Two site however, Site 086302 and Site 085104, were given very severe and sever ratings respectively. At Site 086302 survey crews reported that an unknown company was constructing a park and ride just south of Rte. 50 in the lower Isle of Wight Bay watershed. Field crews indicated that they did not believe the construction site had adequate sediment control and reported excess sediment washing into several streams. At Site 085104 field crews reported that a road construction project with inadequate sediment control was washing excessive sediment into lower Isle of Wight also.

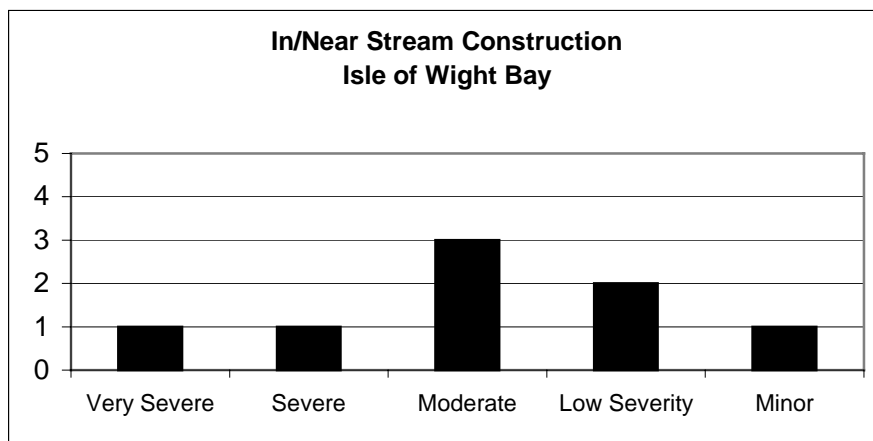


Figure 9a: Histogram showing the frequency of severity ratings given to in/near stream construction sites during Isle of Wight SCA survey

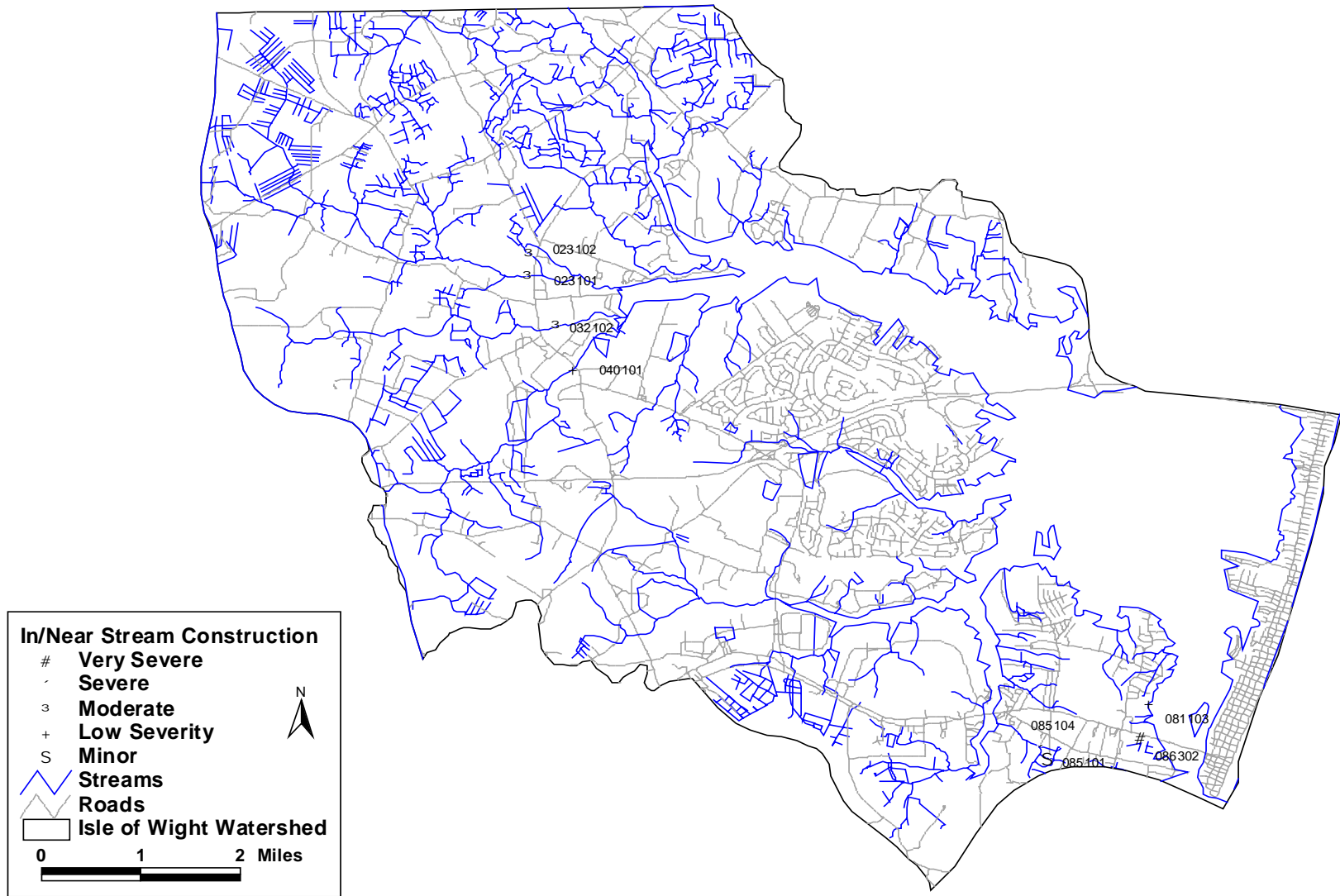


Figure 9b: Isle of Wight Bay Watershed In/Near Stream Construction.

Trash Dumping

Trash dumping data sheets are used to record the location of places where large amounts of trash has been dumped inside the stream corridor or to note places where trash tends to accumulate. The field survey crew found 4 sites where there was excessive trash and the locations are shown in Figure 10b. Site 003103 on the Carey Branch of the Bishopville Prong was given a severe rating. This site was found to have a large amount of tires, styrofoam, paper, and scrap metal present next to the stream. Field crews estimated at least 5 pick-up truckloads of trash present at this site. Three more sites were recorded as moderate to minor in severity (Figure 10a). These sites included residential waste, Styrofoam, and car parts.

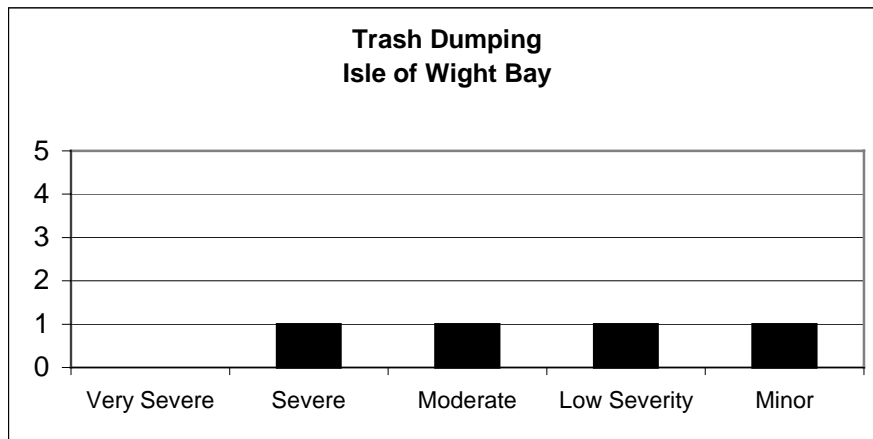


Figure 10a: Histogram showing the frequency of severity ratings given to trash dumping sites during Isle of Wight SCA survey

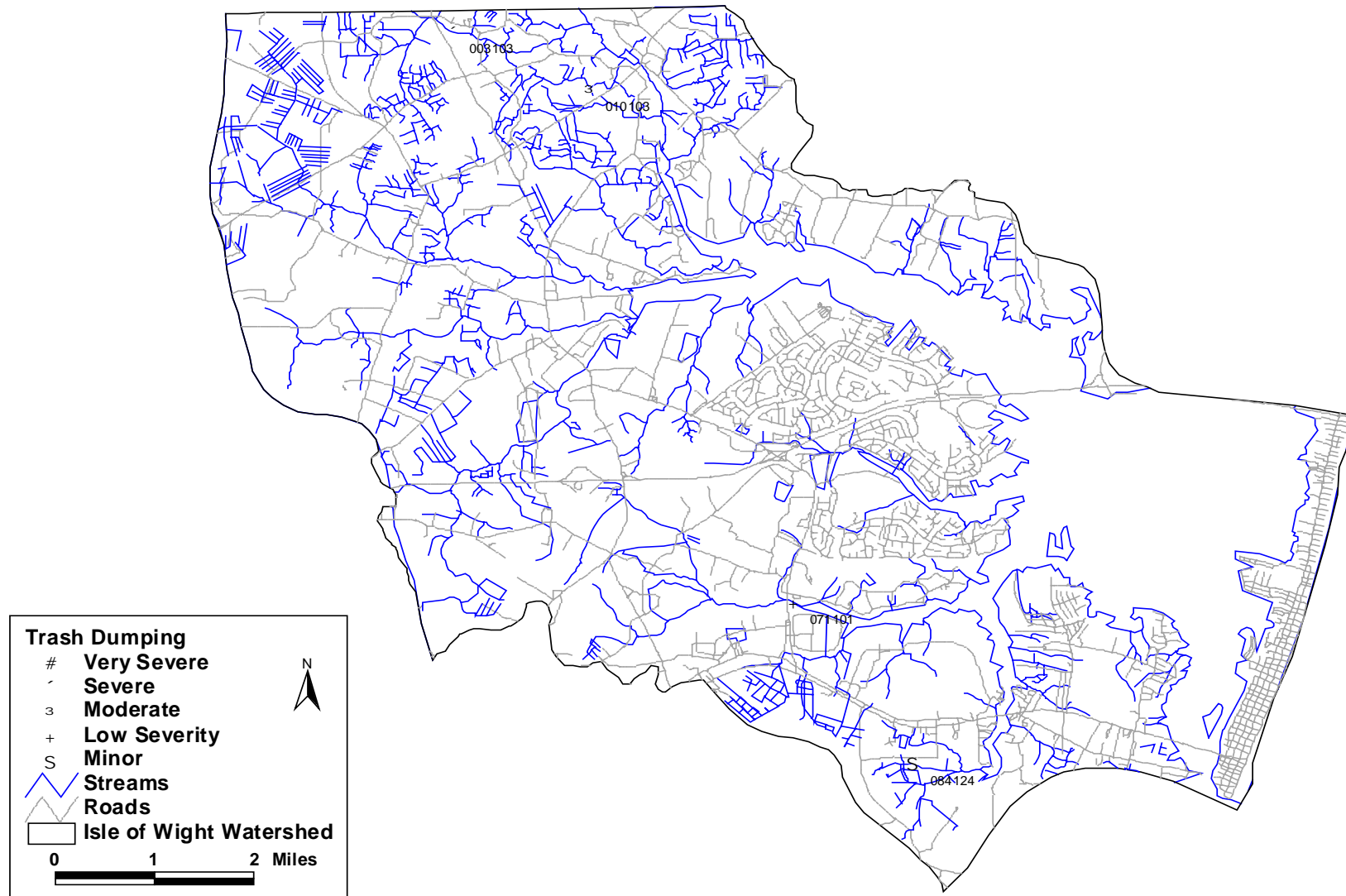


Figure 10b: Isle of Wight Bay Watershed Trash Dumping Sites.

Unusual Conditions

The unusual condition/comment data sheets are used to record the location of anything out of the ordinary seen during the survey, or to provide some additional written comments on a specific problem. Three unusual condition data sheets were completed during the Isle of Wight Bay survey, and eighty-three comment data sheets were filled out. The locations of the unusual condition sites are shown in Figure 11b. Two unusual conditions were given a low severity rating, and one site was given a moderate rating (Figure 11a). The moderate rating was given to Site 071104 where a dead sheep was found in the stream.

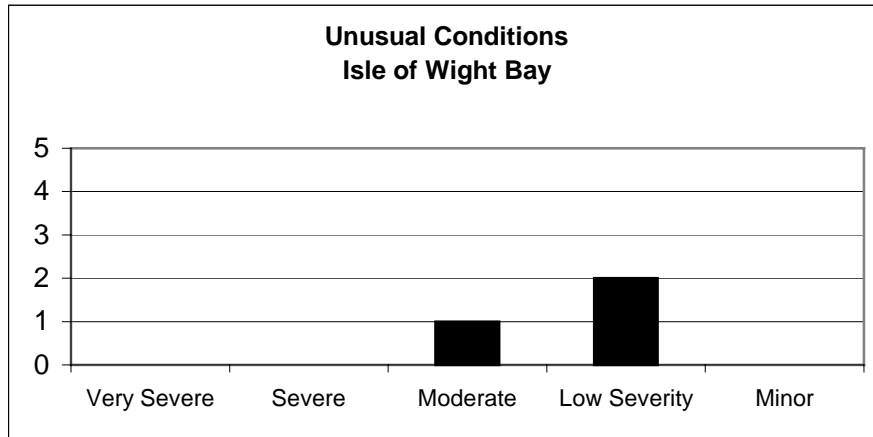


Figure 11a: Histogram showing the frequency of severity ratings given to unusual condition sites during Isle of Wight SCA survey

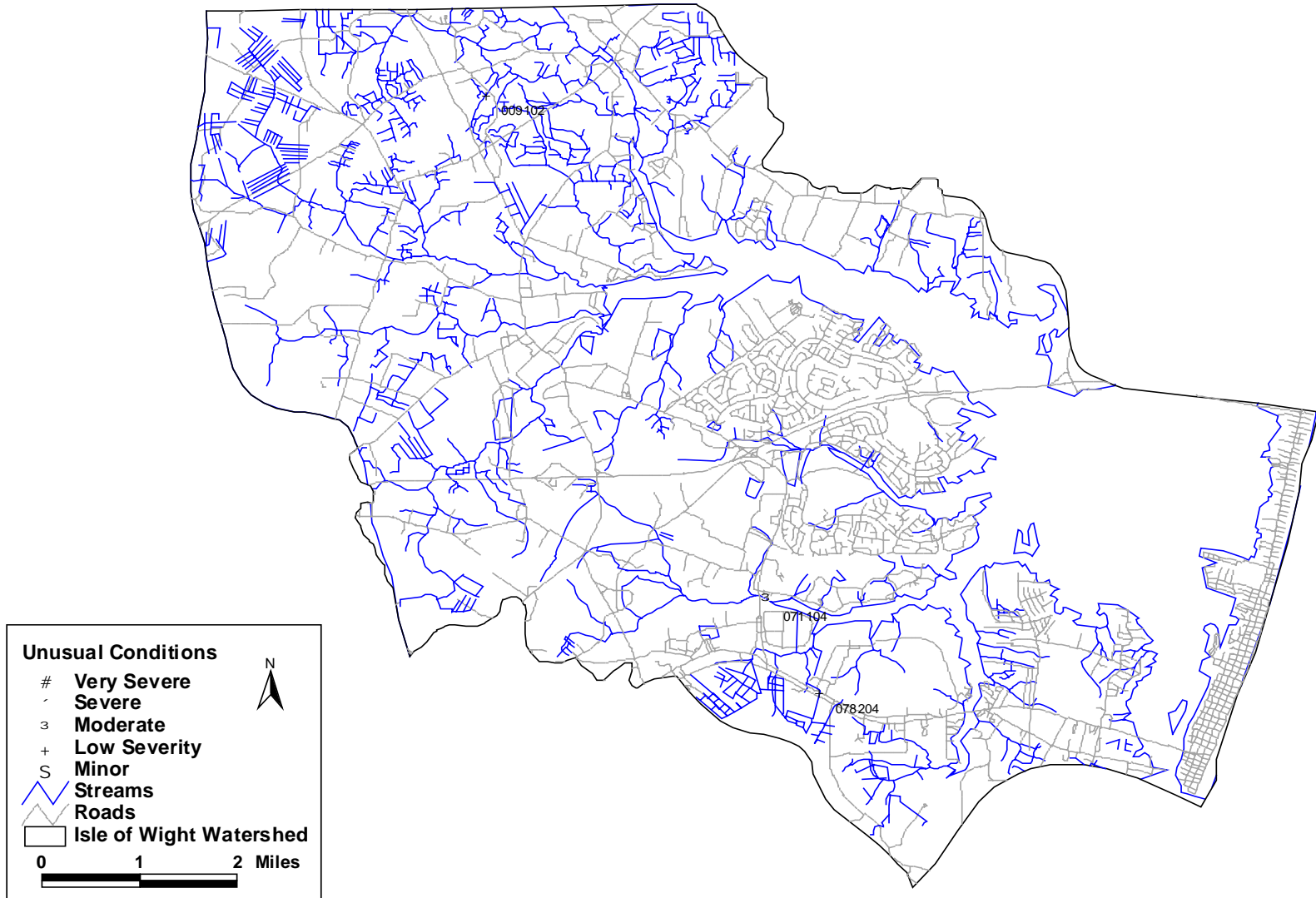


Figure 11b: Isle of Wight Bay Watershed Unusual Conditions.

Pipe Outfalls

Pipe outfalls include any pipes or small man made channels that discharge into the stream through the stream corridor. Pipe outfalls are considered a potential environmental problem in the survey because they can carry uncontrolled runoff and pollutants such as oil, heavy metals and nutrients to a stream system. One pipe outfall was identified during the Isle of Wight survey. It was rated as a severe pipe outfall problem (Fig. 12a). It is located on the Church Branch of the Shingle Landing Prong (Figure 12b). The pipe was a sewage treatment outfall with a clear discharge and has a sewage odor.

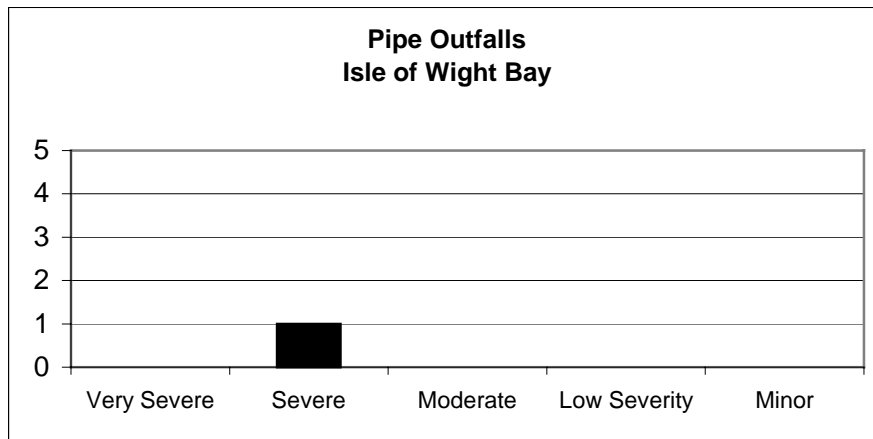


Figure 12a: Histogram showing the frequency of severity ratings given to pipe outfall sites during Isle of Wight SCA survey

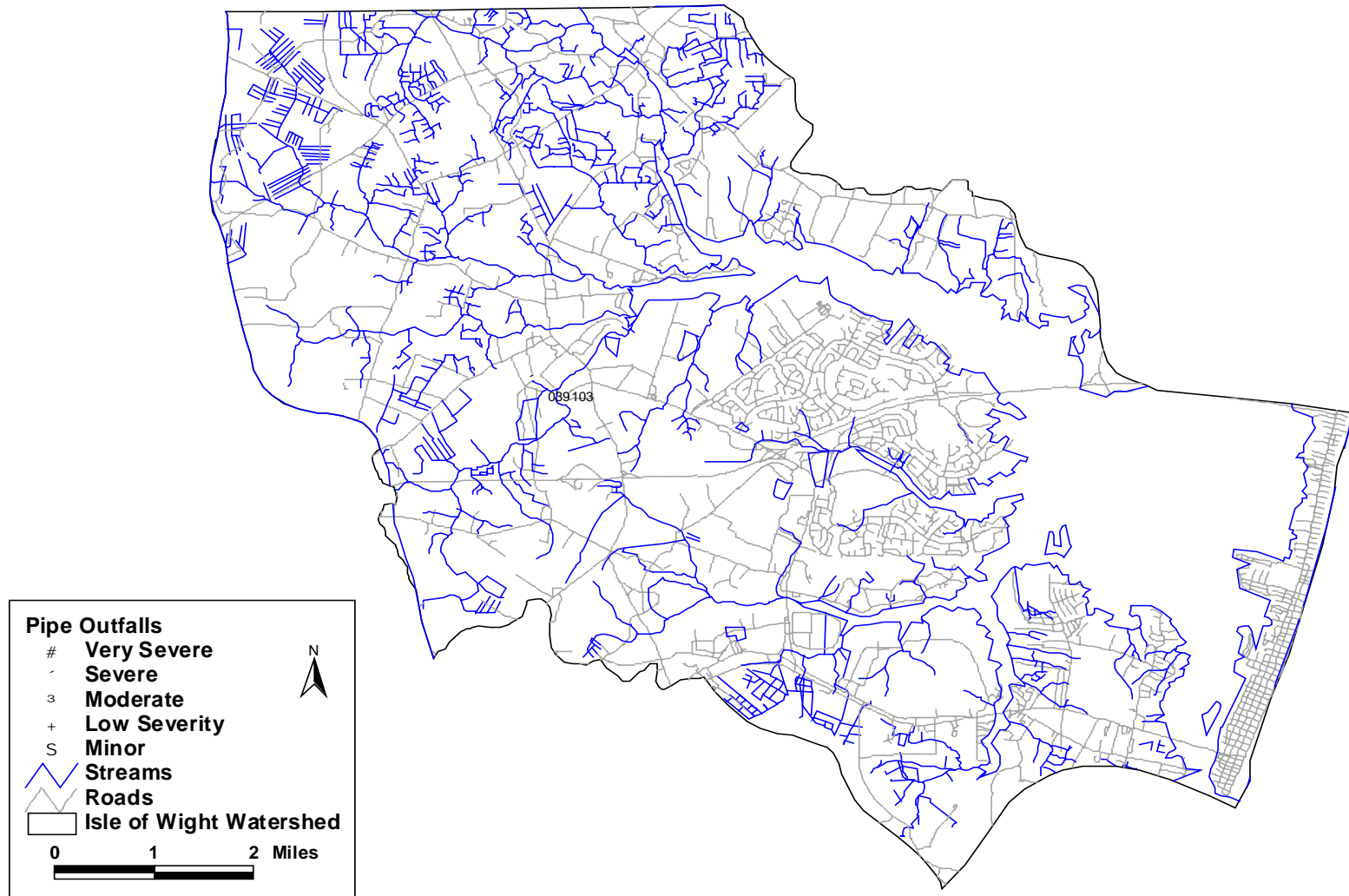


Figure 12b: Isle of Wight Bay Watershed Pipe Outfalls.

Representative Sites

Representative sites are used to document the general condition of both in-stream habitat and the adjacent riparian (stream bank) corridor. The representative site evaluations procedures used during the survey are very similar to the habitat evaluations done as part of the Maryland Save-Our-Stream's Heartbeat Program and are based on the habitat assessment procedures outlined in EPA's rapid bioassessment protocols (Plafkin, et. al., 1989). At each representative site, data was collected on 10 separate parameters. Habitat parameters that were evaluated include:

- * Attachment Sites for Macroinvertebrates
- * Shelter for Fish
- * Sediment Deposition
- * Channel Flow Status
- * Condition of Banks
- * Embeddedness
- * Channel Alteration
- * Stream Velocity and Depth
- * Bank Vegetation Protection
- * Riparian Vegetative Zone Width

For each of the above habitat parameters, a rating of optimal, sub-optimal, marginal or poor was assigned based on the grading criteria developed for each parameter. In addition to the habitat ratings, data was collected on the stream's wetted width and pool depths at both runs and riffles at each representative site. Depth measurements were taken along the stream thalweg. At representative sites, field crews also indicated whether the bottom sediments in the area were primarily silts, sands, gravel, cobble, boulders, or bedrock.

Representative site evaluations were done at approximately ½ mile intervals along the stream. One hundred and fifteen representative data sheets were filled out during this survey. Locations of representative sites are shown in Figure 13, and the data is presented in Appendix B.

The waterways flowing through the agricultural areas received low ratings for conditions such as macroinvertebrate substrata, embeddedness, shelter for fish, channel alteration, velocity and depth, and riparian vegetation indicating that the channel had been altered significantly and most areas did not have an adequate riparian buffer. Other parameters, including sediment deposition, channel flow and bank condition measured more in the suboptimal range indicating the watershed does not have severe erosion problems. These findings are not surprising due to the high amount of agricultural ditching and the low-lying topography of the watershed.

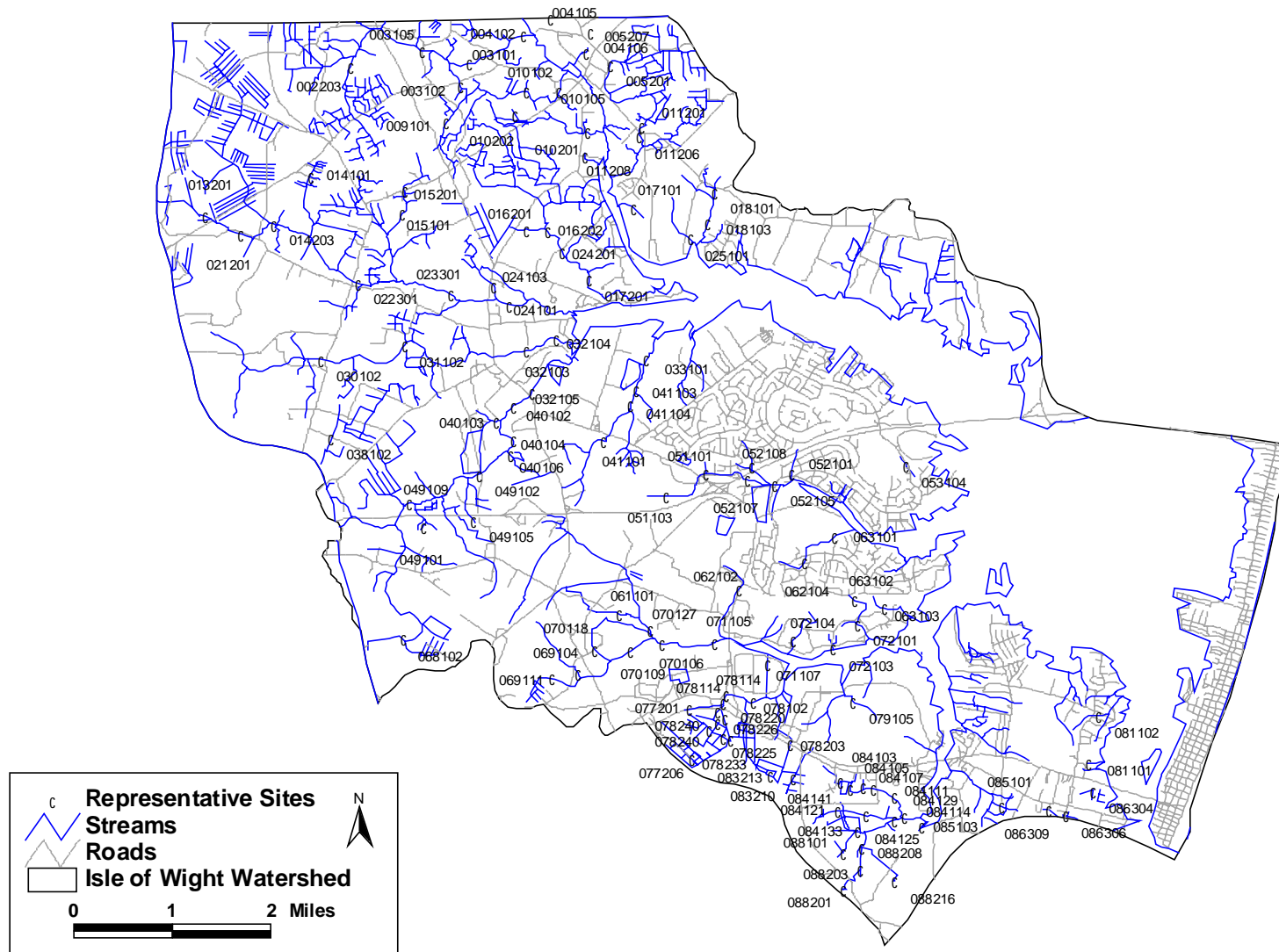


Figure 13: Isle of Wight Bay Watershed Representative Sites.

DISCUSSION

One of the main objectives of the Isle of Wight Bay Stream Corridor Assessment survey was to walk the stream network quickly in order to identify potential environmental problems in or along the edge of the streams. The survey was done in the Winter/Spring of 2001 and over 259 miles of stream were walked. During the SCA survey, 349 potential environmental problem sites were identified. These include 152 channel alterations, 118 inadequate stream buffers, 32 fish migration barriers, 31 erosion sites, 8 construction sites within the stream corridor, 4 trash dumping sites, 3 unusual conditions, and 1 pipe outfall.

Channel alterations were the most commonly reported problem during this survey. Field crews estimated that the total length of stream affected by channelization was 947,401 feet or 179.43 miles. This accounts for 69.11% of stream miles in the non-tidal area of the Isle of Wight. Channel alterations were found to be widespread throughout the headwaters of the watershed, especially in the watershed northern area.

As discussed earlier almost all of the channel alteration sites in the Isle of Wight Watershed can best be described as agricultural ditches. Agricultural ditching is extensive on Maryland's Eastern Shore and was done to improve the agricultural use of poorly drained land. Agricultural ditching dates back to 1789 in Maryland with the ditching of Long Marsh in Queen Anne's and Caroline County. During the early and middle part of the 1900's extensive ditching occurred throughout Maryland's Eastern Shore. As part of these ditching operations, Public Drainage Associations (PDAs) and Public Watershed Associations (PWA) were established to manage and maintain the ditching networks. There are over 100 Public Drainage Associations on Maryland's Eastern Shore managing an estimated 821 miles of channelized streams (PDA Taskforce, 2000). On top of the public ditch system, there are hundreds of more miles of roadside and farm ditches that drain into PDAs waterways. Ditching is so extensive in many parts of Maryland's Eastern Shore that it is often very difficult to find any natural stream segment in any part of a watershed.

The Public Drainage Associations routinely maintained their agricultural ditches by mowing along the ditches banks to prevent the growth of trees and other woody plants. It is therefore, not surprising that in addition to finding 69.11% of the stream miles walked had been channelized, 63.19% of the stream miles also had inadequate forest buffers along their banks.

Because of questions about the environmental effects of agricultural ditches on the Chesapeake Bay's aquatic resources, a Public Drainage Taskforce was formed in June of 1999. The Taskforce was made up representatives of both the environmental and agricultural communities. The task force was charged with developing, "recommendations, which would enhance the Eastern Shore environment and the agricultural community by considering changes in public land drainage" (Bell and Favero, 2000). In October 2000, the task force published their final report, which was entitled, "Moving Water." The report contained 7 general recommendations including a recommendation to form an interagency public drainage coordinating group (Bell and Favero, 2000). The interagency coordinating group is chaired by the Maryland Department of Agricultural and is presently looking at best management practices (BMPs) that should be used on agricultural ditches in Maryland. Additional information about the Public Drainage Taskforce and the work of the interagency coordination committee can be obtained from the Office of Resource Conservation at the Maryland Department of Agricultural in Annapolis, Maryland.

While the streams in the Isle of Wight Watershed have been extensively altered for the most part they also were fairly stable with erosion problems reported in only a few locations. The low incident of erosion problems is due in a large part to the flat terrain and low stream slopes in the area. This result suggest that stream in the area may be more amenable to manipulation then stream in areas where the land has much steeper slopes and water in the streams flow with much greater force.

As mentioned earlier, the Maryland Dept. of Natural Resources has formed a partnership with Worcester County to develop a Watershed Restoration Action Strategy (WRAS) for the Maryland portion of the Isle of Wight Bay watershed. Results from this survey will be combined with other information about the area to help establish priorities for the types and location of restoration projects that will be pursued in the Isle of Wight watershed in the future. Information on the Isle of Wight Watershed Action Strategy can be found on DNR's site (www.dnr.state.md.us/watersheds/surf/proj/wras.html) or by contacting the Worcester County Department of Public Works in Snow Hill, Maryland.

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Appendix A

Listing of sites by site number

Appendix A – Isle of Wight Bay Watershed

Site ID	Problem	Severity	Correctability	Access	Location	X Coordinates	Y coordinates
IW001101	Channel Alteration	2	4	2	Birch Branch	551657.92227	87799.62334
IW001101	Inadequate Buffer	1	3	2	Birch Branch	551684.96684	87772.57877
IW001101	Unusual Condition/Comment				Birch Branch	551706.00150	87742.52925
IW001201	Unusual Condition/Comment				Birch Branch	551041.90711	88238.34633
IW002201	Channel Alteration	2	4	1	Carey Branch	552853.89317	88265.39090
IW002201	Inadequate Buffer	1	2	1	Carey Branch	552850.88822	88301.45032
IW002201	Unusual Condition/Comment				Carey Branch	552835.86346	88337.50974
IW002202	Inadequate Buffer	2	1	2	Carey Branch	553803.45800	87979.92046
IW002203	Representative Site				Carey Branch	553833.50752	87829.67286
IW002204	Channel Alteration	3	2	3	Carey Branch	554043.85416	88286.42556
IW002204	Unusual Condition/Comment				Carey Branch	554025.82445	88256.37604
IW002205	Channel Alteration	2	3	1	Carey Branch	552508.32369	88307.46022
IW002205	Inadequate Buffer	1	2	1	Carey Branch	552514.33359	88337.50974
IW002205	Unusual Condition/Comment				Carey Branch	552520.34350	88367.55926
IW003101	Representative Site				Carey Branch	555750.66690	87874.74714
IW003102	Channel Alteration	3	3	1	Carey Branch	555603.42425	87523.16775
IW003102	Inadequate Buffer	2	2	1	Carey Branch	555600.45035	87571.99908
IW003102	Representative Site				Carey Branch	555615.44406	87493.11823
IW003103	Trash Dumping	2	3	3	Carey Branch	554605.78018	88205.29186
IW003104	Channel Alteration	3	3	1	Carey Branch	554930.31500	88316.47508
IW003104	Inadequate Buffer	2	2	1	Carey Branch	554919.89254	88276.54130
IW003105	Representative Site				Carey Branch	554987.40909	88085.09378
IW003106	Channel Alteration	2	3	1	Carey Branch	555450.17170	88055.04426
IW003106	Inadequate Buffer	1	2	1	Carey Branch	555486.52437	88084.66598
IW003107	Channel Alteration	2	3	1	Carey Branch	555801.31983	88291.53156
IW003107	Inadequate Buffer	1	3	1	Carey Branch	555828.30230	88327.50819
IW003107	Unusual Condition/Comment				Carey Branch	555777.71146	88253.37109
IW004101	Channel Alteration	2	3	2	Slab Bridge Prong	556692.96454	87535.23475
IW004101	Inadequate Buffer	3	2	2	Slab Bridge Prong	556677.88727	87483.97206
IW004102	Representative Site				Carey Branch	556647.73275	88331.31419
IW004103	Channel Alteration	3	3	1	Carey Branch	557009.58704	87903.11995
IW004103	Inadequate Buffer	3	2	1	Carey Branch	556973.40161	87891.05814
IW004104	Channel Alteration	2	3	1	Carey Branch	556451.72834	87860.90361
IW004104	Inadequate Buffer	1	2	1	Carey Branch	556502.99103	87857.88816
IW004105	Representative Site				Carey Branch	557078.94245	88605.72036
IW004106	Inadequate Buffer	3	1	1	Carey Branch	557603.63117	88050.87712
IW004106	Representative Site				Unnamed NE Bishopville Prong Tributary	557651.87841	88062.93893
IW005201	Representative Site				Unnamed NE Bishopville Prong Tributary	558049.91813	87851.85725
IW005202	Inadequate Buffer	1	3	1	Unnamed NE Bishopville Prong Tributary	558903.29117	88071.98528
IW005203	Unusual Condition/Comment				Unnamed NE Bishopville Tributary	559048.03289	88071.98528
IW005204	Channel Alteration	2	4	1	Unnamed NE Bishopville Prong Tributary	558782.67308	88038.81531
IW005206	Fish Barrier	2	5	1	Bishopville Prong	557585.53846	87667.91466
IW005207	Representative Site				Unnamed NE Bishopville Prong Tributary	557742.34199	88382.57688
IW005208	Unusual Condition/Comment				Unnamed NE Bishopville Tributary	557817.72830	88406.70050
IW005209	Channel Alteration	2	4	1	Unnamed NE Bishopville Prong Tributary	557917.23823	88536.36496
IW007101	Channel Alteration	2	4	1	Birch Branch	552200.65938	86870.45492
IW007101	Inadequate Buffer	1	3	2	Birch Branch	552215.64964	86909.42959

Appendix A – Isle of Wight Bay Watershed

Site ID	Problem	Severity	Correctability	Access	Location	X Coordinates	Y Coordinates
IW007101	Unusual Condition/Comment				Birch Branch	552185.66912	86831.48024
IW007102	Channel Alteration	2	4	1	Birch Branch	551535.09184	87158.26791
IW007102	Inadequate Buffer	1	3	1	Birch Branch	551499.11522	87188.24843
IW007102	Unusual Condition/Comment				Birch Branch	551580.06262	87143.27765
IW007201	Channel Alteration	2	3	1	Birch Branch	551574.06652	86456.72374
IW007201	Inadequate Buffer	1	2	2	Birch Branch	551607.04509	86429.74127
IW007202	Channel Alteration	2	3	1	Birch Branch	551076.38989	86345.79582
IW007202	Inadequate Buffer	1	2	2	Birch Branch	551088.38209	86300.82504
IW007202	Unusual Condition/Comment				Birch Branch	551103.37235	86258.85231
IW007203	Channel Alteration	2	3	1	Birch Branch	551942.82691	87452.07700
IW007203	Inadequate Buffer	1	3	1	Birch Branch	551975.80548	87416.10038
IW007203	Unusual Condition/Comment				Birch Branch	552014.78016	87368.13155
IW008201	Channel Alteration	2	4	1	Carey Branch	553879.56850	87188.24843
IW008201	Inadequate Buffer	1	3	1	CareyBranch	553882.56655	87233.21921
IW008201	Unusual Condition/Comment				Carey Branch	553888.56266	87152.27181
IW008202	Channel Alteration	2	3	1	Carey Branch	554095.42824	86723.55037
IW008202	Inadequate Buffer	2	2	1	CareyBranch	554071.44383	86759.52699
IW008202	Unusual Condition/Comment				Carey Branch	554053.45552	86789.50751
IW008203	Inadequate Buffer	1	3	1	Carey Branch	554269.31526	87095.30882
IW009102	Unusual Condition/Comment	4			Carey Branch	555522.50099	87074.32245
IW009103	Channel Alteration	2	3	1	Carey Branch	555552.48151	87311.16856
IW009103	Inadequate Buffer	1	2	1	Carey Branch	555592.35252	87372.74024
IW009103	Unusual Condition/Comment				Carey Branch	555567.47177	87341.14908
IW009104	Channel Alteration	2	4	1	Carey Branch	555311.18126	86681.77683
IW009104	Inadequate Buffer	1	3	1	Carey Branch	555341.42526	86784.70901
IW009104	Unusual Condition/Comment				Carey Branch	555324.62956	86711.55816
IW009105	Channel Alteration	2	3	1	Slab Bridge Prong	555709.00868	86947.99217
IW009105	Inadequate Buffer	1	2	1	Slab Bridge Prong	555676.10566	86885.17731
IW009105	Unusual Condition/Comment				Slab Bridge Prong	555693.38996	86912.42765
IW009106	Channel Alteration	3	3	2	Slab Bridge Prong	555791.55928	87118.45932
IW009106	Inadequate Buffer	3	2	2	Slab Bridge Prong	555819.68247	87019.78057
IW009107	Inadequate Buffer	2	2	2	Slab Bridge Prong	555915.40034	87297.96065
IW009109	Representative Site				Carey Branch	555391.94321	86891.15968
IW010101	Unusual Condition/Comment				Slab Bridge Prong	556267.78574	87303.04491
IW010102	Representative Site				Slab Bridge Prong	556677.88727	87414.61665
IW010103	Channel Alteration	2	2	2	Slab Bridge Prong	556828.65990	87152.27229
IW010103	Inadequate Buffer	1	2	2	Slab Bridge Prong	556846.75261	87122.11776
IW010103	Trash Dumping	3	3	2	Slab Bridge Prong	556813.58263	87182.42681
IW010104	Channel Alteration	2	3	2	Slab Bridge Prong	556979.43252	87318.12217
IW010104	Inadequate Buffer	1	2	2	Slab Bridge Prong	556797.48326	87318.80522
IW010104	Unusual Condition/Comment				Slab Bridge Prong	556931.18528	87315.10672
IW010105	Representative Site				Slab Bridge Prong	557214.63781	87399.53939
IW010201	Representative Site				Unnamed NW Bishopville Prong Tributary	557688.06384	86727.09349
IW010202	Representative Site				Unnamed NW Bishopville Prong Tributary	556506.00649	87007.53057
IW010204	Channel Alteration	2	3	1	Unnamed NW Bishopville Prong Tributary	557287.00867	86883.89702
IW010204	Inadequate Buffer	1	2	1	Unnamed NW Bishopville Prong Tributary	557241.77688	86905.00519
IW010205	Channel Alteration	2	3	1	Perkins Creek	556358.24932	86440.62551

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Site ID	Problem	Severity	Correctability	Access	Location	X Coordinates	Y Coordinates
IW011101	Channel Alteration	2	4	1	Unnamed NE Bishopville Prong Tributary	559334.32321	87025.76294
IW011101	Inadequate Buffer	1	3	1	Unnamed NE Bishopville Prong Tributary	559340.30557	86933.03625
IW011101	Unusual Condition/Comment				Unnamed NE Bishopville Tributary	559334.32321	86980.89519
IW011201	Representative Site				Unnamed SE Bishopville Prong Tributary	558568.58020	86819.37127
IW011202	Inadequate Buffer	1	2	1	Unnamed NE Bishopville Prong Tributary	558628.40388	86864.23903
IW011203	Channel Alteration	2	3	1	Unnamed NE Bishopville Prong Tributary	558613.44796	86950.98335
IW011204	Unusual Condition/Comment				Unnamed NE Bishopville Tributary	558792.91897	87112.50726
IW011205	Unusual Condition/Comment				Unnamed NE Bishopville Tributary	558691.21873	86517.26173
IW011206	Representative Site				Unnamed SE Bishopville Prong Tributary	558529.69482	86660.83854
IW011207	Erosion Site	5	1	2	Bishopville Prong	558520.72127	86436.49977
IW011208	Representative Site				Unnamed SW Bishopville Prong Tributary	557638.32210	86334.79953
IW013201	Representative Site				Birch Branch	551458.53677	85332.75302
IW013202	Inadequate Buffer	1	2	1	Birch Branch	550884.22952	85581.02126
IW013203	Channel Alteration	2	4	1	Birch Branch	551464.51914	85260.96461
IW014101	Channel Alteration	2	4	2	Birch Branch	553677.51210	85605.34519
IW014101	Inadequate Buffer	1	3	1	Birch Branch	553638.31122	85656.60788
IW014101	Representative Site				Birch Branch	553179.96244	85988.30765
IW014101	Unusual Condition/Comment				Birch Branch	553704.65117	85548.05159
IW014102	Inadequate Buffer	1	3	1	Birch Branch	553182.97790	86039.57034
IW014201	Channel Alteration	2	4	1	Birch Branch	552299.45033	86075.75577
IW014201	Inadequate Buffer	1	2	1	Birch Branch	552429.11479	86072.74032
IW014201	Unusual Condition/Comment				Birch Branch	552371.82119	86072.74032
IW014203	Representative Site				Birch Branch	552570.84105	85204.29001
IW014204	Unusual Condition/Comment				Birch Branch	552661.30462	85300.78449
IW014205	Channel Alteration	2	3	1	Birch Branch	553056.32889	85575.19066
IW014206	Inadequate Buffer	2	2	1	Birch Branch	553388.02866	85195.24366
IW015101	Channel Alteration	2	3	1	Birch Branch	554665.17173	85377.64207
IW015101	Representative Site				Birch Branch	554666.58050	85379.18625
IW015102	Channel Alteration	2	4	1	Perkins Creek	555936.75795	85137.45357
IW015102	Inadequate Buffer	1	3	1	Perkins Creek	555990.36412	85201.27456
IW015201	Channel Alteration	2	3	1	Birch Branch	554687.77771	85809.98139
IW015201	Inadequate Buffer	1	2	1	Birch Branch	554717.84319	85840.55048
IW015201	Representative Site				Birch Branch	554705.78138	85753.10236
IW016106	Inadequate Buffer	1	2	2	Perkins Creek	557630.77024	85825.47322
IW016107	Channel Alteration	3	3	2	Perkins Creek	557670.90375	85887.20619
IW016201	Representative Site				Perkins Creek	556680.90273	85116.84189
IW016202	Representative Site				Perkins Creek	557027.67976	85074.62556
IW016203	Inadequate Buffer	1	2	1	Perkins Creek	556846.34866	85646.99851
IW016204	Channel Alteration	2	3	1	Perkins Creek	557223.68417	85557.09795
IW016205	Unusual Condition/Comment				Perkins Creek	557296.05502	85560.11340
IW017101	Representative Site				Unnamed SE Bishopville Prong Tributary	558436.10539	85475.18461
IW017102	Inadequate Buffer	3	2	1	Latchum Creek	559355.86879	85887.52273
IW017201	Representative Site				Perkins Creek	557705.60469	84292.70188
IW017202	Channel Alteration	3	3	2	Unnamed SW Bishopville Prong Tributary	557932.81728	85059.84977
IW017202	Inadequate Buffer	1	2	2	Unnamed SW Bishopville Prong Tributary	557952.36245	85091.61067
IW018101	Representative Site				Latchum Creek	559747.61786	85738.02509
IW018102	Channel Alteration	3	3	1	Latchum Creek	559768.72602	85882.76681

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Site ID	Problem	Severity	Correctability	Access	Location	X Coordinates	Y Coordinates
IW018103	Representative Site				Latchum Creek	559639.06157	85234.44454
IW021201	Representative Site				Birch Branch	552029.85284	85048.59058
IW021202	Channel Alteration	3	3	1	Birch Branch	552140.52663	84785.36642
IW021203	Inadequate Buffer	1	2	1	Middle Branch	551144.46249	84564.01883
IW021204	Unusual Condition/Comment				Middle Branch	551150.44486	84614.86895
IW022101	Channel Alteration	2	3	1	Birch Branch	552637.18101	84818.31210
IW022101	Inadequate Buffer	1	2	1	Birch Branch	552631.15010	84905.76022
IW022101	Unusual Condition/Comment				Birch Branch	552652.25827	84851.48208
IW022301	Representative Site				Birch Branch	553954.93372	84233.31433
IW022302	Channel Alteration	2	3	1	Birch Branch	553906.68648	83961.92361
IW022302	Inadequate Buffer	1	2	1	Birch Branch	553882.56286	83919.70727
IW022302	Unusual Condition/Comment				Birch Branch	553915.73284	84010.17085
IW022303	Channel Alteration	2	4	1	Birch Branch	553397.07502	84583.10681
IW022303	Inadequate Buffer	1	3	1	Birch Branch	553439.29135	84513.75140
IW022303	Unusual Condition/Comment				Birch Branch	553415.16773	84546.92138
IW023101	In/Near Stream Construction	4			Birch Branch	555981.31776	83931.76908
IW023102	In/Near Stream Construction	2			Birch Branch	555999.41048	84320.76245
IW023103	Channel Alteration	2	3	1	Birch Branch	555824.51423	84561.99864
IW023103	Inadequate Buffer	1	2	1	Birch Branch	555860.69966	84498.67414
IW023103	Unusual Condition/Comment		2	1	Birch Branch	555908.94690	84438.36509
IW023301	Representative Site				Birch Branch	555456.62904	84037.30992
IW023302	Erosion Site	5	1	5	Birch Branch	555375.21182	84085.55716
IW023303	Erosion Site	5	1	5	Birch Branch	555112.86746	84145.86621
IW023304	Erosion Site	4	2	5	Birch Branch	554735.93590	84188.08254
IW023305	Channel Alteration	2	3	5	Birch Branch	554693.71957	84209.19071
IW023305	Inadequate Buffer	1	1	5	Birch Branch	554675.62685	84254.42249
IW023306	Channel Alteration	2	3	2	Birch Branch	554711.81228	84857.51298
IW023306	Inadequate Buffer	1	2	2	Birch Branch	554642.45688	84800.21939
IW023306	Unusual Condition/Comment				Birch Branch	554458.51428	84833.38936
IW024101	Representative Site				Birch Branch	556415.54291	83862.41368
IW024102	Unusual Condition/Comment			3	Birch Branch	556328.09479	84239.34523
IW024103	Representative Site				Birch Branch	556147.16764	84188.08254
IW024201	Representative Site				Perkins Creek	557262.88505	84742.92579
IW025101	Representative Site				Latchum Creek	559347.39890	84957.23763
IW025101	Unusual Condition/Comment				Latchum Creek	559369.38722	84930.36302
IW025201	Channel Alteration	3	4	2	Bishopville Prong	558086.73549	84820.42144
IW025201	Inadequate Buffer	2	2	1	Unnamed SW Bishopville Prong	558059.86088	84817.97830
IW027201	Channel Alteration	2	4	1	Unnamed NE St. Martin's River	562470.57141	84748.95669
IW027201	Inadequate Buffer	1	3	1	Unnamed NE St. Martin's River	562461.52505	84694.67855
IW027202	Channel Alteration	2	3	1	Buck Island Creek	562877.65749	84634.36950
IW027202	Inadequate Buffer	1	2	1	Buck Island Creek	562774.05250	84830.23626
IW028201	Channel Alteration	2	3	1	Buck Island Creek	563411.39257	84625.32314
IW028201	Inadequate Buffer	2	2	3	Buck Island Creek	563393.29986	84571.04500
IW029101	Channel Alteration	2	4	2	Middle Branch	551973.78147	83180.92143
IW029101	Inadequate Buffer	1	3	2	Middle Branch	551910.45697	83226.15321
IW029101	Unusual Condition/Comment				Middle Branch	552022.2871	83147.75145
IW030101	Fish Barrier	4	2	1	Middle Branch	553275.81852	82957.08462

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Site ID	Problem	Severity	Correctability	Access	Location	X Coordinates	Y Coordinates
IW030102	Representative Site				Middle Branch	553336.58481	82953.61226
IW030103	Erosion Site	4	1	2	Middle Branch	553301.86122	82957.08462
IW031101	Channel Alteration	2	3	1	Middle Branch	554714.82774	82876.36073
IW031101	Inadequate Buffer	1	2	1	Middle Branch	554573.10147	83548.80662
IW031101	Unusual Condition/Comment				Middle Branch	554705.78138	83385.97219
IW031102	Representative Site				Middle Branch	554702.76593	83195.99869
IW032101	Erosion Site	4	2	3	Middle Branch	556180.33762	82999.99428
IW032102	In/Near Stream Construction	4			Middle Branch	556436.65108	83066.33423
IW032102	Inadequate Buffer	2	5	1	Middle Branch	556394.43474	83048.24152
IW032103	Representative Site				Middle Branch	556680.90273	83099.50421
IW032103	Unusual Condition/Comment				Middle Branch	556635.67094	83090.45785
IW032104	Representative Site				Middle Branch	557163.37512	83301.53952
IW032105	Representative Site				Church Branch	556774.38175	82402.93470
IW033101	Representative Site				Windmill Creek	558643.29525	82957.81950
IW038101	Channel Alteration	2	3	2	Middle Branch	553930.81010	82098.37400
IW038101	Inadequate Buffer	2	2	2	Middle Branch	553912.71739	82044.09586
IW038101	Unusual Condition/Comment				Middle Branch	553894.62467	81995.84862
IW038102	Channel Alteration	3	2	1	Middle Branch	553487.53859	81588.76254
IW038102	Inadequate Buffer	1	2	1	Middle Branch	553472.46133	81540.51530
IW038102	Representative Site				Middle Branch	553511.66221	81655.10249
IW038102	Unusual Condition/Comment				Middle Branch	553535.78583	81715.41154
IW039101	Unusual Condition/Comment				Middle Branch	554874.64672	82294.37841
IW039102	Channel Alteration	2	3	1	Middle Branch	555203.33103	82113.45126
IW039102	Inadequate Buffer	2	2	1	Middle Branch	555227.45465	82038.06495
IW039103	Channel Alteration	2	4	1	Church Branch	554630.39507	81528.45349
IW039103	Inadequate Buffer	2	3	1	Church Branch	554564.05511	81522.42258
IW039103	Pipe Outfall	2	5	1	Church Branch	555886.30302	82095.02272
IW039103	Unusual Condition/Comment				Church Branch	554618.33326	81444.02082
IW039104	Fish Barrier	4	2	1	Church Branch	556089.87405	81965.69409
IW039105	Channel Alteration	2	3	2	Church Branch	556020.51864	82022.98769
IW039105	Erosion Site	1	5	2	Church Branch	555963.22505	82050.12676
IW040101	In/Near Stream Construction	4			Church Branch	556713.91878	82327.12160
IW040102	Representative Site				Church Branch	556478.76597	82186.64070
IW040103	Erosion Site	2	1	3	Church Branch	556225.28955	81945.38002
IW040103	Representative Site				Church Branch	556191.69629	81927.05642
IW040104	Representative Site				Church Branch	556466.55023	81627.77102
IW040105	Erosion Site	5	1	4	Church Branch	556310.79967	81398.72607
IW040106	Representative Site				Church Branch	556420.74124	81377.34854
IW040107	Channel Alteration	4	2	3	Church Branch	556946.63779	81029.46648
IW040108	Unusual Condition/Comment				Church Branch	556652.15250	80933.30802
IW040301	Unusual Condition/Comment				Windmill Creek	557596.50533	81447.58899
IW041101	Channel Alteration	2	3	1	Windmill Creek	557727.90669	81468.06949
IW041101	Inadequate Buffer	2	1	1	Windmill Creek	557814.65920	81596.70252
IW041101	Representative Site				Windmill Creek	557931.32637	81608.66838
IW041102	Channel Alteration	2	3	1	Windmill Creek	558362.09746	81602.68545
IW041102	Inadequate Buffer	2	2	1	Windmill Creek	558397.99505	81853.96859
IW041103	Representative Site				Windmill Creek	558478.76463	82461.23616

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Site ID	Problem	Severity	Correctability	Access	Location	X Coordinates	Y Coordinates
IW041104	Representative Site				Windmill Creek	558386.02919	82212.94449
IW048101	Channel Alteration	2	4	2	Church Branch	554320.30974	80942.32287
IW048101	Erosion Site	3	3	2	Church Branch	554174.22347	80201.45965
IW048101	Inadequate Buffer	1	3	1	Church Branch	554350.35926	80906.26345
IW048101	Unusual Condition/Comment				Church Branch	554374.39888	80867.19907
IW048102	Channel Alteration	3	2	3	Church Branch	554257.80626	80169.77329
IW049101	Representative Site				Church Branch	555005.67274	80190.71355
IW049102	Representative Site				Church Branch	555912.08690	81052.25573
IW049103	Channel Alteration	2	3	1	Church Branch	555864.22345	80549.68946
IW049103	Inadequate Buffer	1	2	1	Church Branch	555861.23198	80675.33103
IW049103	Unusual Condition/Comment				Church Branch	555861.23198	80621.48464
IW049104	Inadequate Buffer	2	2	1	Church Branch	555714.65015	80732.16888
IW049105	Representative Site				Church Branch	555825.33439	80280.45753
IW049106	Channel Alteration	4	2	3	Church Branch	555801.40266	80316.35512
IW049107	Channel Alteration	2	3	1	Church Branch	555080.45938	80232.59408
IW049107	Inadequate Buffer	1	2	1	Church Branch	555044.56179	80271.48313
IW049107	Unusual Condition/Comment				Church Branch	555125.33137	80208.66235
IW049108	Channel Alteration	5	2	4	Church Branch	554607.80777	80621.48464
IW049110	Unusual Condition/Comment				Church Branch	555155.24603	80645.41637
IW049111	Channel Alteration	2	3	1	Church Branch	554883.02263	80430.03083
IW049111	Inadequate Buffer	2	2	1	Church Branch	554906.95436	80403.10763
IW049111	Unusual Condition/Comment				Church Branch	554993.70687	80453.96255
IW049112	Inadequate Buffer	2	2	1	Church Branch	554936.86902	80980.46055
IW049409	Representative Site				Church Branch	554775.32986	80579.60412
IW051101	Channel Alteration	3	2	1	Beaverdam Creek	559603.55580	81165.93143
IW051101	Representative Site				Beaverdam Branch	559603.55580	81061.23013
IW051103	Channel Alteration	3	2	1	Beaverdam Creek	559244.57990	80687.29689
IW051103	Representative Site				Beaverdam Branch	558963.38210	80693.27982
IW052101	Representative Site				Manklin Creek	561000.57037	81064.22159
IW052102	Erosion Site	4	1	2	Manklin Creek	560997.57891	81016.35814
IW052103	Channel Alteration	2	3	2	Manklin Creek	561012.53623	81183.88023
IW052104	Inadequate Buffer	2	1	2	Beaverdam Creek	561003.56184	81121.05945
IW052105	Representative Site				Manklin Creek	560722.36404	80881.74217
IW052106	Channel Alteration	2	3	1	Manklin Creek	560782.19336	80777.04087
IW052106	Unusual Condition/Comment				Manklin Creek	560761.25310	80732.16888
IW052107	Representative Site				Beaverdam Branch	560276.63563	80959.52029
IW052108	Channel Alteration	3	3	1	Beaverdam Creek	560348.43081	81258.66688
IW052108	Representative Site				Beaverdam Branch	560354.41374	81186.87169
IW053101	Channel Alteration	3	3	2	Manklin Creek	561850.14668	80606.52731
IW053102	Inadequate Buffer	3	1	2	Manklin Creek	561877.06988	80654.39077
IW053103	Channel Alteration	2	3	1	Manklin Creek	561853.13815	80809.94699
IW053104	Representative Site				Unnamed SW St. Martin's River Tributary	562870.23655	81192.85463
IW058101	Channel Alteration	2	4	1	Church Branch	554292.59230	79799.34162
IW058102	Inadequate Buffer	1	3	2	Church Creek	554533.02113	79400.96656
IW058103	Unusual Condition/Comment		3	1	Church Branch	554422.33689	79427.88975
IW059101	Channel Alteration	3	3	2	Church Branch	554559.94432	79481.73614
IW059103	Unusual Condition/Comment		3	1	Church Branch	554426.72397	79289.88101

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Site ID	Problem	Severity	Correctability	Access	Location	X Coordinates	Y Coordinates
IW059104	Inadequate Buffer	1	2	3	Church Creek	555167.21189	79622.33504
IW059105	Channel Alteration	2	3	2	Church Branch	555059.51912	79667.20702
IW059106	Channel Alteration	2	3	3	Church Branch	554492.03755	79753.27856
IW059107	Inadequate Buffer	1	2	2	Church Creek	554353.53317	80166.78183
IW059108	Channel Alteration	3	3	1	Church Branch	555669.77816	79936.43895
IW059108	Inadequate Buffer	1	2	1	Church Creek	555639.86350	79981.31094
IW059109	Channel Alteration	2	3	1	Church Branch	555936.01863	79987.29387
IW059109	Inadequate Buffer	1	2	1	Church Creek	555894.13810	79996.26827
IW059109	Unusual Condition/Comment				Church Branch	555885.16371	80038.14879
IW060101	Channel Alteration	2	3	1	Crippen Branch	557521.49555	79212.50421
IW060102	Fish Barrier	4	2	1	Crippen Branch	557392.86251	79092.84557
IW060103	Channel Alteration	3	5	1	Crippen Branch	557509.52968	79086.86264
IW060104	Inadequate Buffer	2	1	1	Crippen Branch	557581.32486	79030.02479
IW060105	Fish Barrier	5	1	1	Crippen Branch	557602.26513	78970.19547
IW060301	Channel Alteration	2	3	1	Church Branch	556148.41270	79583.44598
IW060301	Inadequate Buffer	2	2	1	Church Creek	556178.32736	79496.69347
IW060302	Channel Alteration	2	3	1	Crippen Branch	556812.51813	79460.79588
IW060302	Inadequate Buffer	1	3	1	Crippen Church	556866.36452	79574.47158
IW060302	Unusual Condition/Comment				Crippen Branch	556839.44132	79523.61666
IW061101	Representative Site				Crippen Branch	558188.59244	78739.85260
IW061102	Fish Barrier	4	2	1	Crippen Branch	558080.89967	78766.77579
IW061103	Erosion Site	5	2	3	Crippen Branch	558523.63662	78787.71605
IW061104	Channel Alteration	4	2	2	Crippen Branch	558418.93531	79059.93945
IW061105	Erosion Site	1	4	1	Crippen Branch	558409.96091	79161.64929
IW061106	Channel Alteration	3	3	1	Crippen Branch	558466.79877	79341.13724
IW061107	Inadequate Buffer	1	2	1	Church Creek	557967.22396	79254.38473
IW061108	Channel Alteration	2	3	1	Crippen Branch	557844.57386	79245.41033
IW061109	Inadequate Buffer	1	2	1	Crippen Branch	558368.08039	79281.30793
IW061110	Channel Alteration	3	3	1	Crippen Branch	558149.70338	79568.48865
IW062101	Unusual Condition/Comment		5	2	Taylorville Creek	560076.20741	79439.85562
IW062102	Representative Site				Taylorville Creek	560142.01966	79146.69196
IW062103	Unusual Condition/Comment		4	2	Taylorville Creek	560055.26715	789.16987
IW062104	Channel Alteration	4	2	1	Jake Gut	561236.89618	79709.08755
IW062104	Representative Site				Jake Gut	561209.97298	79604.38624
IW063101	Representative Site				Jake Gut	561712.53925	80020.20000
IW063102	Representative Site				Turville Creek	562020.66024	78964.21254
IW063103	Representative Site				Turville Creek	562508.26918	78826.60511
IW068101	Channel Alteration	2	3	1	Church Branch	555328.75105	78210.36314
IW068101	Inadequate Buffer	1	2	2	Crippen Branch	555128.32284	78231.30340
IW068101	Unusual Condition/Comment				Church Branch	555209.09242	78195.40581
IW068102	Representative Site				Church Branch	554676.61149	78318.05591
IW068301	Channel Alteration	2	3	1	Church Branch	554335.58438	78297.11565
IW068301	Inadequate Buffer	1	2	1	Crippen Branch	554242.84894	78285.14979
IW068301	Unusual Condition/Comment				Church Branch	554425.32835	78315.06444
IW069101	Channel Alteration	3	3	1	Taylorville Creek	557641.15418	77683.86514
IW069102	Inadequate Buffer	2	1	1	Taylorville Creek	557596.28219	77674.89074
IW069103	Fish Barrier	5	1	1	Taylorville Creek	557566.36753	77686.85661

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Site ID	Problem	Severity	Correctability	Access	Location	X Coordinates	Y Coordinates
IW069104	Representative Site				Taylorville Creek	557533.46141	77752.66886
IW069105	Inadequate Buffer	1	2	1	Taylorville Creek	557461.66623	77854.37870
IW069106	Unusual Condition/Comment		2	1	Taylorville Creek	557015.93781	78312.07298
IW069107	Channel Alteration	4	2	2	Taylorville Creek	557165.51111	78159.50822
IW069108	Unusual Condition/Comment		1	2	Taylorville Creek	556911.23651	78548.39878
IW069109	Channel Alteration	2	3	1	Taylorville Creek	557303.11854	77573.18090
IW069110	Inadequate Buffer	1	2	1	Taylorville Creek	557365.93932	77552.24064
IW069111	Representative Site				Taylorville Creek	557093.71592	77659.93342
IW069112	Unusual Condition/Comment		1	2	Taylorville Creek	556926.19383	77668.90781
IW069113	Channel Alteration	3	3	3	Taylorville Creek	556818.50106	77597.11263
IW070106	Representative Site				Taylorville Creek	558900.98150	78230.60570
IW070107	Erosion Site	4	3	5	Mud Creek	558853.73428	78243.20496
IW070108	Erosion Site	5	2	5	Mud Creek	558595.44946	78277.85292
IW070109	Representative Site				Taylorville Creek	558378.11223	78123.51199
IW070110	Erosion Site	3	3	1	Mud Creek	558110.37797	77987.62051
IW070111	Channel Alteration	4	2	2	Taylorville Creek	557981.23556	77751.83384
IW070112	Inadequate Buffer	2	1	1	Taylorville Creek	557870.99204	77698.28698
IW070113	Fish Barrier	4	2	1	Taylorville Creek	557789.09685	77691.98735
IW070114	Erosion Site	5	1	2	Mud Creek	558009.58389	77969.17106
IW070115	Fish Barrier	5	1	2	Taylorville Creek	557915.08944	78029.01755
IW070116	Channel Alteration	3	3	1	Taylorville Creek	557883.59130	78057.36588
IW070117	Inadequate Buffer	2	1	1	Taylorville Creek	557852.09315	78079.41458
IW070118	Representative Site				Taylorville Creek	557792.24667	78136.11125
IW070119	Channel Alteration	3	3	1	Taylorville Creek	557763.89833	78192.80792
IW070120	Unusual Condition/Comment		2	1	Taylorville Creek	557754.44889	78271.55329
IW070121	Fish Barrier	5	2	1	Taylorville Creek	557754.44889	78362.89792
IW070122	Inadequate Buffer	1	2	1	Taylorville Creek	557751.29907	78331.39977
IW070123	Fish Barrier	5	2	1	Taylorville Creek	557751.29907	78403.84551
IW070124	Inadequate Buffer	1	2	1	Taylorville Creek	557748.14926	78444.79311
IW070125	Unusual Condition/Comment		5	1	Taylorville Creek	557886.74111	78567.63589
IW070126	Erosion Site	5	2	2	Mud Creek	558337.16464	78548.73700
IW070127	Representative Site				Crippen Branch	558699.39335	78469.99163
IW071101	Trash Dumping	2	2	1	Taylorville Creek	560091.16474	78279.16685
IW071102	Fish Barrier	5	1	1	Taylorville Creek	559890.73653	78306.09005
IW071103	Channel Alteration	3	2	3	Taylorville Creek	560004.41223	78324.03884
IW071104	Unusual Condition/Comment	3	3	1	Taylorville Creek	560130.05380	78261.21806
IW071105	Channel Alteration	3	2	1	Taylorville Creek	559780.05229	78270.19246
IW071105	Representative Site				Taylorville Creek	559747.14617	78249.25219
IW071106	Channel Alteration	3	5	1	Turville Creek	560617.66274	78458.65481
IW071106	Unusual Condition/Comment				Turville Creek	560656.55179	78509.50973
IW071107	Channel Alteration	2	3	1	Turville Creek	560617.66274	77971.04587
IW071107	Representative Site				Turville Creek	560614.67127	77905.23362
IW072101	Representative Site				Turville Creek	562068.52369	78563.35611
IW072102	Channel Alteration	4	5	1	Turville Creek	561637.75261	78270.19246
IW072103	Representative Site				Turville Creek	561673.65020	78159.50822
IW072104	Channel Alteration	2	3	2	Turville Creek	561084.33142	78347.97057
IW072104	Representative Site				Turville Creek	561027.49356	78294.12418

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Site ID	Problem	Severity	Correctability	Access	Location	X Coordinates	Y Coordinates
IW073101	Channel Alteration	3	5	1	Turville Creek	564069.81437	78072.75571
IW076101	Channel Alteration	2	3	2	Taylorville Creek	556856.75165	77458.90105
IW076102	Inadequate Buffer	1	2	2	Taylorville Creek	556796.90517	77408.50402
IW077201	Representative Site				Mud Creek	559345.12549	77154.25630
IW077202	Unusual Condition/Comment		5	1	Mud Creek	559481.58499	77227.48314
IW077203	Channel Alteration	3	3	1	Mud Creek	559521.79588	77233.83494
IW077204	Inadequate Buffer	1	5	1	Mud Creek	559487.34848	77175.07732
IW077205	Unusual Condition/Comment				Mud Creek	559595.25343	76377.52104
IW077206	Representative Site				Mud Creek	559386.88850	76316.10822
IW077207	Fish Barrier	5	1	2	Mud Creek	559253.09629	76377.52104
IW077208	Fish Barrier	5	1	4	Mud Creek	559202.65004	76583.69265
IW077209	Channel Alteration	3	2	3	Mud Creek	559299.15590	76399.45419
IW077210	Unusual Condition/Comment		3	3	Mud Creek	559275.02944	76425.77397
IW077211	Inadequate Buffer	3	2	2	Mud Creek	559301.34922	76552.98624
IW077212	Fish Barrier	5	1	1	Mud Creek	559459.26790	76612.20574
IW077213	Channel Alteration	3	2	3	Mud Creek	559531.64729	76890.75675
IW077214	Unusual Condition/Comment		3	3	Mud Creek	559507.52083	76864.43697
IW078101	Inadequate Buffer	2	2	1	Mud Creek	560088.17328	77378.73562
IW078102	Representative Site				Mud Creek	560375.35400	77274.03432
IW078103	Inadequate Buffer	3	2	1	Mud Creek	560572.79075	77336.85510
IW078104	Channel Alteration	2	3	1	Mud Creek	560997.57891	77303.94897
IW078105	Inadequate Buffer	1	2	1	Mud Creek	560946.72399	77121.46956
IW078106	Inadequate Buffer	1	2	2	Mud Creek	560761.25310	77286.00018
IW078107	Erosion Site	4	1	1	Perch Gut	560767.23603	77076.59757
IW078108	Channel Alteration	3	3	1	Mud Creek	560913.81786	77291.98311
IW078109	Inadequate Buffer	3	2	1	Mud Creek	560818.09095	76983.86212
IW078110	Unusual Condition/Comment		3	2	Mud Creek	560779.20190	77232.15379
IW078111	Channel Alteration	2	3	3	Mud Creek	560785.18483	77178.30741
IW078112	Inadequate Buffer	2	1	1	Mud Creek	560252.70390	77187.28181
IW078113	Inadequate Buffer	2	2	1	Mud Creek	559899.71093	77321.89777
IW078114	Representative Site				Mud Creek	559935.60852	77390.70149
IW078115	Channel Alteration	5	4	1	Mud Creek	559920.65119	77363.77829
IW078115	Erosion Site	1	5	1	Perch Gut	559887.74506	77291.98311
IW078201	Channel Alteration	3	4	1	Mud Creek	560862.96294	76750.52779
IW078202	Inadequate Buffer	1	3	1	Mud Creek	560919.80079	76717.62166
IW078203	Representative Site				Mud Creek	560976.63864	76571.03983
IW078204	Unusual Condition/Comment	4	5	1	Mud Creek	560994.58744	76648.81795
IW078205	Fish Barrier	5	2	1	Mud Creek	560744.66847	76670.32046
IW078207	Channel Alteration	2	3	1	Mud Creek	561248.56494	76403.98885
IW078207	Unusual Condition/Comment				Mud Creek	561248.86204	76403.51774
IW078208	Erosion Site	3	2	1	Perch Gut	561326.64015	76463.34706
IW078218	Unusual Condition/Comment		4	2	Mud Creek	560399.28573	76630.86915
IW078219	Representative Site				Mud Creek	559884.75360	77262.06845
IW078220	Representative Site				Mud Creek	559917.65972	76992.83652
IW078221	Channel Alteration	4	2	1	Mud Creek	559935.60852	76927.02427
IW078222	Inadequate Buffer	3	2	1	Mud Creek	559902.70239	77046.68291
IW078223	Erosion Site	3	2	1	Perch Gut	559950.56585	76876.16935

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Site ID	Problem	Severity	Correctability	Access	Location	X Coordinates	Y Coordinates
IW078224	Fish Barrier	4	1	1	Mud Creek	559962.53171	76825.31443
IW078225	Representative Site				Mud Creek	560016.37809	76639.84355
IW078226	Representative Site				Mud Creek	559792.01815	77109.50369
IW078227	Channel Alteration	4	2	2	Mud Creek	559768.08643	77082.58050
IW078228	Inadequate Buffer	3	2	2	Mud Creek	559753.12910	77037.70851
IW078229	Unusual Condition/Comment		4	2	Mud Creek	559738.17177	76992.83652
IW078230	Unusual Condition/Comment		3	1	Mud Creek	559597.57287	77007.79385
IW078231	Representative Site				Mud Creek	559792.01815	76930.01574
IW078232	Fish Barrier	5	4	3	Mud Creek	559884.75360	76741.55339
IW078233	Representative Site				Mud Creek	559899.71093	76675.74114
IW078234	Fish Barrier	5	1	2	Mud Creek	559983.47197	76624.88622
IW078235	Channel Alteration	3	2	3	Mud Creek	559905.69386	76496.25319
IW078236	Fish Barrier	5	1	3	Mud Creek	559833.89868	76457.36413
IW078237	Unusual Condition/Comment		3	3	Mud Creek	559714.24004	76550.09957
IW078238	Fish Barrier	5	1	2	Mud Creek	559806.97548	76654.80088
IW078239	Fish Barrier	5	1	3	Mud Creek	559729.19737	76768.47658
IW078240	Representative Site				Mud Creek	559669.36805	76819.33150
IW079101	Inadequate Buffer	1	2	2	Perch Gut	561467.23905	77187.28181
IW079102	Channel Alteration	3	3	2	Perch Gut	561485.18784	77235.14526
IW079103	Channel Alteration	3	3	2	Perch Gut	561610.82941	77354.80389
IW079104	Inadequate Buffer	1	2	2	Perch Gut	561559.97449	77366.76976
IW079105	Representative Site				Perch Gut	561999.71998	77277.02578
IW079106	Channel Alteration	3	2	3	Perch Gut	561619.80381	77001.81092
IW079107	Inadequate Buffer	3	2	2	Perch Gut	561613.82088	76759.50218
IW079108	Inadequate Buffer	1	2	2	Perch Gut	561458.26465	77004.80239
IW081101	Channel Alteration	3	4	1	Lower Isle of Wight Bay	565918.54029	76259.92738
IW081101	Inadequate Buffer	2	2	1	Lower Isle of Wight Bay	565990.33547	76265.91031
IW081101	Representative Site				Lower Isle of Wight Bay	565849.73657	76250.95298
IW081102	Representative Site				Lower Isle of Wight Bay	566008.28426	77040.69998
IW081103	In/Near Stream Construction	2			Lower Isle of Wight Bay	566059.13918	76517.19345
IW083206	Inadequate Buffer	1	4	1	Mud Creek	560817.50846	76206.99764
IW083209	Channel Alteration	2	3	1	Mud Creek	561066.04303	76084.34422
IW083210	Representative Site				Mud Creek	561020.85492	75987.51257
IW083211	Fish Barrier	5	1	2	Mud Creek	560920.79555	75897.13637
IW083212	Fish Barrier	5	2	3	Mud Creek	560827.19162	76074.66106
IW083213	Representative Site				Mud Creek	560652.89465	76039.15612
IW083214	Unusual Condition/Comment		4	2	Mud Creek	560681.94415	76029.47295
IW083215	Fish Barrier	5	1	2	Mud Creek	560627.07288	76045.61156
IW083216	Unusual Condition/Comment		3	2	Mud Creek	560485.05313	76126.30460
IW083217	Channel Alteration	2	3	2	Mud Creek	560517.33034	76116.62144
IW084101	Fish Barrier	4	1	1	Herring Creek	562174.58409	75917.38166
IW084103	Representative Site				Herring Creek	561962.60155	75846.19584
IW084104	Unusual Condition/Comment				Herring Creek	561990.94988	75950.13973
IW084105	Representative Site				Herring Creek	562169.54439	75856.90521
IW084106	Channel Alteration	3	4	2	Herring Creek	562345.93402	75740.99202
IW084107	Representative Site				Herring Creek	562330.81491	75834.22654
IW084108	Channel Alteration	4	2	1	Herring Creek	56238373180	75839.26625

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Site ID	Problem	Severity	Correctability	Access	Location	X Coordinates	Y Coordinates
IW084109	Channel Alteration	3	3	1	Herring Creek	562645.79640	75168.98564
IW084110	Erosion Site	5	2	3	Herring Creek	562504.68469	75811.54788
IW084111	Representative Site				Herring Creek	562673.51477	75703.19425
IW084112	Erosion Site	5	1	4	Herring Creek	562698.71329	75685.55528
IW084113	Erosion Site	5	1	5	Herring Creek	562812.10662	75516.72521
IW084114	Representative Site				Herring Creek	562852.42425	75360.49439
IW084115	Erosion Site	5	2	4	Herring Creek	562575.24054	75310.09735
IW084116	Channel Alteration	4	2	2	Herring Creek	562664.99401	75331.87358
IW084117	Channel Alteration	4	2	2	Herring Creek	561476.58512	75388.21276
IW084118	Erosion Site	4	3	2	Herring Creek	561458.94615	75360.49439
IW084119	Channel Alteration	4	2	2	Herring Creek	561521.94245	75473.88772
IW084120	Fish Barrier	5	1	2	Herring Creek	561549.66082	75395.77232
IW084121	Representative Site				Herring Creek	561756.28868	75466.32817
IW084122	Channel Alteration	4	2	2	Herring Creek	561839.44379	75541.92372
IW084123	Fish Barrier	4	2	1	Herring Creek	562000.71431	75461.28846
IW084124	Trash Dumping	4	2	1	Herring Creek	562033.47239	75458.76861
IW084125	Representative Site				Herring Creek	562207.34217	75388.21276
IW084126	Erosion Site	4	2	4	Herring Creek	562252.69950	75360.49439
IW084127	Channel Alteration	4	2	3	Herring Creek	562572.72069	75443.64950
IW084128	Channel Alteration	4	2	4	Herring Creek	563376.55345	75040.47320
IW084129	Representative Site				Herring Creek	562683.59417	75307.57750
IW084130	Channel Alteration	4	2	5	Herring Creek	562640.75669	75305.05765
IW084131	Erosion Site	3	2	1	Herring Creek	562366.09284	75161.42609
IW084132	Channel Alteration	4	2	2	Herring Creek	562124.18705	75234.50179
IW084133	Representative Site				Herring Creek	562066.23046	75143.78713
IW084134	Channel Alteration	4	2	3	Herring Creek	561872.20186	75345.37528
IW084135	Channel Alteration	4	2	3	Herring Creek	561579.89904	75269.77972
IW084135	Unusual Condition/Comment				Herring Creek	561685.73282	75128.66801
IW084136	Inadequate Buffer	4	5	2	Herring Creek	561715.97105	75128.66801
IW084137	Channel Alteration	4	2	1	Herring Creek	561836.60896	75742.25195
IW084138	Erosion Site	4	2	2	Herring Creek	561858.65766	75946.98992
IW084139	Channel Alteration	4	2	2	Herring Creek	562247.65980	75831.70669
IW084140	Channel Alteration	4	3	2	Herring Creek	561899.60525	75934.39066
IW084141	Representative Site				Herring Creek	561792.51155	75940.69029
IW084142	Inadequate Buffer	4	2	1	Herring Creek	561767.31303	75912.34195
IW084143	Inadequate Buffer	4	1	1	Herring Creek	561704.31673	75921.79140
IW084144	Unusual Condition/Comment		2	4	Herring Creek	561729.51525	76009.98621
IW085101	In/Near Stream Construction	1			Herring Creek	564422.80734	75527.01824
IW085101	Representative Site				Herring Creek	564426.35856	75526.42919
IW085102	Channel Alteration	3	3	1	Herring Creek	564464.68787	75685.56593
IW085102	Erosion Site	3	3	1	Herring Creek	564369.15260	75719.08979
IW085102	Fish Barrier	5	1	1	Herring Creek	564368.92785	75718.61332
IW085102	Inadequate Buffer	1	2	1	Herring Creek	564368.96096	75718.47206
IW085103	Representative Site				Lower Isle of Wight Bay	563121.51968	75203.93992
IW085104	In/Near Stream Construction	1			Herring Creek	564294.12038	75667.52457
IW086301	Unusual Condition/Comment		5	1	Lower Isle of Wight Bay	566102.04209	75887.32971
IW086302	In/Near Stream Construction	1			Lower Isle of Wight Bay	565900.31051	75874.25451

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Site ID	Problem	Severity	Correctability	Access	Location	X Coordinates	Y Coordinates
IW086303	Unusual Condition/Comment				Lower Isle of Wight Bay	565889.10320	75833.16104
IW086304	Representative Site				Lower Isle of Wight Bay	565904.04628	75778.99237
IW086305	Unusual Condition/Comment		3	1	Lower Isle of Wight Bay	566042.26977	75736.03102
IW086306	Representative Site				Lower Isle of Wight Bay	565472.56483	75384.86863
IW086307	Unusual Condition/Comment				Lower Isle of Wight Bay	565669.35656	75348.81952
IW086308	Unusual Condition/Comment		5	1	Lower Isle of Wight Bay	565681.76796	75390.47228
IW086309	Representative Site				Lower Isle of Wight Bay	565197.98573	75480.13077
IW088101	Representative Site				Herring Creek	561844.48349	74770.84905
IW088102	Fish Barrier	5	1	4	Herring Creek	561796.60631	74745.65053
IW088103	Fish Barrier	5	1	5	Herring Creek	561708.41149	74967.39749
IW088104	Channel Alteration	3	2	3	Herring Creek	561894.88053	74932.11957
IW088105	Inadequate Buffer	3	5	1	Herring Creek	562290.60331	73790.41454
IW088106	Channel Alteration	4	2	1	Herring Creek	562352.53978	73803.79724
IW088107	Inadequate Buffer	1	2	1	Herring Creek	562376.81956	73802.73115
IW088201	Representative Site				Herring Creek	561839.44379	74153.48533
IW088202	Channel Alteration	4	2	1	Herring Creek	562035.99224	74332.39482
IW088203	Representative Site				Herring Creek	562119.14735	74496.18519
IW088204	Channel Alteration	4	2	4	Herring Creek	562131.74661	74428.14919
IW088205	Channel Alteration	4	2	2	Herring Creek	562116.62750	74528.94326
IW088206	Channel Alteration	4	2	3	Herring Creek	562119.14735	74569.26089
IW088207	Inadequate Buffer	4	2	1	Herring Creek	562109.06794	74672.57482
IW088208	Representative Site				Herring Creek	562139.30617	74848.96445
IW088209	Channel Alteration	4	2	4	Herring Creek	562149.38557	74889.28208
IW088210	Fish Barrier	5	1	1	Herring Creek	562164.50468	74919.52031
IW088211	Inadequate Buffer	3	3	3	Herring Creek	562172.06424	74856.52401
IW088212	Channel Alteration	4	2	4	Herring Creek	562209.86202	74843.92475
IW088213	Channel Alteration	2	3	1	Herring Creek	562522.32365	74571.78075
IW088214	Inadequate Buffer	1	2	1	Herring Creek	562633.19714	74488.62563
IW088215	Inadequate Buffer	1	2	1	Herring Creek	562723.91180	74397.91096
IW088216	Representative Site				Herring Creek	562670.99491	74309.71615

Appendix B

Listing of sites by problem category

Channel Alterations - Isle of Wight Bay: Page 1 of 5

Problem	Site ID	Channel Type	Width (in)	Length (ft)	Perennial Flow	Sediment Deposition	Vegetation in Channel	Part of Road Crossing?	Length Above Road (ft)	Length Below Road (ft)	Severity	Correctability	Access
Channel Alteration	IW001101	Earth channel	72	26568	yes	No	Yes	No	0	0	2	4	2
Channel Alteration	IW002201	Earth channel	108	17056	yes	Yes	Yes	No	0	0	2	4	1
Channel Alteration	IW002204	Earth channel	144	10955	yes	Yes	No	No	0	0	2	2	3
Channel Alteration	IW002205	Earth channel	48	5051	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW003102	Earth channel	48	1180	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW003104	Earth channel	48	2952	yes	No	No	No	0	0	2	3	1
Channel Alteration	IW003106	Earth channel	36	3116	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW003107	Earth channel	36	6199	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW004101	Earth channel	42	4493	yes	No	Yes	No	0	0	2	3	2
Channel Alteration	IW004103	Earth channel	48	1148	yes	No	No	No	0	0	2	3	1
Channel Alteration	IW004104	Earth channel	24	2214	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW005204	Earth channel	48	44050	yes	No	Yes	No	0	0	2	4	1
Channel Alteration	IW005209	Earth channel	72	3280	yes	No	Yes	No	0	0	2	4	1
Channel Alteration	IW007101	Earth channel	48	10692	yes	No	Yes	No	0	0	2	4	1
Channel Alteration	IW007102	Earth channel	48	12980	yes	No	Yes	No	0	0	2	4	1
Channel Alteration	IW007201	Earth channel	72	2984	yes	No	No	No	0	0	2	3	1
Channel Alteration	IW007202	Earth channel	42	7675	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW007203	Earth channel	108	20155	yes	Yes	Yes	No	0	0	2	3	1
Channel Alteration	IW008201	Earth channel	48	26764	yes	Yes	Yes	No	0	0	2	4	1
Channel Alteration	IW008202	Earth channel	48	24600	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW009103	Earth channel	60	3411	no	Yes	Yes	No	0	0	2	3	1
Channel Alteration	IW009104	Earth channel	36	7347	yes	Yes	Yes	No	0	0	2	4	1
Channel Alteration	IW009105	Earth channel	72	6166	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW010103	Earth channel	36	1115	yes	No	Yes	No	0	0	2	3	2
Channel Alteration	IW010104	Earth channel	72	1640	yes	No	Yes	No	0	0	2	3	2
Channel Alteration	IW010204	Earth channel	60	3214	yes	No	No	No	0	0	2	3	1
Channel Alteration	IW010205	Earth channel	30	25092	yes	Yes	No	No	0	0	2	3	1
Channel Alteration	IW011101	Earth channel	72	14104	yes	No	Yes	No	0	0	2	4	1
Channel Alteration	IW011203	Earth channel	54	8593	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW013203	Earth channel	48	11611	yes	No	Yes	No	0	0	2	4	1
Channel Alteration	IW014101	Earth channel	96	15842	yes	No	Yes	No	0	0	2	4	2
Channel Alteration	IW014201	Earth channel	48	36998	no	No	Yes	No	0	0	2	4	1
Channel Alteration	IW014205	Earth channel	120	13579	yes	Yes	No	No	0	0	2	3	1

Channel Alterations - Isle of Wight Bay

Problem	Site ID	Channel Type	Width (in)	Length (ft)	Perennial Flow	Sediment Deposition	Vegetation in Channel	Part of Road Crossing?	Length Above Road (ft)	Length Below Road (ft)	Severity	Correctability	Access
Channel Alteration	IW015101	Earth channel	30	8101	yes	No	No	No	0	0	2	3	1
Channel Alteration	IW015102	Earth channel	72	12956	yes	Yes	Yes	No	0	0	2	4	1
Channel Alteration	IW015201	Earth channel	120	1180	yes	Yes	Yes	No	0	0	2	3	1
Channel Alteration	IW016107	Earth channel	48	4001	yes	Yes	Yes	No	0	0	2	3	2
Channel Alteration	IW016204	Earth channel	36	14792	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW017202	Earth channel	24	2558	yes	No	Yes	No	0	0	2	3	2
Channel Alteration	IW018102	Earth channel	48	5346	yes	Yes	No	No	0	0	2	3	1
Channel Alteration	IW021202	Earth channel	60	3280	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW022101	Earth channel	24	4001	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW022302	Earth channel	48	6691	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW022303	Earth channel	24	10660	yes	No	No	No	0	0	2	4	1
Channel Alteration	IW023103	Earth channel	108	9151	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW023305	Earth channel	108	6133	yes	Yes	No	No	0	0	2	3	5
Channel Alteration	IW023306	Earth channel	18	7347	yes	No	Yes	No	0	0	2	3	2
Channel Alteration	IW025201	Earth channel	60	1312	yes	No	No	No	0	0	2	4	2
Channel Alteration	IW027201	Earth channel	84	9938	yes	Yes	Yes	No	0	0	2	4	1
Channel Alteration	IW027202	Earth channel	48	4362	yes	Yes	Yes	No	0	0	2	3	1
Channel Alteration	IW028201	Earth channel	36	8724	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW029101	Earth channel	72	61073	yes	No	Yes	No	0	0	2	4	2
Channel Alteration	IW031101	Earth channel	36	6363	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW038101	Earth channel	60	8659	yes	No	Yes	No	0	0	2	3	2
Channel Alteration	IW038102	Earth channel	36	14792	yes	No	No	No	0	0	2	2	1
Channel Alteration	IW039102	Earth channel	48	4821	no	No	Yes	No	0	0	2	3	1
Channel Alteration	IW039103	Earth channel	36	9676	yes	No	No	No	0	0	2	4	1
Channel Alteration	IW039105	Earth channel	48	5412	yes	Yes	No	No	0	0	2	3	2
Channel Alteration	IW040107	Earth channel	36	1640	yes	No	Yes	Both	25	475	2	2	3
Channel Alteration	IW041101	Earth channel	30	5018	no	Yes	Yes	No	0	0	2	3	1
Channel Alteration	IW041102	Earth channel	24	5740	yes	Yes	Yes	No	0	0	2	3	1
Channel Alteration	IW048101	Earth channel	36	13054	yes	No	Yes	No	0	0	2	4	2
Channel Alteration	IW048102	Earth channel	60	6560	yes	No	No	No	0	0	2	2	3
Channel Alteration	IW049103	Earth channel	60	3411	yes	No	No	No	0	0	2	3	1
Channel Alteration	IW049106	Earth channel	60	2591	yes	No	No	No	0	0	2	2	3
Channel Alteration	IW049107	Earth channel	48	9118	yes	No	No	No	0	0	2	3	1

Channel Alterations - Isle of Wight Bay

Problem	Site ID	Channel Type	Width (in)	Length (ft)	Perennial Flow	Sediment Deposition	Vegetation in Channel	Part of Road Crossing?	Length Above Road (ft)	Length Below Road (ft)	Severity	Correctability	Access
Channel Alteration	IW051103	Earth channel	72	4592	yes	Yes	No	No	0	0	2	2	1
Channel Alteration	IW052103	Earth channel	144	2066	yes	No	No	No	0	0	2	3	2
Channel Alteration	IW052106	Earth channel	48	1640	yes	Yes	No	No	0	0	2	3	1
Channel Alteration	IW052108	Earth channel	120	1640	no	yes	No	No	0	0	2	3	1
Channel Alteration	IW053103	Earth channel	12	1771	yes	No	No	No	0	0	2	3	1
Channel Alteration	IW058101	Earth channel	120	6232	yes	No	No	No	0	0	2	4	1
Channel Alteration	IW059105	Earth channel	5	4362	no	No	No	Below	0	100	2	3	2
Channel Alteration	IW059106	Earth channel	72	4231	yes	No	Yes	No	0	0	2	3	3
Channel Alteration	IW059109	Earth channel	36	4067	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW060101	Earth channel	48	1508	yes	Yes	No	Above	150	0	2	3	1
Channel Alteration	IW060103	Earth channel	48	2919	yes	Yes	Yes	No	0	0	2	5	1
Channel Alteration	IW060301	Earth channel	48	4132	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW060302	Earth channel	60	12464	yes	Yes	No	No	0	0	2	3	1
Channel Alteration	IW061106	Earth channel	72	1082	yes	Yes	Yes	Both	200	300	2	3	1
Channel Alteration	IW061108	Earth channel	48	2394	yes	Yes	Yes	No	0	0	2	3	1
Channel Alteration	IW061110	Earth channel	144	4132	yes	No	Yes	Both	2500	800	2	3	1
Channel Alteration	IW062104	Earth channel	96	3476	yes	No	No	No	0	0	2	2	1
Channel Alteration	IW068101	Earth channel	36	5379	yes	No	No	No	0	0	2	3	1
Channel Alteration	IW068301	Earth channel	48	6363	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW069101	Earth channel	48	1082	yes	Yes	Yes	Above	0	0	2	3	1
Channel Alteration	IW069107	Earth channel	48	3017	no	Yes	Yes	No	0	0	2	2	2
Channel Alteration	IW069109	Earth channel	60	4100	yes	No	Yes	Below	0	500	2	3	1
Channel Alteration	IW069113	Earth channel	48	1968	yes	Yes	Yes	No	0	0	2	3	3
Channel Alteration	IW070119	Earth channel	36	3280	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW071105	Earth channel	54	1738	yes	Yes	Yes	No	0	0	2	2	1
Channel Alteration	IW071106	Earth channel	192	2820	yes	Yes	No	No	0	0	2	5	1
Channel Alteration	IW071107	Earth channel	72	2624	yes	Yes	Yes	No	0	0	2	3	1
Channel Alteration	IW072104	Earth channel	180	3280	yes	no	No	no	0	0	2	3	2
Channel Alteration	IW073101	Gabion	600	3870	yes	No	No	No	0	0	2	3	1
Channel Alteration	IW076101	Earth channel	54	6855	yes	Yes	Yes	No	0	0	2	3	2
Channel Alteration	IW077203	Earth channel	12	2820	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW077209	Earth channel	96	10496	yes	No	Yes	No	0	0	2	2	3
Channel Alteration	IW077213	Earth channel	84	5149	yes	No	Yes	No	0	0	2	2	3

Channel Alterations - Isle of Wight Bay

Problem	Site ID	Channel Type	Width (in)	Length (ft)	Perennial Flow	Sediment Deposition	Vegetation in Channel	Part of Road Crossing?	Length Above Road (ft)	Length Below Road (ft)	Severity	Correctability	Access
Channel Alteration	IW078104	Earth channel	96	4264	no	No	Yes	No	0	0	2	3	1
Channel Alteration	IW078108	Earth channel	84	4132	yes	No	Yes	No	0	0	2	3	1
Channel Alteration	IW078111	Earth channel	72	2066	yes	Yes	Yes	No	0	0	2	3	3
Channel Alteration	IW078201	Earth channel	48	30832	no	No	Yes	No	0	0	2	4	1
Channel Alteration	IW078207	Earth channel	60	3280	yes	Yes	Yes	No	0	0	2	3	1
Channel Alteration	IW078221	Earth channel	84	1804	yes	Yes	No	No	0	0	2	2	1
Channel Alteration	IW078227	Earth channel	228	2624	yes	Yes	No	No	0	0	2	2	2
Channel Alteration	IW078235	Earth channel	36	6920	yes	Yes	No	No	0	0	2	2	3
Channel Alteration	IW079102	Earth channel	8	1738	yes	No	No	No	0	0	2	3	2
Channel Alteration	IW079103	Earth channel	84	1410	no	No	Yes	No	0	0	2	3	2
Channel Alteration	IW079106	Earth channel	72	3312	yes	No	No	No	0	0	2	2	3
Channel Alteration	IW081101	Earth channel	120	2033	yes	Yes	Yes	No	0	0	2	4	1
Channel Alteration	IW083209	Earth channel	60	3312	yes	Yes	Yes	No	0	0	2	3	1
Channel Alteration	IW084109	Earth channel	48	2230	yes	Yes	Yes	No	0	0	2	3	1
Channel Alteration	IW084128	Earth channel	48	1312	yes	Yes	Yes	No	0	0	2	2	4
Channel Alteration	IW084132	Earth channel	48	2033	yes	Yes	Yes	No	0	0	2	2	2
Channel Alteration	IW084134	Earth channel	60	2558	yes	Yes	Yes	No	0	0	2	2	3
Channel Alteration	IW084139	Earth channel	60	1738	yes	Yes	No	No	0	0	2	2	2
Channel Alteration	IW085102	Earth channel	38	7412	yes	Yes	No	No	0	0	2	3	1
Channel Alteration	IW088104	Earth channel	48	1574	yes	Yes	Yes	No	0	0	2	2	3
Channel Alteration	IW088202	Earth channel	60	1246	yes	Yes	Yes	Below	0	500	2	2	1
Channel Alteration	IW088206	Earth channel	84	2656	yes	Yes	No	No	0	0	2	2	3
Channel Alteration	IW088209	Earth channel	48	1640	yes	No	No	No	0	0	2	2	4
Channel Alteration	IW088212	Earth channel	120	5248	no	No	Yes	No	0	0	2	2	4
Channel Alteration	IW088213	Earth channel	84	13120	yes	Yes	Yes	No	0	0	2	3	1
Channel Alteration	IW009106	Earth channel	36	787	yes	Yes	Yes	No	0	0	3	3	2
Channel Alteration	IW049108	Earth channel	72	984	yes	Yes	No	No	0	0	3	2	4
Channel Alteration	IW049111	Earth channel	36	656	yes	Yes	No	No	0	0	3	3	1
Channel Alteration	IW051101	Earth channel	36	688	yes	Yes	No	No	0	0	3	2	1
Channel Alteration	IW053101	Earth channel	2.5	721	yes	Yes	Yes	No	0	0	3	3	2
Channel Alteration	IW059101	Earth channel	96	721	yes	no	No	No	0	0	3	3	2
Channel Alteration	IW059108	Earth channel	18	656	yes	No	Yes	No	0	0	3	3	1
Channel Alteration	IW061104	Earth channel	24	885	yes	Yes	No	No	0	0	3	2	2

Channel Alterations - Isle of Wight Bay

Problem	Site ID	Channel Type	Width (in)	Length (ft)	Perennial Flow	Sediment Deposition	Vegetation in Channel	Part of Road Crossing?	Length Above Road (ft)	Length Below Road (ft)	Severity	Correctability	Access
Channel Alteration	IW070111	Earth channel	36	984	no	No	Yes	No	0	0	3	2	2
Channel Alteration	IW070116	Earth channel	36	557	yes	No	Yes	No	0	0	3	3	1
Channel Alteration	IW083217	Earth channel	24	984	yes	Yes	No	No	0	0	3	3	2
Channel Alteration	IW084116	Earth channel	42	820	no	Yes	Yes	No	0	0	3	2	2
Channel Alteration	IW084117	Earth channel	48	984	yes	Yes	No	No	0	0	3	2	2
Channel Alteration	IW084119	Earth channel	48	623	no	Yes	No	No	0	0	3	2	2
Channel Alteration	IW084122	Earth channel	72	820	yes	Yes	Yes	No	0	0	3	2	2
Channel Alteration	IW084127	Earth channel	54	852	no	Yes	Yes	No	0	0	3	2	3
Channel Alteration	IW084130	Earth channel	30	656	no	Yes	Yes	No	0	0	3	2	5
Channel Alteration	IW084140	Earth channel	72	524	yes	No	No	No	0	0	3	3	2
Channel Alteration	IW088106	Earth channel	48	656	yes	Yes	No	No	0	0	3	2	1
Channel Alteration	IW088205	Earth channel	84	820	yes	Yes	No	No	0	0	3	2	2
Channel Alteration	IW071103	Earth channel	36	459	yes	Yes	Yes	No	0	0	4	2	3
Channel Alteration	IW072102	Earth channel	600	410	yes	No	No	No	0	0	4	5	1
Channel Alteration	IW084108	Earth channel	60	459	yes	Yes	Yes	No	0	0	4	2	1
Channel Alteration	IW084135	Earth channel	36	459	yes	Yes	Yes	No	0	0	4	2	3
Channel Alteration	IW084137	Earth channel	96	492	yes	No	No	No	0	0	4	2	1
Channel Alteration	IW088204	Earth channel	48	393	yes	Yes	No	No	0	0	4	2	4
Channel Alteration	IW078115	Cinder Blocks	24	10	yes	Yes	No	No	0	0	5	4	1
Channel Alteration	IW084106	Rip-rap	72	7	yes	No	Yes	No	0	0	5	4	2

Inadequate Buffers - Isle of Wight Bay: Page 1 of 4

Problem	Site Number	Inadequate on	Unshaded on	Width Left (ft)	Length Left (ft)	Land Use Left	Width Right (ft)	Length Right (ft)	Land Use Right	Severity	Correctability	Access
Inadequate Buffer	IW001101	Both	Both	0	26568	Crop field	0	26568	Crop field	1	3	2
Inadequate Buffer	IW002201	Both	Both	0	17056	Crop field	0	17056	Crop field	1	3	1
Inadequate Buffer	IW002202	Both	Both	0	6560	timber cut	0	6560	timber cut	1	1	2
Inadequate Buffer	IW002205	Both	Both	0	5051	Crop field	0	5051	Crop field	1	3	1
Inadequate Buffer	IW003102	Both	Both	0	1180	Crop field	0	1180	Crop field	1	2	1
Inadequate Buffer	IW003105	Both	Both	0	3116	Crop field	0	3116	Crop field	1	2	1
Inadequate Buffer	IW003107	Both	Both	0	6199	Crop field	0	6199	Crop field	1	3	1
Inadequate Buffer	IW004104	Both	Both	0	2214	Crop field	0	2214	Crop field	1	2	1
Inadequate Buffer	IW005202	Both	Both	4	44050	Crop field	0	44050	Lawn	1	2	1
Inadequate Buffer	IW007101	Both	Both	0	10692	Crop field	0	10692	Crop field	1	3	2
Inadequate Buffer	IW007102	Both	Both	0	32800	Crop field	0	32800	Crop field	1	3	1
Inadequate Buffer	IW007201	Both	Both	0	2984	Crop field	0	2984	Crop field	1	2	2
Inadequate Buffer	IW007202	Both	Both	0	7675	Crop field	0	7675	Crop field	1	3	2
Inadequate Buffer	IW007203	Both	Both	0	20155	Crop field	0	20155	Crop field	1	3	1
Inadequate Buffer	IW008201	Both	Both	0	26764	Crop field	0	26764	Crop field	1	3	1
Inadequate Buffer	IW008203	Both	Both	0	26240	Crop field	0	26240	Crop field	1	3	1
Inadequate Buffer	IW009103	Both	Both	0	3411	Crop field	0	3411	Crop field	1	2	1
Inadequate Buffer	IW009104	Both	Both	0	7347	Crop field	0	7347	Crop field	1	3	1
Inadequate Buffer	IW009105	Both	Both	0	6166	Crop field	0	6166	Crop field	1	3	1
Inadequate Buffer	IW009107	Right	Neither	100	4920	Forest	0	4920	Crop field	1	2	2
Inadequate Buffer	IW010103	Both	Both	0	1115	Crop field	0	1115	Pasture	1	2	2
Inadequate Buffer	IW010104	Both	Both	0	1640	Crop field	0	1640	Crop field	1	2	2
Inadequate Buffer	IW011101	Both	Both	0	14104	Crop field	0	14104	Crop field	1	3	1
Inadequate Buffer	IW011202	Both	Both	0	8593	Crop field	0	8593	Crop field	1	3	1
Inadequate Buffer	IW013202	Both	Both	0	11611	Crop field	0	11611	Crop field	1	3	1
Inadequate Buffer	IW014101	Both	Both	0	15842	Crop field	0	15842	Crop field	1	3	1
Inadequate Buffer	IW014102	Both	Both	0	6560	Crop field	0	6560	Crop field	1	3	1
Inadequate Buffer	IW014201	Both	Both	0	36998	Crop field	0	36998	Crop field	1	3	1
Inadequate Buffer	IW015102	Both	Both	0	12956	Crop field	0	12956	Crop field	1	3	1
Inadequate Buffer	IW015201	Both	Both	0	1180	Crop field	0	1180	Crop field	1	2	1
Inadequate Buffer	IW016106	Both	Both	0	4001	Crop field	0	4001	Crop field	1	2	2
Inadequate Buffer	IW016203	Both	Both	0	14792	Crop field	0	14792	Crop field	1	3	1
Inadequate Buffer	IW017202	Both	Both	0	2558	Crop field	0	2558	Crop field	1	2	2

Inadequate Buffers - Isle of Wight Bay

Problem	Site Number	Inadequate on	Unshaded on	Width Left (ft)	Length Left (ft)	Land Use Left	Width Right (ft)	Length Right (ft)	Land Use Right	Severity	Correctability	Access
Inadequate Buffer	IW021203	Both	Both	0	7216	Crop field	0	7216	Crop field	1	3	1
Inadequate Buffer	IW022101	Both	Both	0	4001	Crop field	0	4001	Crop field	1	2	1
Inadequate Buffer	IW022302	Both	Both	0	6691	Crop field	0	6691	Crop field	1	3	1
Inadequate Buffer	IW022303	Both	Both	0	10660	Crop field	0	10660	Crop field	1	3	1
Inadequate Buffer	IW023103	Both	Both	0	9151	Crop field	0	9151	Crop field	1	3	1
Inadequate Buffer	IW023305	Both	Both	0	6133	Forest	0	6133	Lawn	1	1	5
Inadequate Buffer	IW023306	Both	Both	0	8200	Forest	0	8200	Forest	1	3	2
Inadequate Buffer	IW025201	Both	Both	0	1312	Lawn	0	1312	Crop field	1	2	1
Inadequate Buffer	IW027201	Both	Both	0	9938	Crop field	0	9938	Crop field	1	3	1
Inadequate Buffer	IW027202	Both	Both	0	3936	Crop field	0	3936	Crop field	1	2	1
Inadequate Buffer	IW028201	left	left	0	2660	Crop field	0	4362	Forest	1	2	3
Inadequate Buffer	IW029101	Both	Both	0	59892	Crop field	0	59892	Crop field	1	3	2
Inadequate Buffer	IW031101	Both	Both	0	6232	Crop field	0	6232	Crop field	1	3	1
Inadequate Buffer	IW038101	Both	Both	0	8659	Crop field	0	8659	Crop field	1	3	2
Inadequate Buffer	IW038102	Both	Both	0	14792	Crop field	0	14792	Crop field	1	3	1
Inadequate Buffer	IW039102	Both	Both	0	1640	Crop field	0	1640	Crop field	1	2	1
Inadequate Buffer	IW039103	Both	Both	0	9676	Crop field	0	9676	Crop field	1	3	1
Inadequate Buffer	IW041101	Both	Left	0	5018	Lawn	10	5018	Lawn	1	1	1
Inadequate Buffer	IW041102	Both	Both	0	5740	Crop field	0	5740	Crop field	1	3	1
Inadequate Buffer	IW048101	Both	Both	0	13054	Crop field	0	13054	Crop field	1	3	1
Inadequate Buffer	IW049103	Both	Both	0	3411	Crop field	0	3411	Crop field	1	2	1
Inadequate Buffer	IW049107	Both	Both	0	9118	Crop field	0	9118	Crop field	1	3	1
Inadequate Buffer	IW049111	Both	Both	0	1640	Crop field	0	1640	Crop field	1	2	1
Inadequate Buffer	IW058102	Both	Both	0	6232	Crop field	0	6232	Crop field	1	3	2
Inadequate Buffer	IW059104	Both	Both	0	8200	Crop field	0	8200	Crop field	1	3	3
Inadequate Buffer	IW059107	Both	Both	0	9840	Crop field	0	8200	Crop field	1	3	2
Inadequate Buffer	IW059108	Both	Both	0	656	Crop field	0	656	Crop field	1	2	1
Inadequate Buffer	IW059109	Both	Both	0	3936	Crop field	0	3936	Crop field	1	2	1
Inadequate Buffer	IW060104	Both	Both	0	1640	Lawn	0	2296	Lawn	1	1	1
Inadequate Buffer	IW060301	Both	Left	0	4592	Crop field	0	4920	Crop field	1	2	1
Inadequate Buffer	IW060302	Both	Both	0	12464	Crop field	0	12464	Crop field	1	3	1
Inadequate Buffer	IW061107	Both	Both	0	6560	Crop field	0	6560	Crop field	1	3	1
Inadequate Buffer	IW061109	Both	Both	0	5904	Crop field	0	5904	Forest	1	3	1

Inadequate Buffers - Isle of Wight Bay

Problem	Site Number	Inadequate on	Unshaded on	Width Left (ft)	Length Left (ft)	Land Use Left	Width Right (ft)	Length Right (ft)	Land Use Right	Severity	Correctability	Access
Inadequate Buffer	IW068101	Both	Both	0	5379	Crop field	0	5379	Crop field	1	3	2
Inadequate Buffer	IW068301	Both	Both	0	6363	Crop field	0	6363	Crop field	1	3	1
Inadequate Buffer	IW069105	Both	Both	0	3280	Crop field	0	3280	Crop field	1	2	1
Inadequate Buffer	IW070122	Both	Both	0	7216	Crop field	0	7216	Crop field	1	3	1
Inadequate Buffer	IW070124	Both	Both	0	3280	Crop field	0	3280	Crop field	1	2	1
Inadequate Buffer	IW076102	Both	Both	0	6855	Crop field	0	6855	Crop field	1	3	2
Inadequate Buffer	IW077204	Both	Both	0	2820	Power lines	0	2820	Paved	1	5	1
Inadequate Buffer	IW078101	Both	Both	0	1148	Crop field	0	1148	Crop field	1	2	1
Inadequate Buffer	IW078105	Both	Both	0	4264	Crop field	0	4264	Crop field	1	2	1
Inadequate Buffer	IW078106	Both	Both	0	4264	Crop field	0	4264	Crop field	1	2	2
Inadequate Buffer	IW078112	Both	Both	0	1640	Lawn	0	1640	Crop field	1	1	1
Inadequate Buffer	IW078113	Both	Both	1	4920	Lawn	0	4920	Crop field	1	1	1
Inadequate Buffer	IW078202	Both	Both	0	30832	Paved	0	30832	Crop field	1	3	1
Inadequate Buffer	IW079101	Both	Both	0	1738	Crop field	0	1738	Crop field	1	2	2
Inadequate Buffer	IW079104	Both	Both	0	1410	Crop field	0	1410	Crop field	1	2	2
Inadequate Buffer	IW079108	Both	Both	0	3280	Crop field	0	3280	Crop field	1	2	2
Inadequate Buffer	IW081101	Both	Both	0	2033	Pasture	0	2033	Pasture	1	2	1
Inadequate Buffer	IW083206	Both	Both	0	13120	Paved	0	13120	Shrubs & small trees	1	4	1
Inadequate Buffer	IW088107	Both	Both	0	1660	Houses	0	1660	Pasture	1	5	1
Inadequate Buffer	IW088214	Both	Both	0	13120	Crop field	0	13120	Crop field	1	3	1
Inadequate Buffer	IW088215	Both	Both	0	9840	Crop field	0	9840	Crop field	1	2	1
Inadequate Buffer	IW003104	Both	Both	0	2952	Crop field	15	2952	Crop field	2	2	1
Inadequate Buffer	IW004103	Both	Both	10	984	Crop field	0	984	Crop field	2	2	1
Inadequate Buffer	IW004106	Both	Right	30	3280	Shrubs & small trees	0	3280	Lawn	2	1	1
Inadequate Buffer	IW009106	Right	Neither	100	787	Forest	0	787	Crop field	2	2	2
Inadequate Buffer	IW010204	Both	Both	5	2952	Crop field	0	2952	Crop field	2	2	1
Inadequate Buffer	IW017102	Left	Left	0	2296	Crop field	15	2296	Crop field	2	2	1
Inadequate Buffer	IW032102	Both	Both	0	984	Construction	0	984	Construction	2	5	1
Inadequate Buffer	IW049104	Right	Right	50		Forest	0	4920	Crop field	2	2	1
Inadequate Buffer	IW052104	Both	Both	10	1640	Shrubs & small trees	0	1640	Lawn	2	1	2
Inadequate Buffer	IW053102	Both	Neither	15	656	Shrubs & small trees	0	984	Lawn	2	1	2
Inadequate Buffer	IW069102	Both	Left	0	1640	Shrubs & small trees	10	1640	Lawn	2	1	1
Inadequate Buffer	IW069110	Both	Both	0	3936	Crop field	0	3936	Shrubs & small trees	2	2	1

Inadequate Buffers - Isle of Wight Bay

Problem	Site Number	Inadequate on	Unshaded on	Width Left (ft)	Length Left (ft)	Land Use Left	Width Right (ft)	Length Right (ft)	Land Use Right	Severity	Correctability	Access
Inadequate Buffer	IW070112	Both	Both	20	180	Crop field	0	984	Lawn	2	1	1
Inadequate Buffer	IW070117	Both	Both	0	557	Pasture	0	557	Lawn	2	1	1
Inadequate Buffer	IW077211	Left	Neither	10	8200	Crop field	100	8200	Forest	2	3	2
Inadequate Buffer	IW084142	Left	Left	10	1640	Shrubs & small trees	100	1640	Forest	2	2	1
Inadequate Buffer	IW085102	Both	Both	5	5904	Crop field	0	5904	Crop field	2	3	1
Inadequate Buffer	IW088211	Both	Both	10	3280	Power lines	0	3280	Crop field	2	5	3
Inadequate Buffer	IW004101	Both	Both	5	4494	Crop field	5	4494	Crop field	3	2	2
Inadequate Buffer	IW008202	Both	Neither	10	6560	Crop field	0	6560	Crop field	3	3	1
Inadequate Buffer	IW014206	Both	Both	30	8856	Crop field	0	8856	Crop field	3	3	1
Inadequate Buffer	IW049112	Left	Left	0	4920	Crop field	100	4920	Shrubs & small trees	3	2	1
Inadequate Buffer	IW078103	both	Neither	10	1640	Houses	50	1640	Forest	3	5	1
Inadequate Buffer	IW078109	Right	Right	100	0	Forest	0	3280	Crop field	3	2	1
Inadequate Buffer	IW078222	Both	Both	20	550	Forest	0	1148	Crop field	3	2	1
Inadequate Buffer	IW078228	Both	Left	5	4920	Crop field	35	4920	Crop field	3	2	2
Inadequate Buffer	IW079107	Left	Left	0	3739	Crop field	100	918	Crop field	3	2	2
Inadequate Buffer	IW084136	Left	Neither	10	2624	Power lines	50	2624	Forest	3	5	2
Inadequate Buffer	IW084143	Right	Neither	100	820	Forest	15	820	Shrubs & small trees	3	2	1
Inadequate Buffer	IW088207	Both	Left	10	2656	Crop field	15	2656	Crop field	3	2	1
Inadequate Buffer	IW088105	Right	Right	100	328	Forest	0	328	Paved	4	4	1

Fish Barriers - Isle of Wight Bay

Problem	Site Number	Blockage	Type	Reason	Drop(In)	Depth(In)	Severity	Correctability	Access
Fish Barrier	IW005206	Total	Dam	Too high	60		2	5	1
Fish Barrier	IW030101	Total	Road crossing	Too high	8		3	2	1
Fish Barrier	IW039104	Total	Road crossing	Too high	8		3	2	1
Fish Barrier	IW070113	Total	Road crossing	Too high	12		3	2	1
Fish Barrier	IW060102	Total	Road Crossing	Too shallow		2.5	4	2	1
Fish Barrier	IW061102	Total	Pipe crossing	Too shallow		0	4	2	1
Fish Barrier	IW084123	Total	Road crossing	Too high	6		4	2	1
Fish Barrier	IW060105	Temporary	Debris dam	Too shallow			5	1	1
Fish Barrier	IW069103	Partial	Debris dam	Too shallow		0	5	1	1
Fish Barrier	IW070115	Partial	Debris dam	Too shallow		0	5	1	2
Fish Barrier	IW070121	Total	Road Crossing	Too shallow		1.5	5	2	1
Fish Barrier	IW070123	Partial	Road crossing	Too shallow		2	5	2	1
Fish Barrier	IW071102	Temporary	Debris dam	Too shallow		1	5	1	1
Fish Barrier	IW077207	Partial	Channelized	Too shallow		0	5	1	2
Fish Barrier	IW077208	Partial	Debris dam	Too shallow		0	5	1	4
Fish Barrier	IW077212	Temporary	Debris dam	Too shallow		0.75	5	1	1
Fish Barrier	IW078205	Total	Road crossing	Too shallow		1	5	2	1
Fish Barrier	IW078224	Temporary	Debris Dam	Too shallow		4	5	1	1
Fish Barrier	IW078232	Temporary	Debris Dam	Too high	5		5	4	3
Fish Barrier	IW078234	Temporary	Debris dam	Too shallow		0	5	1	2
Fish Barrier	IW078236	Temporary	Debris dam	Too high	30		5	1	3
Fish Barrier	IW078238	Temporary	Debris dam	Too high	2		5	1	2
Fish Barrier	IW078239	Temporary	Debris dam	Too high	7		5	1	3
Fish Barrier	IW083211	Partial	Debris dam	Too shallow		0	5	1	2
Fish Barrier	IW083212	Total	Debris dam	Too shallow		0	5	2	3
Fish Barrier	IW083215	Partial	Debris dam	Too shallow		0	5	1	2
Fish Barrier	IW084101	Partial	Debris dam	Too shallow		3	5	1	1
Fish Barrier	IW084120	Temporary	Debris dam	Too high	6		5	1	2
Fish Barrier	IW085102	Partial	footpath	Too high	6		5	1	1
Fish Barrier	IW088102	Partial	Debris dam	Too high	12		5	1	4
Fish Barrier	IW088103	Temporary	Debris dam	Too shallow			5	1	5
Fish Barrier	IW088210	Temporary	Debris dam	Too high	6		5	1	1

Erosion Sites - Isle of Wight Bay: Page 1 of 2

Problem	Site Number	Type	Possible Cause	Length(ft)	Height(ft)	Landuseright	Landuseleft	Infrastructure Threatened?	Describe	Severity	Correctability	Access
Erosion	IW039105	Downcutting	Sewage treatment plant upstream	1000	11	Forest	Shrubs & Small Trees	No		2	5	2
Erosion	IW061105	Downcutting		1000	3.5	Forest	Dirt Road	Yes	dirt auto. Path on left side	3	4	1
Erosion	IW070110	Widening	Bend at steep slope	1500	3.5	Forest	Forest	No		3	3	1
Erosion	IW084118	Widening	Below road crossing	1000	3.5	Shrubs & Small Trees	Forest	No		3	3	2
Erosion	IW085102	Widening	Below road crossing	1000	4	Forest	Paved	Yes	uhaul business on left	3	3	1
Erosion	IW032101	Widening	Below road crossing	500	3	Forest	Forest	No		4	2	3
Erosion	IW070107	Widening	Bend at steep slope	1000	1.5	Forest	Forest	No		4	2	5
Erosion	IW078115	Widening	Land use change upstream	150	8	Lawn	Shrubs & Small Trees	Yes	offices	4	5	1
Erosion	IW078208	Downcutting	Below channelization	30	8	Paved	Paved	No	parking lot 50 ft. away	4	2	1
Erosion	IW078223	Downcutting	Dredged ditch	500	6	Forest	Crop field	No		4	2	1
Erosion	IW084126	Widening		400	2.5	Forest	Forest	No		4	2	4
Erosion	IW084131	Widening		350	4	Crop field	Forest	No		4	2	1
Erosion	IW011207	Widening	Bend at steep slope	50	2.5	Forest	Forest	No		5	1	2
Erosion	IW023302	Widening	Bend at steep slope	30	4	Forest	Forest	No		5	1	5
Erosion	IW023303	Widening		25	2	Forest	Forest	No		5	1	5
Erosion	IW023304	Widening	Bend at steep slope	250	4	Forest	Forest	No		5	2	5

Erosion Sites - Isle of Wight Bay

Problem	Site Number	Type	Possible Cause	Length(ft)	Height(ft)	Landuseright	Landuselet	Infrastructure Threatened?	Describe	Severity	Correctability	Access
Erosion	IW030103	Widening	Below road crossing	25	6	Forest	Forest	No		5	1	2
Erosion	IW040103	Widening		25	8	Forest	Forest	No		5	1	3
Erosion	IW040105	Widening	Below channelization	50	4	Forest	Forest	No		5	1	4
Erosion	IW048101	Downcutting	Channelized/reverting back to natural state	2000	1	Forest	Forest	No		5	3	2
Erosion	IW052102	Widening	Bend at steep slope	25	4.5	Lawn	Shrubs & Small Trees	Yes	eventually-house within 50 feet	5	1	2
Erosion	IW061103	Widening		200	1.5	Forest	Forest	No	beginning to heal over	5	2	3
Erosion	IW070108	Widening		200	1.5	Forest	Forest	No		5	2	5
Erosion	IW070114	Downcutting	Channelized/reverting back to a natural state	150	3	Forest	Forest	No		5	1	2
Erosion	IW070126	Widening	Bend at steep slope	100	3	Forest	Forest	No		5	2	2
Erosion	IW078107	Headcutting	Bend at steep slope	25	5	Crop field	Forest	No		5	1	1
Erosion	IW084110	Widening	Below road crossing	250	3.5	Forest	Forest	No		5	2	3
Erosion	IW084112	Widening	Bend at steep slope	100	3	Forest	Forest	No		5	1	4
Erosion	IW084113	Downcutting	Bend at steep slope	25	4	Shrubs & Small Trees	Forest	No		5	1	5
Erosion	IW084115	Downcutting		300	2.5	Forest	Forest	No		5	2	4
Erosion	IW084138	Widening	Below channelization	500	2.5	Forest	Forest	No		5	2	2

In/Near Stream Construction - Isle of Wight Bay

Problem	Site Number	Type of Activity	Sediment Control	Why, if inadequate	Excess Sediment?	Length	Company	Location	Severity
In/Near Stream Construction	IW086302	park/ride	Inadequate	very large area- several streams affected	Yes	650	unknown	south side of 50 before golf course rd.	1
In/Near Stream Construction	IW085104	Road	Inadequate	excessive sediment	Yes		unknown		2
In/Near Stream Construction	IW023101	Road	Adequate		No	200	Wagman	York, PA	3
In/Near Stream Construction	IW023102	Road crossing	Inadequate	no sediment control devices	Yes	300	Bramble	Chestertown MD	3
In/Near Stream Construction	IW032102	Road	Adequate		No	300	unknown (state highway)	route 113 expansion	3
In/Near Stream Construction	IW040101	Road	Adequate		No	250	unknown (state highway)	route 113 expansion	4
In/Near Stream Construction	IW081103	Residential development	Adequate		No	1700	unknown	golf course rd. 1/2 mile going north	4
In/Near Stream Construction	IW085101	Road	Adequate		No	1800	Spring and Associates		5

Trash Dumping - Isle of Wight Bay

Problem	Site Number	Type	Truckloads	Volunteer Project?	Owner	Severity	Correctability	Access
Trash Dumping	IW003103	Residential	5	No	Private	2	3	3
Trash Dumping	IW010103	Residential-car parts	5	No	Private	3	3	2
Trash Dumping	IW071101	Residential	3	Yes	Private	4	2	1
Trash Dumping	IW084124	Floatables	2	Yes	Unknown	5	2	1

Unusual Conditions/Comments - Isle of Wight Bay: Page 1 of 8

Site Number	Problem	Type	Description	Potential Cause	Severity	Correctability	Access
IW001101	Comment	Lateral ditching	extensive lateral ditching, approximately 6 ft. wide and 12,000 ft long. Do not enter at owners request	Agricultural			
IW001201	Comment	Lateral ditching	ag ditches- mainstem ditch with water. 5 ft wide, 3 ft deep. 6 lateral ditches- all dry, 2 ft wide and 2 ft deep, wuth vegetation in them. Part of ditches outside watershed. Hard to determine where line is.	Agricultural			
IW002201	Comment	Lateral ditching	ag ditch system. Mainstem with 6 offshoots/ 8500 ft total length. Ditch 10 ft wide, 6 ft deep--has water. Some ditches extend outside watershed, not included in total.	Agricultural			
IW002204	Comment	Lateral ditching	1 mainstem ditch with one offshoot. 4000 ft total length. 12 ft wide, 3 ft deep. Has water flow, unmaintained/ forest ditches	Agricultural			
IW002205	Comment	Lateral ditching	one mainstem ditch with two offshoots. 3000 ft total length. 4 ft wide, 3 ft deep. Has water and are maintained	Agricultural			
IW003107	Comment	Lateral ditching	lateral ditching off stream. One main stem with 4 offshoots. 4 ft wide, 3 ft deep. 2200 total length all without buffer	Agricultural			
IW005203	Comment	Lateral ditching	farmland ditching, more than 10 offshoots, all without buffer. 6700 ft total length	Agricultural			
IW005208	Comment	Lateral ditching	mainstem ditch with 3 offshoots.	Agricultural			
IW007101	Comment	Lateral ditching	extensive lateral ditching. Approximately 8000 ft, 4 ft wide. Can not enter at owners request	Agricultural			
IW007102	Comment	Lateral ditching	approximately 12,500 ft total length, 4 ft wide. Do not enter at owner's request	Agricultural			
IW007202	Comment	Lateral ditching	about 4000 ft, all without buffer. 3.5 ft wide and 2.5 ft deep	Agricultural			

Unusual Conditions/Comments - Isle of Wight Bay

Site Number	Problem	Type	Description	Potential Cause	Severity	Correctability	Access
IW007203	Comment	Lateral ditching	one mainstem ditch with 7 offshoots. 6500 ft total length. 9 ft wide, 6 ft deep. Has water	Agricultural			
IW008201	Comment	Lateral ditching	network of ditching with at least 12 offshoots. 4 ft wide, 3 ft deep. Total length 10,000 ft. North side of rt. 610	Agricultural			
IW008202	Comment	Lateral ditching	network of ditches with 2 mainstems and 10 offshoots. Total length 10,000 ft, 4 ft wide and 3 ft deep. Ditches maintained. South side of rt. 610	Agricultural			
IW009103	Comment	Lateral ditching	bottom width of 5 ft. Mostly dry, some pools. Total length of 3000 ft.	Agricultural			
IW009104	Comment	Lateral ditching	total length of 5000 ft. Different than what appears on map. bottom width of 3 ft.	Agricultural			
IW009105	Comment	Lateral ditching	approximately 2000 ft. long, bottom width 6 ft	Agricultural			
IW010101	Comment		stream is somewhat dry, with intermittent puddles	Natural, ag ditches			
IW010104	Comment	Lateral ditching	one mainstem ditch with three offshoots. Bottom width of 6 ft, total length of 2500 ft	Agricultural			
IW011101	Comment	Lateral ditching	approximately 5000 ft in length, 6 ft wide. Do not enter at owner's request	Agricultural			
IW011204	Comment	Lateral ditching	mainstem with 6 offshoots. 2700 ft total length.	Agricultural			
IW011205	Comment		stream section dried up-wetlands potential very good	Natural			

Unusual Conditions/Comments - Isle of Wight Bay

Site Number	Problem	Type	Description	Potential Cause	Severity	Correctability	Access
IW014101	Comment	Lateral ditching	5000 ft, bottom width of 8 ft. Do not enter at owner's request	Agricultural			
IW014201	Comment	Lateral ditching	total ft 10,000. Network with 10 branches. 3 ft deep, 4 ft wide. Water depth of about 3 ft. Maintained	Agricultural			
IW014204	Comment	Lateral ditching	several offshoots off mainstem ditch	Agricultural			
IW016205	Comment	Lateral ditching	mainstem ditch with 6 offshoots	Agricultural			
IW021204	Comment	Lateral ditching	mainstem ditch with 10 offshoots	Agricultural			
IW022102	Comment	Lateral ditching	one mainstem ditch crossing road with 4 offshoots. All without buffer. 6 ft wide, 3 ft deep, and approximately 2000 ft long	Agricultural			
IW022302	Comment	Lateral ditching	one mainstem ditch with 3 offshoots. 3000 ft long, all without buffer. 6 ft deep and 4 ft wide at bottom	Agricultural			
IW022303	Comment	Lateral ditching	one mainstem ditch with three large offshoots. 7000 ft total length with no buffer. 6 ft deep and 5 ft wide at bottom	Agricultural			
IW023103	Comment	Lateral ditching	lateral ditching, approximately 3500 feet, all without buffer	Agricultural			
IW023306	Comment	Lateral ditching	one mainstem with two perpendicular offshoots. About 15 ft deep and bottom width of 1.5 ft. Total length 3000 ft, all without buffer	Agricultural			
IW024102	Comment		stream channel dry- only intermittent pools	Ditching off another branch, instream construction upstream			

Unusual Conditions/Comments - Isle of Wight Bay

Site Number	Problem	Type	Description	Potential Cause	Severity	Correctability	Access
IW025101	Comment		there is a stretch of stream which is now a wetland area. Approximately 750 ft.	Natural			
IW029101	Comment	Lateral ditching	extensive lateral ditching, about 22000 ft in length. 6 ft bottom width. Do not enter at owner's request	Agricultural			
IW031101	Comment	Lateral ditching	2500 ft in length, most without buffer. 3 ft wide, 4 ft deep. No flow present	Agricultural			
IW032103	Comment	Unchannelized stream	presumed to be unchannelized section of stream, (very sinuous)-from road crossing-west. However, new route 113 construction crosses this stream.				
IW038101	Comment	Lateral ditching	3500 ft in length. Bottom width of 5 ft. Do not enter at owner's request	Agricultural			
IW038102	Comment	Lateral ditching	lateral ditching--see site CA 038102	Agricultural			
IW039101	Comment		channels appear dry. Can not enter at owner's request	Natural			
IW039103	Comment	Lateral ditching	4 ft bottom width, 3 ft deep. Total length 6500 ft. are maintained	Agricultural			
IW040108	Comment	Lateral ditching	additional channel not found on map. Do not enter at owner's request. 5 ft wide, 4.5 ft deep. Moderate bank erosion	Agricultural			
IW040301	Comment		stream and ditches off stream dried up. Approximately 6000 ft. Trees and vegetation growing in ditches and stream beds	Natural			
IW048101	Comment	Lateral ditching	6500 ft in length. 3 ft wide. Do not enter at owner's request. Appears to be drying up in some locations.	Agricultural			

Unusual Conditions/Comments - Isle of Wight Bay

Site Number	Problem	Type	Description	Potential Cause	Severity	Correctability	Access
IW049103	Comment	Lateral ditching	4000 ft total. 5 ft wide, 1.5 ft deep. Are maintained	Agricultural			
IW049107	Comment	Lateral ditching	network of ditches. Total length 3000 ft. 4 ft wide and 3 ft deep. Are maintained	Agricultural			
IW049110	Comment	Lateral ditching	stream appears to be channelized. Enters do not enter property. Bottom width 10 ft. Through forested area not maintained. Total distance 3000 ft.	Agricultural			
IW049111	Comment	Lateral ditching	3 ft wide, 4 ft deep. Has water and are maintained	Agricultural			
IW052106	Comment	Lateral ditching	lateral ditch about 2000 ft long and 4 ft wide at the bottom	Road drainage			
IW058103	Comment	Lateral ditching	lateral ditching with new channels not on map- all without buffer	Agricultural			
IW059103	Comment	Lateral ditching	lateral ditching with new channels not on map and all without buffer	Agricultural			
IW059109	Comment	Lateral ditching	ditching branches off of stream from both sides of road. 2500 ft. Most without buffer. Bottom width 5 ft. Channel depth 2.5 ft	Agricultural			
IW060302	Comment	Lateral ditching	mainstem ditch with 4 offshoots. 5 ft wide, 4 ft deep. No buffer	Agricultural			
IW062101	Comment		stream no longer exists- small pond in back of house	Maybe because of pond being dug, possibly natural			
IW062103	Comment		stream has turned into a marsh area. There is some trash along edges(old barrels, tires, etc.)	Natural-loss of stream bed			

Unusual Conditions/Comments - Isle of Wight Bay

Site Number	Problem	Type	Description	Potential Cause	Severity	Correctability	Access
IW068101	Comment	Lateral ditching	dried up channels, lateral ditching with two offshoots. Borders golf course. Channels on golf course returning to natural state.	Originally ag, now also for the golf course			
IW068301	Comment	Lateral ditching	one mainstem ditch with 6 offshoots. 4 not on our map. No buffer	Agricultural			
IW069106	Comment		recent timber cut has removed buffer on the right side of the channel--no water in channel at this time	Logging			
IW069108	Comment		channels on map no longer present	Agricultural, timber cuts, natural			
IW069112	Comment	Lateral ditching	more channeling then what's on map-reverting back to stream	Agricultural			
IW070120	Comment	Lateral ditching	approximately 2200 feet of lateral ditching	Agricultural			
IW070125	Comment	Lateral ditching	farm fields with lateral ditching	Agricultural			
IW071106	Comment	Lateral ditching	lateral ditch with four offshoots. Approximately 4000 ft in length	Crop field			
IW077202	Comment	Lateral ditching	lateral ditching. Main stem ditch with lateral off-shoots	Flood control along route 50			
IW077205	Comment		appears to be restored wetland. Duck boxes present. Looks very good	Mitigation project			
IW077210	Comment	Lateral ditching	lateral ditching. Reverting back to forest and stream	Agricultural			

Unusual Conditions/Comments - Isle of Wight Bay

Site Number	Problem	Type	Description	Potential Cause	Severity	Correctability	Access
IW077214	Comment	Lateral ditching	lateral ditching reverting back to natural stream	Agricultural			
IW078110	Comment		original stream bed empty due to channelization	Lateral ditching for agricultural purposes			
IW078207	Comment		drainage pond constructed behind walmart. Original channel appears to be located 25' east	Walmart			
IW078218	Comment	Lateral ditching	excessive lateral ditching associated with agricultural fields. Approximately 4000 feet.	Agricultural			
IW078229	Comment	Lateral ditching	main stem ditch with lateral off-shoots. Approximately 2200 feet	Agricultural			
IW078230	Comment		lateral ditch has dried up. Excessive greenbryer growing in channel	Natural			
IW078237	Comment	Lateral ditching	lateral ditching with six offshoots. Potential wetland	Agricultural			
IW083214	Comment		ditch on map no longer exists. Area filled in by dirt, an old stove, bed frame, and other assorted metal objects.	Unknown			
IW083216	Comment		stream no longer has perennial flow. Only intermittent pools. Approximately 800 feet.	Unknown- possibly sediment from adjacent farm field			
IW084103	Comment		old house, truck, car parts, trash-- all within the stream bed flood area	House flooded, abandoned			
IW084135	Comment	Lateral ditching	ditch running parallel to power right of way- not found on map-with one off-shoot ditch running perpendicular to it	Adjacent to power right of way			

Unusual Conditions/Comments - Isle of Wight Bay

Site Number	Problem	Type	Description	Potential Cause	Severity	Correctability	Access
IW084144	Comment	Lateral ditching	3 lateral ditches off mainstem ditch which don't exist on map. Also, flooded stream channels present. Good wetland potential	Original cause probably agricultural			
IW086301	Comment		bulk heading in Shantytown canal. Approximately 400 feet.	Erosion			
IW086303	Comment		construction building on top of stream. 650 ft. Wetlands area				
IW086305	Comment	Lateral ditching	lateral ditching, main stem ditch with four off-shoots. Wetlands/tidal marsh. Two sections of off-shoots destroyed due to construction				
IW086307	Comment		marina in place of wetland, excessive sediment, inadequate buffer	Development			
IW086307	Comment						
IW086307	Comment		marina in place of wetland, excessive sediment, inadequate buffer	Development			
IW086308	Comment		destroyed stream/wetland for marina and businesses	Construction			
IW071104	Unusual Condition		dead sheep in swampy area of stream behind pasture field. Fence destroyed--other livestock present including horses, goats, llamas.	Sheep got stuck and drowned	3	3	1
IW009102	Unusual Condition	Algae	excessive algae with fertilizer smell in agriculture ditch adjacent to crop field	Agricultural	4	3	3
IW078204	Unusual Condition		ditching shown on map not present anymore due to construction of walmart	Walmart	4	5	1

Pipe Outfalls - Isle of Wight Bay

Problem	Site Number	Outfall Type	Pipe Type	Location of Pipe	Diameter (in)		Channel Width	Purpose	Discharge	Color	Odor	Severity	Correctability	Access
Pipe Outfall	IW039103	Sewage Treatment Facility	Concrete Pipe	Head of stream	24	3	Sewage	Yes	Clear	Sewage	2	5	1	

Representative Sites - Isle of Wight Bay: Page 1 of 9

Problem	Site Number	Macroinvertebrate Substrata	Embeddedness	Shelter for Fish	Channel Alteration	Sediment Deposition	Velocity/Depth	Flow	Bank Vegetation	Bank Condition	Riparian Vegetation
Beaverdam Creek											
Representative Site	IW051101	Optimal	Optimal	Marginal	Suboptimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal
Representative Site	IW051103	Optimal	Optimal	Marginal	Marginal	Marginal	Poor	Marginal	Optimal	Optimal	Suboptimal
Representative Site	IW052107	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal
Representative Site	IW052108	Marginal	Marginal	Poor	Poor	Poor	Poor	Poor	Optimal	Optimal	Suboptimal
Birch Branch											
Representative Site	IW013201	Poor	Poor	Poor	Poor	Marginal	Marginal	Suboptimal	Optimal	Optimal	Poor
Representative Site	IW014101	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Suboptimal	Optimal	Poor
Representative Site	IW014203	Optimal	Suboptimal	Poor	Optimal	Suboptimal	Optimal	Optimal	Optimal	Optimal	Poor
Representative Site	IW015101	Poor	Poor	Poor	Poor	Marginal	Marginal	Marginal	Suboptimal	Suboptimal	Poor
Representative Site	IW015201	Poor	Suboptimal	Poor	Poor	Marginal	Marginal	Poor	Suboptimal	Optimal	Poor
Representative Site	IW021201	Poor	Optimal	Poor	Poor	Optimal	Poor	Suboptimal	Optimal	Optimal	Poor
Representative Site	IW022301	Marginal	Poor	Marginal	Poor	Suboptimal	Suboptimal	Optimal	Marginal	Marginal	Suboptimal
Representative Site	IW023301	Marginal	Poor	Marginal	Suboptimal	Marginal	Suboptimal	Optimal	Suboptimal	Marginal	Optimal
Representative Site	IW024101	Marginal	Poor	Suboptimal	Optimal	Poor	Suboptimal	Optimal	Optimal	Suboptimal	Optimal
Representative Site	IW024103	Poor	Poor	Marginal	Marginal	Suboptimal	Poor	Suboptimal	Marginal	Suboptimal	Suboptimal
Carey Branch											
Representative Site	IW002203	Marginal	Poor	Marginal	Optimal	Marginal	Suboptimal	Optimal	Optimal	Suboptimal	Optimal
Representative Site	IW003101	Marginal	Poor	Suboptimal	Optimal	Poor	Marginal	Suboptimal	Optimal	Suboptimal	Optimal
Representative Site	IW003102	Poor	Poor	Marginal	Poor	Poor	Poor	Marginal	Poor	Suboptimal	Poor
Representative Site	IW003105	Marginal	Poor	Marginal	Optimal	Optimal	Marginal	Optimal	Optimal	Optimal	Optimal
Representative Site	IW004102	Marginal	Poor	Marginal	Optimal	Optimal	Suboptimal	Optimal	Optimal	Optimal	Optimal
Representative Site	IW004105	Suboptimal	Marginal	Marginal	Suboptimal	Optimal	Suboptimal	Suboptimal	Optimal	Marginal	Marginal
Representative Site	IW009101	Poor	Poor	Poor	Poor	Marginal	Poor	Optimal	Marginal	Suboptimal	Marginal
Church Branch											
Representative Site	IW032105	Marginal	Poor	Suboptimal	Optimal	Optimal	Suboptimal	Optimal	Suboptimal	Suboptimal	Optimal
Representative Site	IW040102	Marginal	Marginal	Marginal	Marginal	Marginal	Optimal	Suboptimal	Optimal	Suboptimal	Marginal
Representative Site	IW040103	Marginal	Poor	Suboptimal	Marginal	Marginal	Marginal	Marginal	Suboptimal	Suboptimal	Marginal
Representative Site	IW040104	Poor	Marginal	Marginal	Optimal	Suboptimal	Marginal	Optimal	Optimal	Suboptimal	Optimal
Representative Site	IW040106	Suboptimal	Poor	Marginal	Optimal	Marginal	Marginal	Marginal	Optimal	Suboptimal	Optimal
Representative Site	IW049101	Poor	Poor	Suboptimal	Marginal	Optimal	Marginal	Optimal	Optimal	Suboptimal	Optimal
Representative Site	IW049102	Marginal	Poor	Suboptimal	Optimal	Suboptimal	Optimal	Optimal	Optimal	Suboptimal	Optimal
Representative Site	IW049105	Poor	Poor	Marginal	Marginal	Poor	Poor	Optimal	Optimal	Marginal	Optimal
Representative Site	IW049109	Optimal	Poor	Optimal	Suboptimal	Poor	Optimal	Marginal	Optimal	Marginal	Optimal
Representative Site	IW068102	Poor	Poor	Poor	Poor	Marginal	Poor	Marginal	Optimal	Optimal	Suboptimal
Crippen Branch											
Representative Site	IW061101	Poor	Poor	Poor	Poor	Poor	Poor	Suboptimal	Optimal	Optimal	Suboptimal
Representative Site	IW070127	Marginal	Poor	Optimal	Optimal	Suboptimal	Optimal	Optimal	Optimal	Optimal	Optimal
Herring Creek											
Representative Site	IW084103	Poor	Poor	Suboptimal	Optimal	Optimal	Marginal	Optimal	Optimal	Optimal	Optimal
Representative Site	IW084105	Poor	Poor	Optimal	Optimal	Optimal	Marginal	Optimal	Optimal	Suboptimal	Suboptimal

Representative Sites - Isle of Wight Bay

Problem	Site Number	Macroinvertebrate Substrata	Embeddedness	Shelter for Fish	Channel Alteration	Sediment Deposition	Velocity/Depth	Flow	Bank Vegetation	Bank Condition	Riparian Vegetation
Representative Site	IW084107	Poor	Poor	Optimal	Optimal	Suboptimal	Suboptimal	Optimal	Optimal	Suboptimal	Suboptimal
Representative Site	IW084111	Poor	Poor	Marginal	Optimal	Optimal	Marginal	Suboptimal	Optimal	Optimal	Optimal
Representative Site	IW084114	Poor	Poor	Marginal	Optimal	Optimal	Marginal	Suboptimal	Optimal	Optimal	Optimal
Representative Site	IW084121	Optimal	Poor	Optimal	Optimal	Marginal	Marginal	Marginal	Optimal	Suboptimal	Suboptimal
Representative Site	IW084125	Optimal	Marginal	Optimal	Optimal	Suboptimal	Poor	Suboptimal	Suboptimal	Marginal	Optimal
Representative Site	IW084129	Optimal	Poor	Optimal	Optimal	Suboptimal	Poor	Suboptimal	Marginal	Optimal	Suboptimal
Representative Site	IW084133	Optimal	Poor	Optimal	Optimal	Suboptimal	Poor	Suboptimal	Marginal	Optimal	Suboptimal
Representative Site	IW084141	Suboptimal	Poor	Optimal	Suboptimal	Optimal	Marginal	Optimal	Optimal	Optimal	Optimal
Representative Site	IW085101	Poor	Poor	Marginal	Suboptimal	Optimal	Poor	Optimal	Marginal	Suboptimal	Suboptimal
Representative Site	IW085103	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal
Representative Site	IW088101	Marginal	Poor	Optimal	Marginal	Suboptimal	Marginal	Optimal	Optimal	Optimal	Optimal
Representative Site	IW088201	Poor	Poor	Poor	Optimal	Optimal	Poor	Poor	Optimal	Optimal	Optimal
Representative Site	IW088203	Poor	Poor	Marginal	Marginal	Optimal	Poor	Marginal	Optimal	Suboptimal	Optimal
Representative Site	IW088208	Poor	Poor	Marginal	Marginal	Optimal	Poor	Optimal	Suboptimal	Optimal	Poor
Representative Site	IW088216	Marginal	Poor	Poor	Marginal	Poor	Marginal	Marginal	Poor	Optimal	Poor
Jake Gut											
Representative Site	IW062104	Suboptimal	Suboptimal	Marginal	Poor	Suboptimal	Marginal	Marginal	Optimal	Optimal	Suboptimal
Representative Site	IW063101	Optimal	Optimal	Marginal	Suboptimal	Suboptimal	Poor	Suboptimal	Optimal	Optimal	Optimal
Latchum Creek											
Representative Site	IW018101	Marginal	Marginal	Poor	Poor	Marginal	Marginal	Suboptimal	Optimal	Optimal	Suboptimal
Representative Site	IW018103	Optimal	Optimal	Optimal	Optimal	Optimal	Marginal	Marginal	Optimal	Optimal	Optimal
Representative Site	IW025101	Suboptimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal
Lower Isle of Wight Bay											
Representative Site	IW081101	Poor	Poor	Poor	Poor	Optimal	Poor	Optimal	Optimal	Optimal	Suboptimal
Representative Site	IW081102	Poor	Suboptimal	Poor	Optimal	Optimal	Poor	Optimal	Optimal	Optimal	Optimal
Representative Site	IW086304	Marginal	Suboptimal	Poor	Marginal	Poor	Poor	Optimal	Optimal	Suboptimal	Suboptimal
Representative Site	IW086306	Poor	Poor	Poor	Suboptimal	Suboptimal	Poor	Marginal	Optimal	Suboptimal	Poor
Representative Site	IW086309	Poor	Poor	Poor	Marginal	Poor	Marginal	Optimal	Suboptimal	Marginal	Poor
Manklin Creek											
Representative Site	IW052101	Poor	Poor	Poor	Poor	Marginal	Poor	Optimal	Marginal	Optimal	Marginal
Representative Site	IW052105	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	Suboptimal
Middle Branch											
Representative Site	IW030102	Poor	Poor	Suboptimal	Suboptimal	Marginal	Marginal	Optimal	Suboptimal	Marginal	Suboptimal
Representative Site	IW031102	Suboptimal	Marginal	Marginal	Suboptimal	Suboptimal	Suboptimal	Optimal	Optimal	Optimal	Suboptimal
Representative Site	IW032103	Poor	Poor	Suboptimal	Optimal	Marginal	Suboptimal	Optimal	Optimal	Suboptimal	Optimal
Representative Site	IW032104	Poor	Poor	Marginal	Optimal	Suboptimal	Marginal	Optimal	Optimal	Suboptimal	Optimal
Representative Site	IW038102	Poor	Poor	Poor	Poor	Suboptimal	Poor	Marginal	Marginal	Marginal	Marginal
Mud Creek											
Representative Site	IW077201	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Optimal	Poor
Representative Site	IW077206	Poor	Poor	Marginal	Marginal	Suboptimal	Poor	Suboptimal	Optimal	Optimal	Optimal
Representative Site	IW078102	Marginal	Poor	Optimal	Optimal	Suboptimal	Suboptimal	Optimal	Optimal	Optimal	Suboptimal

Representative Sites - Isle of Wight Bay

Problem	Site Number	Width Riffle (in)	Width Run (in)	Width Pool (in)	Depth Riffle (in)	Depth Run (in)	Depth Pool (in)	Bottom Type
Beaverdam Creek								
Representative Site	IW051101	42	24	30	3	4	6	Sand
Representative Site	IW051103	0	120	0	0	24	0	Silt
Representative Site	IW052107	96	180	72	8	18	20	Silt
Representative Site	IW052108	0	42	0	0	3	0	Silt
Birch Branch								
Representative Site	IW013201	0	0	54	0	0	18	Silt
Representative Site	IW014101	0	0	42	0	0	5	Silt
Representative Site	IW014203	0	48	96	0	5	24	Silt
Representative Site	IW015101	24	18	0	8	8	0	Silt
Representative Site	IW015201	0	0	120	0	0	120	Silt
Representative Site	IW021201	0	0	60	0	0	6	Silt
Representative Site	IW022301	48	144	36	12	18	24	Sand
Representative Site	IW023301	36	144	48	6	18	18	Sand
Representative Site	IW024101	24	120	48	8	12	16	Sand
Representative Site	IW024103	18	36	0	1	3	0	Sand
Carey Branch								
Representative Site	IW002203	12	54	48	2	3	8	Sand
Representative Site	IW003101	12	6	48	10	92	12	Sand
Representative Site	IW003102	0	36	24	0	10	8	Sand
Representative Site	IW003105	36	84	18	14	20	12	Silt
Representative Site	IW004102	36	144	48	18	36	18	Silt
Representative Site	IW004105	18	30	7	12	5	5	Silt
Representative Site	IW009101	0	120	0	0	18	0	Sand
Church Branch								
Representative Site	IW032105	96	144	0	6	12	0	Sand
Representative Site	IW040102	46	48	30	28	12	12	Sand
Representative Site	IW040103	42	56	18	12	12	24	Sand
Representative Site	IW040104	0	96	36	0	16	30	Sand
Representative Site	IW040106	30	40	26	3	2	5	Silt
Representative Site	IW049101	0	144	96	0	12	12	Silt
Representative Site	IW049102	92	105	44	15	12	12	Silt
Representative Site	IW049105	0	60	0	0	4	0	Sand

Representative Sites - Isle of Wight Bay

Problem	Site Number	Width Riffle (in)	Width Run (in)	Width Pool (in)	Depth Riffle (in)	Depth Run (in)	Depth Pool (in)	Bottom Type
Representative Site	IW049109	112	72	62	21	10	11	Sand
Representative Site	IW068102	0	0	30	0	0	3	Silt
Crippen Branch								
Representative Site	IW061101	0	0	36	0	0	24	Silt
Representative Site	IW070127	48	120	60	8	10	14	Silt
Herring Creek								
Representative Site	IW084103	0	24	24	0	24	24	Silt
Representative Site	IW084105	0	158	96	0	24	18	Silt
Representative Site	IW084107	12	60	42	10	6	8	Silt
Representative Site	IW084111	0	84	72	0	18	24	Silt
Representative Site	IW084114	0	36	0	0	18	0	Silt
Representative Site	IW084121	0	36	0	0	12	0	Silt
Representative Site	IW084125	0	0	0	0	8	0	Silt
Representative Site	IW084129	0	0	0	0	2.5	0	Silt
Representative Site	IW084133	0	0	0	0	8	0	Silt
Representative Site	IW084141	24	52	32	5	6.5	6	Silt
Representative Site	IW085101	0	0	0	0	0	0	Silt
Representative Site	IW085103	120	15	12	0	0	0	Sand
Representative Site	IW088101	0	72	96	0	10	12	Silt
Representative Site	IW088201	0	0	48	0	0	2	Silt
Representative Site	IW088203	0	84	84	0	6	12	Silt
Representative Site	IW088208	0	48	0	0	8	0	Silt
Representative Site	IW088216	36	36	36	12	8	8	Silt
Jake Gut								
Representative Site	IW062104	0	8	0	0	12	0	Silt
Representative Site	IW063101	0	96	0	0	24	0	Silt
Latchum Creek								
Representative Site	IW018101	0	24	0	0	8	0	Silt
Representative Site	IW018103	0	360	0	0	120	0	Silt
Representative Site	IW025101	36	60	30	5	12	12	Silt
Lower Isle of Wight Bay								
Representative Site	IW081101	0	0	96	0	0	6	Silt
Representative Site	IW081102	0	360	0	0	120	0	Sand

Representative Sites - Isle of Wight Bay

Problem	Site Number	Width Riffle (in)	Width Run (in)	Width Pool (in)	Depth Riffle (in)	Depth Run (in)	Depth Pool (in)	Bottom Type
Representative Site	IW086304	0	30	0	0	5	0	Silt
Representative Site	IW086306	0	36	0	0	2.5	0	Silt
Representative Site	IW086309	0	78	0	0	6	0	Silt
Manklin Creek								
Representative Site	IW052101	0	156	0	0	18	0	Silt
Representative Site	IW052105	0	72	0	0	72	0	Sand
Middle Branch								
Representative Site	IW030102	36	120	48	6	12	18	Sand
Representative Site	IW031102	42	90	48	6	30	8	Silt
Representative Site	IW032103	120	144	48	8	5	21	Silt
Representative Site	IW032104	0	170	0	0	12	0	Silt
Representative Site	IW038102	0	36	0	0	36	0	Silt
Mud Creek								
Representative Site	IW077201	12	0	12	0	0	1	Grass
Representative Site	IW077206	0	48	0	0	6	0	Silt
Representative Site	IW078102	0	72	72	12	12	14	Sand
Representative Site	IW078114	0	48	24	0	8	1	Sand
Representative Site	IW078203	0	0	0	0	0	0	Silt
Representative Site	IW078219	0	0	120	0	0	12	Silt
Representative Site	IW078220	0	84	28	0	12	6	Silt
Representative Site	IW078225	0	72	72	0	12	12	Silt
Representative Site	IW078226	96	108	72	17	20	13	Silt
Representative Site	IW078231	0	65	24	0	12	4	Silt
Representative Site	IW078233	0	72	0	0	13	0	Silt
Representative Site	IW078240	0	107	26	0	28	20	Silt
Representative Site	IW083210	0	48	78	0	2	3	Silt
Representative Site	IW083213	0	0	18	0	0	7	Silt
Perch Gut								
Representative Site	IW079105	0	0	84	0	0	8	Silt
Perkins Creek								
Representative Site	IW016201	0	18	0	0	6	0	Silt
Representative Site	IW016202	30	36	24	3	12	6	Silt
Representative Site	IW017201	36	84	60	3	12	24	Silt

