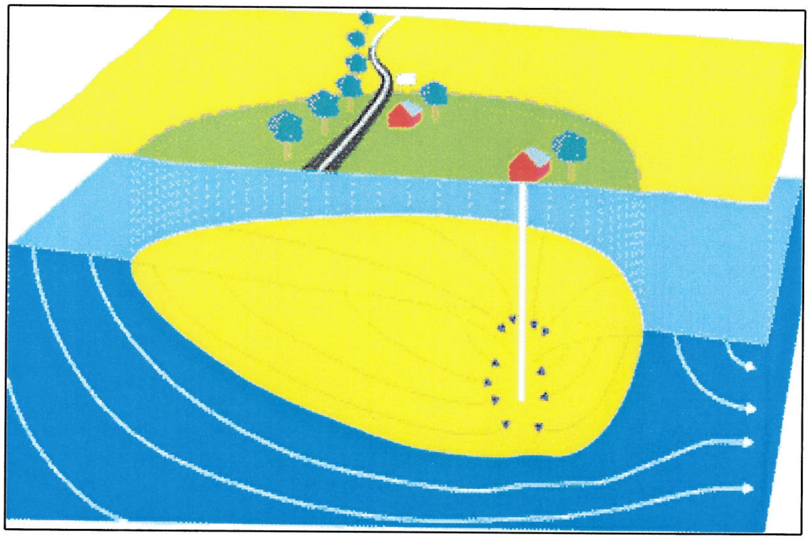
SOURCE WATER ASSESSMENT

For Transient Water Systems

Dorchester County, Maryland



Prepared By
Water Management Administration
Water Supply Program
July 2005

MDE

Robert L. Ehrlich, Jr.
Governor

Kendl P. Philbrick
Secretary

Michael S. Steele
Lt. Governor

Jonas A. Jacobson
Deputy Secretary

Table of Contents

SUMMARY

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted a Source Water Assessment for fifty-eight transient noncommunity water systems in Dorchester County. The required components of this report as described in Maryland's Source Water Assessment Program (SWAP) are: 1) delineation of an area that contributes water to the source; 2) identification of potential sources of contamination; and 3) determination of the susceptibility of the water supply to contamination. Recommendations for protecting the drinking water supply conclude this report.

Confined aquifers protect water supplies from contaminants originating on the land surface. Transient water supply systems in Dorchester County use both confined and unconfined aquifers. Sixty-one wells supply the fifty-eight systems in Dorchester County. Through investigation of MDE records and interviewing system owners, it was concluded that two of these are completed in an unconfined aquifer. The Source Water Assessment Area for both unconfined wells were delineated by the WSP using EPA approved methods specifically designed for each type of source.

Potential point sources of contamination within the assessment area were identified from field inspections and contaminant inventory databases. Common potential sources of contamination can be on-site septic systems and underground storage tanks. The Maryland Office of Planning's 2002 land use map for Dorchester County was used to determine which land use was present in each assessment area. Forest was the most prevalent land use within the assessment areas. Figures 4a and b were produced showing the areas around the unconfined wells. The figures highlight the well locations, the assessment areas, and the potential sources of contamination.

The WSP reviewed water quality results, along with the presence of potential sources of contamination within the individual assessment area, the integrity of the system's well, and the inherent vulnerability of the aquifer. It was determined that only Nanticoke Boyscout Reservation may be susceptible to contamination by nitrogen compounds. None of the transient systems are susceptible to volatile organic compounds; however, some systems are susceptible to microbiological contaminants through well construction deficiencies. The sanitary integrity of the water supply systems can be maintained by following the protection recommendations at the end of this report to individual water system owners and county officials. These recommendations include disinfecting a well and system after work is performed on the well or system, installing a two-piece cap on the wells, caulking the electrical conduits and continuing regular inspections.

INTRODUCTION

The Water Supply Program (WSP) has conducted a Source Water Assessment for fifty-eight transient non-community water systems in Dorchester County (Figure 1). As defined in Maryland's Source Water Assessment Plan (SWAP), a transient non-community water system is any non-community water system that does not regularly serve at least twenty-five of the same individuals over six months per year. Some good examples of transient water systems include hotels, restaurants, parks, fire departments, and churches. Transient water systems must sample for two contaminants. The first is coliform, which is an indicator that other microbiological contaminants could be in the water supply. Systems are required to test for coliform regularly. Additional sampling is required following positive coliform results. The second contaminant is nitrogen in the form of nitrate or nitrite. This SWAP report will focus on these two contaminants, but will address other obvious potential sources of contamination.

Dorchester County is located in the Eastern Shore portion of the State and is located in the Coastal Plain physiographic province. The Coastal Plain, geologically the youngest province in Maryland, covers nearly half of the State and consists entirely of unconsolidated sediments. All of the transient water supplies obtain their water from wells of various size and depth. Most of these wells are completed in confined aquifers, while the Nanticoke Boy Scout Reservation is using an unconfined aquifer and Cedar Meadows Rod and Gun Club is possibly using an unconfined aquifer. For the purpose of this report, depth of well, lithology, and nitrate data were used to determine whether the wells are in confined or unconfined aquifers. If this information was not available then the well was considered unconfined. An accurate determination of the aquifer type is very important because it helps us understand the inherent vulnerability of a source to land use activities.

WELL INFORMATION

Well information for each system was obtained from the WSP's database, owner interviews, site visits, well completion reports, sanitary survey inspection reports, and published reports. A total of sixty-one wells are used by the fifty-eight transient systems assessed in this report. The well tag number, which provides vital well information, was found for fifty-two of the sixty-one wells that are being used by the systems (Table 1). From the well tag information, ground water appropriation data, and with the nitrate sampling data it was concluded that fifty-nine wells are completed in confined aquifers (Aquifer code "C"). The well for Nanticoke Boy Scout Reservation is unconfined (Aquifer code "U"). It cannot be determined if the well for Cedar Meadows Rod and Gun Club is completed in a confined aquifer, so for this report it is assumed to be completed in an unconfined aquifer (Aquifer code "U"). Table 1 contains a summary of the well information for each system.

The well information that was available at the start of this project for the transient systems in Dorchester County needed to be supplemented with additional research in order to perform the Source Water Assessment for the county. Using this information, it was determined that all but thirteen of the wells were completed in confined aquifers. Field investigations and interviews with the system owners revealed that two other wells were completed in confined aquifers. After reviewing the nitrate data for the other eleven wells, it was determined that all but two were confined. The well for Cedar Meadows Rod and Gun Club could not be confirmed as a confined well. Nanticoke Boy Scout Reservation is using an unconfined well. Well and contaminant source locations were taken with a GPS unit at the thirteen transient systems that required fieldwork. The other wells were located by using both the county sanitary survey and DNR DOQQ photos. Information was found that at least forty-five of the sixty-one wells were completed after 1973, which is when the State adopted the well completion standards for wells.

HYDROGEOLOGY

Ground water flows through pores between gravel, sand, and silt grains in unconsolidated Coastal Plain formations that are used by the transient noncommunity water systems in Dorchester County. An aquifer is any formation that is capable of yielding a significant amount of water. Confining layers are composed of fine-grained clay and silt material that have very small pore spaces and therefore transmit very little water. Confined aquifers are those formations that are overlain by one or more confining layers. They are recharged very slowly from the water stored in the confining layers above, and from precipitation that infiltrates into the formation where it reaches the ground surface, referred to as the outcrop area.

Dorchester County is underlain by unconsolidated sediments of the Coastal Plain Physiographic Province. The sediments were deposited in a southeasterly thickening wedge extending from the Fall Line (roughly the area east of Interstate 95) to the Continental Shelf. They consist of layers of clay, silt, sand, and gravel that form a regular banded sequence of interbedded aquifers, and confining layers that gently dip to the southeast. The unconsolidated sediments overlie a complex assemblage of crystalline bedrock. The age of the deposits (from youngest to oldest), range from Quaternary near the land surface, to Tertiary, to Cretaceous, just above the crystalline basement rocks. The confined aquifers used by the transient non-community water systems in this report from shallowest to deepest include the Manokin Aquifer of the Yorktown Formation, the Frederica Aquifer of the Choptank Formation, the Federalsburg and Cheswold Aquifers of the Calvert Formation, the Eocene Series' Piney Point and Aquia greensand Formations, and the Upper Cretaceous Magothy Formation. Confining clay units of low permeability that inhibit the infiltration of contaminants from the land surface overlie these aquifers. The unconfined aquifer used by the transient noncommunity water systems in Dorchester County is the Quaternary aquifer. General descriptions of each aquifer as they increase in depth are shown below. The reader may refer to the referenced reports for additional information. (Mack, Webb, & Gardiner 1971)

Quaternary Aquifer (110C)

The Quaternary Formation contains the youngest deposits on the Eastern Shore. The Quaternary sediments form a surface blanket over Dorchester County. Most of this formation is sand and marl with some layers of silt and sandy clay. These clay layers are broken and thin enough that true confining layers are not present. These clay layers do however slow down the percolating water somewhat. The thickness of the Quaternary deposits average about 30 feet in Dorchester County. The quantity of water available from this aquifer is very high. The water quality of the Quaternary Formation is quite variable depending on the local soil types and land use. Because it is shallow, the Quaternary Aquifer is vulnerable to contamination from surface sources. Chloride concentrations had an average concentration of 10 mg/L, due to contamination from surface sources. Nitrate concentrations are high, with an average of 28 mg/L, due to agricultural application of fertilizer, septic disposal, and high dissolved oxygen concentrations, which prevent nitrate from degrading. Water in this aquifer has an average hardness of 31 mg/l. (DNR 1987) (Mack, Webb and Gardiner, 1971)

Manokin Aquifer (122G)

The Manokin Aquifer is only present along the eastern margin of Dorchester County. It reaches a maximum thickness of about 65 feet along the eastern border of the county and thins out to the west. It consists of fine- to very coarse-grained sands, with lignite, peat, and some silty sand or clay lenses. In eastern Dorchester County, the Manokin is eroded and directly overlain by Quaternary sediments. In western Dorchester County there are areas of potential saltwater intrusion. (DNR, 1987)

Frederica Aquifer (122F)

The Frederica Aquifer of the Choptank Formation consists of gray and brown sand and silt with shell marl. The top of the Choptank Formation ranges from 50 feet to about 200 feet below sea level and ranges in thickness from 0 to 75 feet in Dorchester County. In western areas of Dorchester County, where the Manokin is absent, the Quaternary Aquifer disconformably overlies the Fredrica Aquifer. The Choptank Formation has a relatively low transmissivity and specific capacity. It consists of clayey silt and silty clay which functions as a confining layer covering about seventy-five percent of Dorchester County. In Western and Central Dorchester County the Frederica Aquifer has the highest potential for saltwater intrusion. (Rasmussen & Slaughter, 1957) (DNR, 1987)

Federalsburg Aquifer (122E) and Cheswold Aquifer (122C)

The Federalsburg Aquifer is the uppermost aquifer of the Calvert Formation, and the Cheswold Aquifer underlies it. The thickness of the Calvert Formation beneath Dorchester County is 200 feet. The formation consists of gray diatomaceous silts and clays with interspersed sand lenses. The sands are fine-to-medium-grained, with shell fragments. The top of the Calvert Formation ranges from 100 feet to about 250 feet below sea level. Transmissivity values are low for the Calvert Formation in
Dorchester County. The aquifer is overlain by the Choptank Formation where the clayey portions function as a leaky confining unit. (Rasmussen & Slaughter, 1957) (Mack, Webb, & Gardner, 1971)

Piney Point (124E)

The thickness of the Piney Point Formation is variable, and ranges from a few feet to about 160 feet. The formation consists of medium to course grained olive-green to black slightly glauconitic sand with interbedded clayey layers. The top of the Piney Point Formation ranges from about 300 feet below sea level in the northwest to about 600 feet below sea level in the southwestern areas of Dorchester County, and is about 340 feet below sea level at Cambridge.

Transmissivity values in Cambridge range from 25,000 to 45,000 gpd per foot. The iron content of the aquifer is consistently moderate. The average content of chloride is 17.5 ppm and the average pH is 8. The hardness is an average of 61 ppm. The Piney Point aquifer is overlain by the Chesapeake Group Formations that function as multiple confining and leaky confining beds to this aquifer. The Piney Point aquifer does not outcrop at the ground surface, and therefore is not directly recharged by precipitation. Recharge is derived from lateral and vertical leakage through adjacent beds. (Mack, Webb, & Gardner, 1971) (Rasmussen & Slaughter, 1957)

<u>Aquia Aquifer (125B)</u>

The Aquia aquifer is present in the northwestern third of the county. In this area, it is the most widely used source of water. The Aquia aquifer consists of green quartz sand that is moderately glauconitic, with a few lenses of yellow and green clay. It also contains shell fragments and occasional hard beds. It ranges in thickness between 25 –200 feet. The water quality is good in the Aquia aquifer where present in Dorchester County. The water in the aquifer is moderately high in sodium bicarbonate, low in iron, and slightly alkaline. Hardness ranges from 2 ppm to 178 ppm. (Department of Geology, Mines and Water Resources State of Maryland, 1957)

<u>Magothy Formation (211D)</u>

The thickness ranges from 43 feet to 139 feet. The formation consists of medium to course grained white, yellow, and gray sands with irregular lenses of dark clay containing lignite. The top of the Magothy Formation is at about 900 feet below sea level in Cambridge. Transmissivity values at Cambridge were reported at 8,000 gpd per foot, and 15,000 gpd respectively. The average iron content is moderate and the chloride content and hardness are uniformly low. The Magothy Formation is overlain unconformably by the Matawan Formation that functions as a confining unit in Dorchester County. (Mack, Webb, & Gardner, 1971) (Rasmussen & Slaughter, 1957)

SOURCE WATER ASSESSMENT AREA DELINEATION

When Maryland's Source Water Assessment Plan (SWAP) was written the method for delineating an assessment area for the unconfined transient systems using <10,000 gpd was not yet determined. An ongoing study between The United States Geologic Survey and MDE assisted MDE in selecting an appropriate method. One of the objectives of this study was to determine ground water flow paths for systems pumping <10,000 gpd in unconfined Coastal Plain aquifers. The study concluded that small users, pumping <10,000 gpd, have very little effect on the ambient ground water flow in unconfined aquifers. Using this information MDE created a wedge shape delineation area that will be used for all the transient systems where the basic direction of ground water flow is known. The wedge is based on an annual recharge of 1 ft and ground water flow directions. The wedge shape has an angle of 60 degrees that will extend against the ground water flow direction for a length of 1000-ft (Figure 3). The wedge was created to compensate for uncertainties in ground water flow direction and to provide sufficient recharge area to balance a withdrawal of 10,000 gpd. A circle with a radius of 1000 ft will be used for all systems that pump from unconfined aquifers where the ground water flow direction is not known. As defined in Maryland's SWAP, no delineation area will be created for the transient systems drawing from confined sources. This is because the monitoring of these wells for their regulated contaminants and geologic protection has established that they are not vulnerable to contamination. The assessment focuses on the integrity of their water supply well(s).

POTENTIAL SOURCES OF CONTAMINATION

As stated in the introduction, the focus of this SWAP is on the sources of contamination that would cause a coliform or nitrite/nitrate problem in the unconfined aquifers. Potential sources of contamination can be broken into two types. The first type is point source contamination. Some examples of potential point source contaminants would be feed lots, ground water discharge permits, and underground storage tanks. The second type of potential sources of contaminants is non-point sources. Some types of non-point sources can include general row-crop farming; land application of waste, pesticide and herbicide application, and various land uses. On-site septic systems are often referred to as non-point pollution as they are very common in non-sewered residential areas. Over 300,000 households in Maryland rely on on-site sewerage disposal for domestic wastes. In this project the location of specific septic systems for the systems were identified. Therefore they have been included with point sources.

<u>Point Sources</u>

Using the 2004 tax map, 2002 land use information, aerial photos of the delineated areas, and observations made from field investigation, the number of septic systems within the delineated areas for the unconfined systems was estimated. These results are shown in Table 6. Each of the improved properties within the assessment areas most likely have on-site wastewater disposal, which is a potential source of nitrates and pathogenic microorganisms. A properly sited, designed, installed, and maintained septic system is not a source of pathogenic bacteria or protozoa as long as the absorption bed and soil around the septic system is unsaturated. This is due to the filtering capacity of the absorption bed and soil.

If the unsaturated natural soil thickness beneath the bottom of the sewage disposal bed is not sufficient to filter the effluent from the septic system, viruses and bacteria will not dilute and die off. Where there is a naturally occurring high water table, like in Dorchester County, the water table could possibly be high enough that the unfiltered effluent goes directly into the ground water and contaminates it. Wells drawing from unconfined aquifers are either not allowed in these areas, or they have to be 200 ft. or greater away from the septic system. These areas and the possibly unconfined wells are shown in Figure 8.

The well for Nanticoke Boy Scout Reservation is the only known unconfined well. The system is the only one located in Area A, where wells drawing from unconfined aquifers are allowed. There was not enough information to definitively determine that the other well, Cedar Meadows Rod and Gun Club, shown in Figure 8 is confined.

On-site septic systems do not remove nitrogen from the wastewater. The dissolved nitrogen in the wastewater percolates down through the soil to the groundwater in the unconfined aquifer. Excessive concentrations in water supplies are prevented through requiring minimum lot sizes and strategic placement of wells relative to on-site disposal systems.

Land Use

The Maryland Office of Planning's (MOP) 2002 Land Use map for Dorchester County was used to identify predominant types of land use within the two SWAP areas (Figure 5). The two largest proportions of land use for the SWAP areas are Forest and Commercial at 64.4% and 23.24% respectively. These two land uses make up 87.64% of the total land area within the two SWAP areas (Figure 6). These types of land use would be expected since the systems are located in small population centers.

Sewer

The Maryland Office of Planning 1999 Dorchester County Sewer Map shows that only 2.5 percent of the county currently has sewer service (Figure 7). Another 0.8 percent is expected to have sewer service in 2 to 5 years. An additional 0.2 percent is scheduled to receive service in 5 to 10 years. In keeping with the rural characteristics of the county the vast majority (96.5%) of the county will continue to be served by on-site wastewater systems in the foreseeable future.

WATER QUALITY DATA

Water quality data was reviewed from the Water Supply Program's database for Safe Drinking Water Act (SDWA) contaminants. All data reported is from the water supplied to consumers. Only one of the Dorchester County Transient Systems is known to have any type of water treatment. A.E. Phillips and Son uses Ultraviolet Radiation. If coliforms are not present in the finished water for the other fifty-seven systems, this data may be used to evaluate ground water or source water quality. A review of the monitoring data shows that there is some microbiological contamination believed to be caused by well construction, treatment, and/or distribution deficiencies. The Nanticoke Boy Scout Reservation may be susceptible to nitrite. There is only one nitrite sample result from this system recorded in our database, which is not enough data to evaluate susceptibility. All of the other systems are determined not to be susceptible to nitrate or nitrite.

Nitrogen Compounds

Water quality data indicates that the nitrate levels for all of the transient non-community systems in Dorchester County are <50% of the SDWA maximum contaminate level (MCL) standards (Table 3). Only Nanticoke Boy Scout Reservation had a nitrite result that exceeded 50% of the MCL of 1 ppm for nitrite. The well for Nanticoke Boy Scout Reservation is unconfined, so susceptibility to nitrogen compounds is possible. Additional sampling will confirm whether the well is susceptible to nitrogen compounds. The results for the other systems in Dorchester County are what would be expected since the wells are completed in confined aquifers.

Microbiological Contaminants

All of the transient water suppliers are routinely sampled for microbiological contamination (total coliform analysis). If this routine sample is positive the sample is also analyzed for fecal coliform and repeat samples are required within twenty-four hours or as soon as possible. This bacteriological sampling is required by the SDWA. Table 4 summarizes the results of the coliform monitoring carried out for each system since 1996. Thirty of the systems have never had a positive bacteriological sample. Nineteen systems have had more than twenty-five percent of their bacteriological samples come back positive since 1996. Cambridge Country Club had positive fecal samples in routine sampling once, but the repeat samples came up negative for fecal coliform. The crab plants, such as A.E. Phillips and Son, I.F. Cannon and Son, Lindy's Seafood, Russell Hall Seafood and Tideland Park were all sampled for fecal coliform after Hurricane Isabelle and they all came up positive. Except for Tideland Park, they have not had any detects since. The positive results for Tideland Park following Hurricane Isabelle were probably still a result of the well being contaminated by flooding due to the hurricane.

SUSCEPTIBILITY ANALYSIS

Wells serving the Dorchester County Transient Water Systems all draw their water from wells in unconsolidated sedimentary aquifers. Fifty-nine of these wells are completed in confined aquifers, one is possibly completed in unconfined aquifer, and one is completed in an unconfined aquifer. The wells drawing from confined aquifers are protected, if the well is maintained and constructed correctly, and are not susceptible to contamination from surface activity. The unconfined aquifer wells are more susceptible to contamination from surface activities. Dorchester County's unconsolidated sediments and soil provide protection from microbiological contamination as water percolates through the overlying soil and aquifer sediments where the soil is unsaturated. Where the soil is saturated because of the high water table the soil does not filter out the bacteria and viruses as well. Regardless of whether the soil is saturated or unsaturated, nitrate and other water-soluble contaminants can percolate through the soil and contaminate unconfined wells.

Inorganic Compounds

Nitrate and Nitrite Compounds

There was only one significant nitrite result for the unconfined system Nanticoke Boy Scout Reservation, which is not enough sampling to determine susceptibility to nitrogen compounds. All of the other systems do not have significant nitrate or nitrite results. This was expected because all but two of the systems are determined to be confined and the nitrate levels in confined aquifers are very low to nonexistent.

Volatile Organic Compounds

Only two systems that have been sampled for volatile organic compounds: The Dorchester Highway Department and The State Highway Administration. There were no significant volatile organic compound results for these systems. The test results are shown in Table 5.

Microbiological Contaminants

As stated earlier in this report, Dorchester County's unsaturated unconsolidated sediments, and soil, provide protection from microbiological contamination as water percolates through the overlying soil and aquifer sediments. Most, if not all, of the microbiological contamination of unconsolidated wells, confined or unconfined, comes from well construction problems.

Well construction problems can be caused from improper completion of the well by the well driller, but are mostly caused by vehicles hitting unprotected wells. Common problems include cracked or broken well casings, and well caps. Pitless adaptors and the grouting can also be damaged during well vehicle accidents. Wells constructed in pits or low areas that are subject to flooding should be inspected and sampled to ensure their integrity.

All of these construction deficiencies can allow surface water containing microbial contaminants to enter a well. Two-piece insect proof caps should be installed on all wells to prevent insects from entering the wellhead, which can cause bacterial problems. Waterproof caps are also available to be installed on wells drilled in areas prone to flooding.

Contaminating clean well water with coliform is very easy. Storage or a distribution problem or repair can introduce coliform into the system. Correctly disinfecting the water system is very important after pulling a well pump or completing improvements to the distribution system. Dead ends in the water distribution can also cause bacteriological problems.

Confined Wells:

If there are no well construction problems with a well drawing from a confined aquifer the supply should be safe from microbiological contamination. A review of Table 4 indicates that nineteen of the fifty-nine confined systems have had at least one positive total coliform sample in the past eight years. A review of each of the wells serving the nineteen systems is described below. Eighteen of the systems have greater than twenty-five percent of their samples come back positive for coliform (see Table 4).

A. E. Phillips and Son uses a well that is fitted with a two-piece cap. The bottom half of the two-piece cap is cracked. Two of the positive bacterial samples were taken soon after Hurricane Isabelle. The well may have been flooded, which would cause microbiological contamination. Upon inspection it was observed that there is very little protection surrounding the well. Bollards should be installed around the well to protect it from vehicles. During the off-season, water can become stagnant within certain sections of the distribution system. This could give bacteria time to grow, causing positive total coliform samples. A. E. Phillips and Son recently installed a UV light for treatment of the well water. The UV light should reduce the number of positive bacterial samples. An investigation should be done to determine the source of the bacteria. It is also recommended that a waterproof cap be installed on the well to help prevent contamination due to flooding.

Out of the four bacteriological samples taken for C.O. Pritchett's Store, one was positive. This sample was taken shortly after Hurricane Isabelle and the sample type was marked as "Special Purpose." It is possible that the well was damaged or flooded during the hurricane and contaminated. The following bacteriological sample was negative. C. O. Pritchett's Store uses a well with a two-piece cap. The above ground well integrity appears to be good.

Upon inspection of the well at Cambridge Exxon, it was observed that the wellhead was buried underneath mulch in a planter. There was no seal between the two pieces of the cap and the bolts were missing that hold the cap together. This possibly allows for bacterial contamination of the well by insects and dirt. The casing should be extended so that the wellhead is above the level of the mulch and the cap should be attached securely.

Camp ESPA replaced the well that had positive bacteriological results with a new well. There have been no positive results since the new well has been used.

The well integrity for Dockside Bar and Grill could not be assessed because the well is below grade. The water line that feeds the restaurant is a garden hose running from a frost-free hydrant. The design of frost-free hydrants can cause bacterial contamination of the water flowing through it. Two of the positive bacteriological samples were collected shortly after Hurricane Isabelle and were marked "Special Purpose." It is likely that the area was flooded because the property is on the waterfront and has low topography. While the soil was saturated the buried well cap could have leaked allowing subsurface water to enter the well.

The well for Dorchester Highway Association is in a pit, which means it could possibly be subject to flooding. The casing should be raised above ground to meet with current standards. The well is fitted with an old split cap, which could allow for contamination and should be replaced with a newer style two-piece cap once the well is extended above grade.

Eldorado Brookview Fire Co. uses a well with a one-piece cap, which could allow for contamination of the well by insects. The plumbing system should be thoroughly inspected focusing on cross connections and dead ends.

Upon inspection of the well for Foxwells Auctions, it was observed that the electrical conduit was not attached to the cap, which could allow for contamination by insects. The well also had an old one-piece style cap, which could also allow for contamination. The well is located in a flowerbed by the parking lot and is only partially protected. A barrier should be installed around the wellhead that would protect it from vehicle damage.

Hooper's Island Volunteer Fire Company uses a well with a cracked conduit and a one-piece cap, both could allow insects to enter the wellhead. Also, a thorough sanitary survey of the distribution system should be performed identifying dead ends and cross connections. The positive bacteriological samples were recorded shortly after Hurricane Isabelle and are likely due to flooding caused by the hurricane. The well is located directly behind the garage a short distance from the road. There is a cone placed in front of the well to visually provide caution of its location. A protective barrier should be installed to protect the well from vehicles.

The electrical conduit for the well used by Integrity Builders Summer Place is not attached to the well cap. Insects could enter the wellhead through the conduit or the one-piece well cap and fall into the well water causing positive bacteriological samples. The one-piece well cap should be replaced with an insect proof two-piece cap. The conduit should be attached to the new cap and any gaps should be caulked.

Lindy's Seafood is served by a well with a two-piece cap. There were no wellhead deficiencies observed upon inspection. One of the positive total coliform samples was recorded very soon after Hurricane Isabelle. The well may have been flooded, which caused contamination. Other than the positive total coliform sample taken after the hurricane, Lindy's Seafood has not had a detect since October of 2002. Installation of a waterproof cap on the well will help prevent contamination due to flooding.

Longs Grocery uses a well that is in a pit. The integrity of the well could not be assessed. They have not had a positive bacterial sample before or since April 2002. It is possible that the well was damaged and then repaired or plumbing work could have been performed on the system without being followed by proper disinfection. The well should be extended above grade and a two-piece well cap should be installed.

The well for Pep-up #4 is in a small well house next to the store. The pump is directly on top of the wellhead so there is no cap, however the wellhead did look insect-proof. The positive bacterial results may be from sampling at the sinks fitted with swivel taps or from the bathroom taps.

Russell Hall Seafood uses a well with a two-piece cap. The integrity of the well appeared to be good except that the electrical conduit was crooked. However, no gap was seen at the connection between the electrical conduit and the well cap. The barrier installed around the well is very sturdy and should prevent damage to the well.

Sunburst Mobil uses a well with a one-piece cap, which should be replaced with a two-piece cap to prevent insects from entering the well. It is also possible that the positive bacterial results may be from sampling at the sinks fitted with swivel taps or from the bathroom taps. A protective barrier should be installed around the well to protect it from vehicles.

It was observed that the well for Taylor's Island Campground is fitted with a waterproof two-piece cap. The well is protected by a barrier and should not be susceptible to damage by vehicles or lawnmowers. The well serves all of the campsites in the campground. Before the campground opens each spring the entire water system should be chlorinated and flushed.

Upon inspection of the well for I.F. Cannon and Son it was observed that the well has a two-piece style cap. The above grade well integrity appeared to be good. The bacteriological detects could be due to the system being stagnant for a long period of time which could allow for bacterial growth in the pipes. Also, the system should be checked for dead ends and cross connections.

Smith's Country Market uses a well that is below grade. They have not had a positive bacteriological result since October 2001. It is possible that the well was damaged and then repaired or plumbing work could have been performed on the system and not followed by proper disinfection.

The six positive fecal coliform results for Cambridge Country Club were taken in September of 1997. They were all repeat samples and there have not been any more fecal coliform detects since that time. Cambridge Country Club uses a buried well, so the well integrity could not be assessed.

Unconfined Wells:

If a well is drawing from an unconfined aquifer, it could be contaminated from various sources. However, a source of microbial (bacteriological) contamination would have to be very close to a well because of the high filtration effectiveness of the unsaturated unconsolidated soils. If the soil is saturated, the microbiological filtering effectiveness of the soils is reduced, allowing contamination to travel further in the aquifer. Maryland regulations require at least a four-foot separation between the seasonal high water table and the bottom of the absorption bed. If this regulation is not met, then wells either cannot draw from unconfined aquifers in that area, or wells can draw from the unconfined aquifer as long as they are at least 200 feet away from any septic system. These areas are shown in Figure 8. In areas where wells drawing from unconfined aquifers are allowed, the regulations also require at least a 100-foot separation between on-site septic systems and unconfined wells. These distances are adequate to prevent microbial contamination from on-site septic systems. If a well has any of the construction deficiencies listed above it could be susceptible to surficial sources of pathogens. Surface water can carry contaminants down a well if these conditions are present.

SUMMARY AND RECOMMENDATIONS FOR PROTECTING WATER SUPPLIES

<u>Key Findings:</u>

This report identified transient water supplies in Dorchester County as being more likely to be contaminated by microbial contaminants than nitrate or nitrite nitrogen. Sources of microbial contamination, however, are not believed to be related to ground water contamination, but rather the maintenance of the integrity of the individual water supply system. The report also identified specific areas (SWAP areas) immediately surrounding the two unconfined transient water supply sources. This delineated area has the greatest potential to influence the quality of that water supply. The recommendations that immediately follow are a result of the investigations required during the writing of this report.

Recommendations for Individual Water System Owners:

- The sanitary integrity of the water supply system must be maintained. Sanitary defects noted in county sanitary surveys should be corrected. All work on the water system should be performed in a sanitary manner and followed with a one-time disinfection.
- Coliform testing results are a good indication if the sanitary integrity of the system has been affected. All positive results should be investigated to determine the cause of the positive tests. Corrective action should be taken to eliminate the source of the problem. Any sources with confirmed fecal contamination must be rehabilitated or abandoned.
- Installing new two-piece well caps is a good way to reduce potential contamination from insects. Caulking of the electrical conduit is needed to ensure a sanitary seal.
- Any wells in areas subject to flooding should install a watertight model well cap.
- Water systems for seasonal facilities should be disinfected and flushed prior to the opening of a new season.
- Wells should be protected from damage by vehicles or other machinery. If a well is or was damaged, it should be repaired. All work on wells should be followed by disinfection to avoid contamination of the water supply.
- Owners should keep track of potential changes in land use that might impact their water supply. Letting neighboring property owners and local officials know their concerns can prevent problems from occurring. The individual maps of Figure 4a and b should be a useful starting point as these identify the specific areas that have the greatest potential to impact the water quality of each water supply.

Recommendations for County Officials

- Continue regular inspection, oversight and testing of transient noncommunity water systems. Ensure that systems correct the cause of positive bacteriological test results.
- Test results show that some systems have a high percentage of positive results. Priority should be placed on those systems that have not corrected the root causes of past positive results.

Reference

Maryland Department of the Environment. Water Supply Program, 1999, Maryland's Source Water Assessment Plan.

Maryland Department of Natural Resources (DNR), 1987, The Quantity and Natural Quality of Ground Water in Maryland: DNR Water Resources Administration.

Hulme Arthur, Murphy J., Rasmussen William, Turbit Slaughter, 1957, Caroline, Dorchester, and Talbot Counties Water Resources: Bulletin No. 18

Mack, Frederick K., and Webb, Wayne E., 1971, Water Resources of Dorchester and Talbot Counties, Maryland: Maryland Geological Survey Report of Investigations No. 17

COMAR 26.04.02.04 Site Evaluation Criteria

Other Sources of Data

Water Appropriation and Use Permits
Dorchester County Sanitary Survey Inspection Reports
MDE Water Supply Program (PDWIS) Database
MDE Waste Management Sites Database
Department of Natural Resources Digital Orthophoto Quarter Quadrangles
USGS Topographic 7.5 Minute Quadrangles
Maryland Office of Planning 2002 Dorchester County Land Use Map
Maryland Office of Planning 1999 Dorchester County Sewer Map

PWSID	System Name	Source #	Plant #	Use Code	Ground Water Appropriaton	Aquifer Code	Aquifer Type	Well Tag #	Casing Depth	Well Depth
1090006	DORCHESTER CO. HIGHWAY DEPARTMENT	1	1	P	DO1961G001	124E	C	DO043725	292	455
1090016	STATE HIGHWAY ADMIN.	1	1	P	DO1993G039	124E	C	DO881302	415	425
1091002	A.E. PHILLIPS & SON	1	1	P	DO1967G007	124E	C	DO881664	200	360
1091003	DAYS INN	2	1	P	DO2002G022	124E	C	DO940608	250	470
1091003	DAYS INN	1	1	P	DO2002G022	124E	C	DO940607	250	470
1091004	BECKWITH CHURCH	1	1	P		125B	C	DO881292	157	562
1091005	BLACKWATER NAT. WILDLIFE REFUGE	2	1	P	DO1963G002	124E	C	DO920338	460	480
1091005	BLACKWATER NAT. WILDLIFE REFUGE	3	1	P	DO1963G002	124E	C	DO941129	437	457
1091010	WOOLFORD COUNTRY STORE	1	1	P		9999	C			
1091012	CAMBRIDGE COUNTRY CLUB	1	1	P	DO1954G102	9999	C	DO710081	418	448
1091013	SIGNATURES CAFE (DORCHESTER AIRPORT)	1	1	P		9999	C			
1091014	BEST VALUE INN	1	1	P		124E	C	DO810076	150	580
1091014	BEST VALUE INN	2	1	P		124E	C	DO810719	152	575
1091015	CAMP ESPA	1	1	P	DO1989G021	122E	C	DO940481	260	280
1091016	INTEGRITY BUILDERS SUMMER PLACE	1	1	P		122E	C	DO810036	255	275
1091017	NANTICOKE BOY SCOUT RESERVATION	1	1	P	DO1965G001	122G	U	DO810148	69	80
1091019	CEDAR MEADOWS ROD & GUN CLUB	1	1	P		9999	U			
1091023	CHURCH CREEK V.F.C.	1	1	P	DO1990G041	124E	C	DO880470	140	380
1091027	C.O. PRITCHETTS STORE	1	1	P		124E	C	DO881812	200	492
1091029	ROUTE 50 SHELL STOP	1	1	P	DO1972G003	124E	C	DO810983	200	520
1091033	ELDORADO BROOKVIEW FIRE CO.	1	1	P	DO1983G007	122F	C	DO810293	140	188
1091046	HOOPERS ISLAND VOL FIRE CO.	1	1	P		124E	C	DO730796	200	400
1091048	KINGS ISLAND PRIDE	1	1	P		9999	C			
1091050	I.F. CANNON & SON	1	1	P	DO1946G001	9999	C	DO810947		
1091055	LAKES & STRAITS V.F.C.	1	1	P	DO1987G021	124E	C	DO880038	420	440
1091060	LEWIS STORE	1	1	P		9999	C			
1091063	LONGS GROCERY	1	1	P		125B	C			581
1091065	MADISON BAY RESTAURANT & CAMPGROUND	1	1	P	DO1987G016	124E	C	DO811176	157	540
1091068	MADISON V.F.C.	1	1	P	DO1988G008	125B	C	DO811206	520	540
1091075	MT. PLEASANT METHODIST CHURCH	1	1	P	DO1971G007	122F	C	DO810530	180	210

Table 1, Well Information for Dorchester County Transient Systems.

PWSID	System Name	Source #	Plant #	Use Code	Ground Water Appropriaton	Aquifer Code	Aquifer Type	Well Tag #	Casing Depth	Well Depth
1091078	NECK DISTRICT V.F.C.	1	1	P		125B	C	DO730801	200	525
1091079	OLD SALTYS RESTAURANT	1	1	P		9999	C	DO017012	525	535
1091081	PEP-UP #4	1	1	P	DO1967G010	124E	C	DO720104	224	444
1091086	RELIANCE MARKET	1	1	P	DO1985G005	211D	C	DO810566	180	540
1091089	LINDY'S SEAFOOD	1	1	P		124E	C	DO881140	180	370
1091096	TAYLORS ISLAND CAMPGROUND	1	1	P	DO1986G007	125B	C	DO880859	221	577
1091097	TAYLORS ISLAND FIRE CO.	1	1	P		125B	C	DO940484	186	560
1091098	TAYLORS ISLAND GENERAL STORE	1	1	P	DO1973G002	125B	C	DO730083	140	518
1091101	TIDELAND PARK	1	1	P	DO1995G012	125B	C	DO881661	190	560
1091121	CAMBRIDGE DINER	1	1	P		124E	C	DO710026	420	435
1091126	CINDYS EASTSIDE KITCHEN	1	1	P	DO1983G005	124E	C	DO810268	140	438
1091129	FOXWELLS AUCTIONS	1	1	P	DO1985G011	124E	C	DO810636	200	441
1091131	WATERMANS CAFE	1	1	P		9999	C			
1091137	LINKWOOD SALEM VFC	1	1	P		122C	C	DO730045	140	230
1091138	MARYLAND VETERANS COMMISSION	1	1	P	DO1976G002	122F	C	DO730508	160	180
1091139	JBIRDS	1	1	P		124E	C	DO020754	105	375
1091141	CAMBRIDGE MOOSE LODGE #1211	1	1	P		124E	C	DO008900	274	462
1091142	LINKWOOD DELI AND MARKET	1	1	P	DO1993G024	124E	C	DO881085	220	525
1091147	ELDORADO COUNTRY MARKET	1	1	P	DO1998G009	122E	C	DO920354	160	260
1091150	WILLIAMSBURG COUNTRY KITCHEN	1	1	P	DO1991G026	122F	C	DO880893	228	243
1091153	SMITHS COUNTRY MARKET	1	1	P		9999	C			
1091155	SOFT & SALTY	1	1	P		125B	C	DO940004	205	520
1091160	CAMBRIDGE EXXON	1	1	P	DO1988G027	124E	C	DO811451	201	415
1091161	SPRINGDALE MARKET	1	1	P	DO1985G014	124E	C	DO810659	171	451
1091164	SUNBURST MOBIL	1	1	P	DO1991G067	124E	C	DO880880	160	460
1091166	DOCKSIDE BAR & GRILL	1	1	P		125B	C			535
1091169	RUSSELL HALL SEAFOOD	1	1	P	DO1985G013	124E	C	DO810624	140	400

Table 1 (Continued), Well Information for Dorchester County Transient Systems.

PWSID	System Name	Source #	Plant #	Use Code	Ground Water Appropriaton	Aquifer Code	Aquifer Type	Well Tag #	Casing Depth	Well Depth
1091171	KOSKI TRUCKING WELL #1	1	1	P	DO1988G012	122C	C	DO811455	278	298
1091172	KOSKI TRUCKING WELL #2	1	1	P	DO1988G012	122C	C	DO811465	288	308
1091173	KOSKI TRUCKING WELL #3	1	1	P	DO1992G016	122E	C	DO920245	160	220
1091174	BLACKWATER WILDLIFE REFUGE - ADMIN	1	1	P	DO1963G002	124E	C	DO920205	460	480

Table 1 (Continued), Well Information for Dorchester County Transient Systems.

Aquifer Code	Aquifer Name
110C	Quaternary
122G	Manokin
122F	Fredrica
122E	Federalsburg
122C	Cheswold
124E	Piney Point
125B	Aquia
211D	Magothy

PWSID	System Name	Plant ID	Known Treatment Methods	Reason for Treatment
1091002	A.E. PHILLIPS & SON	1	Ultraviolet Radiation	Disinfection
1091004	BECKWITH CHURCH	1	No Treatment	None
1091014	BEST VALUE INN	1	No Treatment	None
1091005	BLACKWATER NAT. WILDLIFE REFUGE	1	No Treatment	None
1091027	C.O. PRITCHETTS STORE	1	No Treatment	None
1091012	CAMBRIDGE COUNTRY CLUB	1	No Treatment	None
1091121	CAMBRIDGE DINER	1	No Treatment	None
1091160	CAMBRIDGE EXXON	1	No Treatment	None
1091141	CAMBRIDGE MOOSE LODGE #1211	1	No Treatment	None
1091015	CAMP ESPA	1	No Treatment	None
1091019	CEDAR MEADOWS ROD & GUN CLUB	1	No Treatment	None
1091023	CHURCH CREEK V.F.C.	1	No Treatment	None
1091126	CINDYS EASTSIDE KITCHEN	1	No Treatment	None
1091003	DAYS INN	1	No Treatment	None
1091166	DOCKSIDE BAR & GRILL	1	No Treatment	None
1090006	DORCHESTER CO. HIGHWAY DEPARTMENT	1	No Treatment	None
1091033	ELDORADO BROOKVIEW FIRE CO.	1	No Treatment	None
1091147	ELDORADO COUNTRY MARKET	1	No Treatment	None
1091129	FOXWELLS AUCTIONS	1	No Treatment	None
1091017	NANTICOKE BOY SCOUT RESERVATION	1	No Treatment	None
1091046	HOOPERS ISLAND VOL FIRE CO.	1	No Treatment	None
1091050	I.F. CANNON & SON	1	No Treatment	None
1091016	INTEGRITY BUILDERS SUMMER PLACE/CP HEBRO	1	No Treatment	None
1091139	JBIRDS	1	No Treatment	None
1091048	KINGS ISLAND PRIDE	1	No Treatment	None
1091171	KOSKI TRUCKING WELL #1	1	No Treatment	None
1091172	KOSKI TRUCKING WELL #2	1	No Treatment	None
1091173	KOSKI TRUCKING WELL #3	1	No Treatment	None
1091055	LAKES & STRAITS V.F.C.	1	No Treatment	None
1091060	LEWIS STORE	1	No Treatment	None
1091142	LINKWOOD DELI AND MARKET	1	No Treatment	None
1091137	LINKWOOD SALEM VFC	1	No Treatment	None
1091063	LONGS GROCERY	1	No Treatment	None
1091065	MADISON BAY RESTAURANT & CAMPGROUND	1	No Treatment	None
1091068	MADISON V.F.C.	1	No Treatment	None

Table 2, Known Treatment methods for Somerset County Transient Systems.

PWSID	System Name	Plant ID	Known Treatment Methods	Reason for Treatment
1091138	MARYLAND VETERANS COMMISSION	1	No Treatment	None
1091075	MT. PLEASANT METHODIST CHURCH	1	No Treatment	None
1091078	NECK DISTRICT V.F.C.	1	No Treatment	None
1091079	OLD SALTYS RESTAURANT	1	No Treatment	None
1091081	PEP-UP #4	1	No Treatment	None
1091086	RELIANCE MARKET	1	No Treatment	None
1091029	ROUTE 50 SHELL STOP	1	No Treatment	None
1091089	LINDY'S SEAFOOD	1	No Treatment	None
1091169	RUSSELL HALL SEAFOOD	1	No Treatment	None
1091013	SIGNATURES CAFE (DORCHESTER AIRPORT)	1	No Treatment	None
1091153	SMITHS COUNTRY MARKET	1	No Treatment	None
1091155	SOFT & SALTY	1	No Treatment	None
1091161	SPRINGDALE MARKET	1	No Treatment	None
1090016	STATE HIGHWAY ADMIN.	1	No Treatment	None
1091164	SUNBURST MOBIL	1	No Treatment	None
1091096	TAYLORS ISLAND CAMPGROUND	1	No Treatment	None
1091097	TAYLORS ISLAND FIRE CO.	1	No Treatment	None
1091098	TAYLORS ISLAND GENERAL STORE	1	No Treatment	None
1091101	TIDELAND PARK	1	No Treatment	None
1091131	WATERMANS CAFE	1	No Treatment	None
1091150	WILLIAMSBURG COUNTRY KITCHEN	1	No Treatment	None
1091010	WOOLFORD COUNTRY STORE	1	No Treatment	None

Table 2 (Continued), Known Treatment methods for Somerset County Transient Systems.

PWSID	System Name	Total # of Nitrate Samples	Number of Nitrate Samples		Total # of Nitrite Samples	Number of Nitrite Samples > 50% MCL
			> 1 ppm	>50% MCL		
1091002	A.E. PHILLIPS & SON	4	0	0	4	0
1091004	BECKWITH CHURCH	1	0	0	1	0
1091014	BEST VALUE INN	5	0	0	2	0
1091005	BLACKWATER NAT. WILDLIFE REFUGE	5	0	0	3	0
1091027	C.O. PRITCHETTS STORE	2	0	0	1	0
1091012	CAMBRIDGE COUNTRY CLUB	5	0	0	3	0
1091121	CAMBRIDGE DINER	4	0	0	1	0
1091160	CAMBRIDGE EXXON	4	0	0	3	0
1091141	CAMBRIDGE MOOSE LODGE #1211	4	0	0	1	0
1091015	CAMP ESPA	4	1	0	1	0
1091019	CEDAR MEADOWS ROD & GUN CLUB	2	0	0	1	0
1091023	CHURCH CREEK V.F.C.	3	0	0	1	0
1091126	CINDYS EASTSIDE KITCHEN	4	0	0	1	0
1091003	DAYS INN	5	0	0	1	0
1091166	DOCKSIDE BAR & GRILL	2	0	0	1	0
1090006	DORCHESTER CO. HIGHWAY DEPARTMENT	12	2	0	3	0
1091033	ELDORADO BROOKVIEW FIRE CO.	4	0	0	1	0
1091147	ELDORADO COUNTRY MARKET	5	0	0	3	0
1091129	FOXWELLS AUCTIONS	3	0	0	1	0
1091017	NANTICOKE BOY SCOUT RESERVATION	5	0	0	1	1
1091046	HOOPERS ISLAND VOL FIRE CO.	1	0	0	1	0
1091050	I.F. CANNON & SON	5	0	0	5	0
1091016	INTEGRITY BUILDERS SUMMER PLACE/CP HEBRO	1	0	0	1	0
1091139	JBIRDS	3	0	0	1	0
1091048	KINGS ISLAND PRIDE	5	0	0	3	0
1091055	LAKES & STRAITS V.F.C.	3	0	0	1	0
1091060	LEWIS STORE	5	0	0	2	0
1091089	LINDY'S SEAFOOD	3	0	0	3	0
1091142	LINKWOOD DELI AND MARKET	6	0	0	2	0
1091137	LINKWOOD SALEM VFC	4	0	0	1	0
1091063	LONGS GROCERY	4	0	0	1	0
1091065	MADISON BAY RESTAURANT & CAMPGROUND	3	0	0	1	0

Table 3, Total IOC water quality samples collected for transient systems.

PWSID	System Name	Total # of Nitrate Samples	Number of Nitrate Samples		Total # of Nitrite Samples	Number of Nitrite Samples > 50% MCL
			> 1 ppm	>50% MCL		
1091068	MADISON V.F.C.	2	0	0	1	0
1091138	MARYLAND VETERANS COMMISSION	3	0	0	1	0
1091075	MT. PLEASANT METHODIST CHURCH	4	0	0	1	0
1091078	NECK DISTRICT V.F.C.	1	0	0	1	0
1091079	OLD SALTYS RESTAURANT	3	0	0	2	0
1091081	PEP-UP #4	4	0	0	2	0
1091086	RELIANCE MARKET	5	0	0	3	0
1091029	ROUTE 50 SHELL STOP	1	0	0	1	0
1091169	RUSSELL HALL SEAFOOD	5	0	0	5	0
1091013	SIGNATURES CAFE (DORCHESTER AIRPORT)	5	0	0	1	0
1091153	SMITHS COUNTRY MARKET	5	0	0	3	0
1091155	SOFT & SALTY	3	0	0	3	0
1091161	SPRINGDALE MARKET	4	0	0	2	0
1090016	STATE HIGHWAY ADMIN.	15	0	0	2	0
1091164	SUNBURST MOBIL	5	0	0	2	0
1091096	TAYLORS ISLAND CAMPGROUND	3	0	0	3	0
1091097	TAYLORS ISLAND FIRE CO.	2	0	0	1	0
1091098	TAYLORS ISLAND GENERAL STORE	5	0	0	3	0
1091101	TIDELAND PARK	6	0	0	4	0
1091116	W.T. RUARK & CO.	3	0	0	3	0
1091131	WATERMANS CAFE	6	0	0	5	0
1091150	WILLIAMSBURG COUNTRY KITCHEN	5	0	0	3	0
1091010	WOOLFORD COUNTRY STORE	4	0	0	2	0

Table 3 (Continued), Total IOC water quality samples collected for transient systems.

PWSID	System Name	Total Number of Samples Taken	Number of Positive Bacti. Samples	Percentage of Total Samples Positive	Number of Positive Fecal Samples
1090016	STATE HIGHWAY ADMIN.	32	0	0	0
1091002	A.E. PHILLIPS & SON	15	4	**27**	**1**
1091004	BECKWITH CHURCH	4	0	0	0
1091014	BEST VALUE INN	8	0	0	0
1091005	BLACKWATER NAT. WILDLIFE REFUGE	4	0	0	0
1091027	C.O. PRITCHETTS STORE	4	1	**25**	0
1091012	CAMBRIDGE COUNTRY CLUB	36	7	19	**6**
1091121	CAMBRIDGE DINER	5	0	0	0
1091160	CAMBRIDGE EXXON	15	5	**33**	0
1091141	CAMBRIDGE MOOSE LODGE #1211	9	2	22	0
1091015	CAMP ESPA	14	12	**86**	0
1091019	CEDAR MEADOWS ROD & GUN CLUB	2	0	0	0
1091023	CHURCH CREEK V.F.C.	9	1	11	0
1091126	CINDYS EASTSIDE KITCHEN	6	1	17	0
1091003	DAYS INN	6	0	0	0
1091166	DOCKSIDE BAR & GRILL	10	6	**60**	0
1091169	RUSSEL HALL SEAFOOD	36	10	**28**	**1**
1090006	DORCHESTER CO. HIGHWAY DEPARTMENT	9	5	**56**	0
1091033	ELDORADO BROOKVIEW FIRE CO.	21	8	**38**	0
1091147	ELDORADO COUNTRY MARKET	5	0	0	0
1091129	FOXWELLS AUCTIONS	10	6	**60**	0
1091017	NANTICOKE BOY SCOUT RESERVATION	5	0	0	0
1091046	HOOPERS ISLAND VOL FIRE CO.	5	3	**60**	0
1091050	I.F. CANNON & SON	17	5	**29**	**1**
1091016	INTEGRITY BUILDERS SUMMER PLACE/CP HEBRO	10	6	**60**	0
1091139	JBIRDS	7	0	0	0
1091048	KINGS ISLAND PRIDE	5	0	0	0
1091171	KOSKI TRUCKING WELL #1	0	0	0	0
1091172	KOSKI TRUCKING WELL #2	0	0	0	0
1091173	KOSKI TRUCKING WELL #3	0	0	0	0
1091055	LAKES & STRAITS V.F.C.	7	1	14	0

Table 4, Routine and repeat bacteriological samples for each system since 1996.

PWSID	System Name	Total Number of Samples Taken	Number of Positive Bacti. Samples	Percentage of Total Samples Positive	Number of Positive Fecal Samples
1091060	LEWIS STORE	6	0	0	0
1091142	LINKWOOD DELI AND MARKET	8	0	0	0
1091137	LINKWOOD SALEM VFC	5	0	0	0
1091063	LONGS GROCERY	8	3	**38**	0
1091065	MADISON BAY RESTAURANT & CAMPGROUND	7	0	0	0
1091068	MADISON V.F.C.	5	0	0	0
1091138	MARYLAND VETERANS COMMISSION	4	0	0	0
1091075	MT. PLEASANT METHODIST CHURCH	8	0	0	0
1091078	NECK DISTRICT V.F.C.	2	0	0	0
1091079	OLD SALTYS RESTAURANT	3	0	0	0
1091081	PEP-UP #4	8	2	**25**	0
1091086	RELIANCE MARKET	4	0	0	0
1091089	LINDY'S SEAFOOD	9	3	**33**	**1**
1091029	ROUTE 50 SHELL STOP	1	0	0	0
1091013	SIGNATURES CAFE (DORCHESTER AIRPORT)	5	0	0	0
1091153	SMITHS COUNTRY MARKET	11	3	**27**	0
1091155	SOFT & SALTY	1	8	13	0
1091161	SPRINGDALE MARKET	7	0	0	0
1091164	SUNBURST MOBIL	18	7	**39**	0
1091096	TAYLORS ISLAND CAMPGROUND	13	5	**39**	0
1091097	TAYLORS ISLAND FIRE CO.	6	1	17	0
1091098	TAYLORS ISLAND GENERAL STORE	8	1	13	0
1091101	TIDELAND PARK	18	4	22	**3**
1091131	WATERMANS CAFE	7	1	14	0
1091150	WILLIAMSBURG COUNTRY KITCHEN	6	0	0	0
1091010	WOOLFORD COUNTRY STORE	6	0	0	0

Table 4 (continued), Routine and repeat bacteriological samples for each system since 1996.

PWSID	PL	Contaminant	Contaminant Name	MCL	Sample Date	Result
1090016	1	2990	BENZENE	5	26-Mar-91	-0.5
1090016	1	2992	ETHYLBENZENE	700	26-Mar-91	-0.5
1090016	1	2991	TOLUENE	1000	26-Mar-91	-0.5
1090016	1	2989	MONOCHLOROBENZENE	100	26-Mar-91	-0.5
1090016	1	2987	TETRACHLOROETHYLENE	5	26-Mar-91	-0.5
1090016	1	2983	1,2-DICHLOROPROPANE	5	26-Mar-91	-0.5
1090016	1	2968	o-DICHLOROBENZENE	600	26-Mar-91	-0.5
1090016	1	2380	cis-1,2-DICHLOROETHYLENE	70	26-Mar-91	-0.5
1090016	1	2979	trans-1,2-DICHLOROETHYLENE	100	26-Mar-91	-0.5
1090016	1	2976	VINYL CHLORIDE	2	26-Mar-91	-0.5
1090016	1	2412	1,3-DICHLOROPROPANE		26-Mar-91	-0.5
1090016	1	2988	1,1,2,2-TETRACHLOROETHANE		26-Mar-91	-0.5
1090016	1	2413	1,3-DICHLOROPROPENE		26-Mar-91	-0.5
1090016	1	2410	1,1-DICHLOROPROPENE		26-Mar-91	-0.5
1090016	1	2978	1,1-DICHLOROETHANE		26-Mar-91	-0.5
1090016	1	2216	CHLOROETHANE		26-Mar-91	-0.5
1090016	1	2214	BROMOMETHANE		26-Mar-91	-0.5
1090016	1	2210	CHLOROMETHANE		26-Mar-91	-0.5
1090016	1	2944	DIBROMOCHLOROMETHANE		26-Mar-91	-0.5
1090016	1	2941	CHLOROFORM		26-Mar-91	-0.5
1090016	1	2942	BROMOFORM		26-Mar-91	-0.5
1090016	1	2943	BROMODICHLOROMETHANE		26-Mar-91	-0.5
1090016	1	2985	1,1,2-TRICHLOROETHANE	5	26-Mar-91	-0.5
1090016	1	2378	1,2,4-TRICHLOROBENZENE	70	26-Mar-91	-0.5
1090016	1	2964	METHYLENE CHLORIDE	5	26-Mar-91	-0.5
1090016	1	2996	STYRENE	100	26-Mar-91	-0.5
1090016	1	2955	XYLENES, TOTAL	10000	26-Mar-91	-0.5
1090016	1	2248	NAPHTHALENE		26-Mar-91	-0.5
1090016	1	2422	N-BUTYLBENZENE		26-Mar-91	-0.5
1090016	1	2998	n-PROPYLBENZENE		26-Mar-91	-0.5
1090016	1	2420	1,2,3-TRICHLOROBENZENE		26-Mar-91	-0.5
1090016	1	2418	1,2,4-TRIMETHYLBENZENE		26-Mar-91	-0.5
1090016	1	2993	BROMOBENZENE		26-Mar-91	-0.5
1090016	1	2966	p-CHLOROTOLUENE		26-Mar-91	-0.5
1090016	1	2965	o-CHLOROTOLUENE		26-Mar-91	-0.5
1090016	1	2416	2,2-DICHLOROPROPANE		26-Mar-91	-0.5
1090016	1	2931	1,2-DIBROMO-3-CHLOROPROPANE	0.2	26-Mar-91	-0.5
1090016	1	2986	1,1,1,2-TETRACHLOROETHANE		26-Mar-91	-0.5
1090016	1	2967	m-DICHLOROBENZENE		26-Mar-91	-0.5
1090016	1	2212	DICHLORODIFLUOROMETHANE		26-Mar-91	-0.5
1090016	1	2428	SEC-BUTYLBENZENE		26-Mar-91	-0.5
1090016	1	2426	TERT-BUTYLBENZENE		26-Mar-91	-0.5
1090016	1	2995	m-XYLENE		26-Mar-91	-0.5
1090016	1	2997	o-XYLENE		26-Mar-91	-0.5
1090016	1	2962	p-XYLENE		26-Mar-91	-0.5
1090016	1	2408	DIBROMOMETHANE		26-Mar-91	-0.5
1090016	1	2430	BROMOCHLOROMETHANE		26-Mar-91	-0.5
1090016	1	2030	P-ISOPROPYLTOLUENE		26-Mar-91	-0.5
1090016	1	2424	1,3,5-TRIMETHYLBENZENE		26-Mar-91	-0.5
1090016	1	2218	TRICHLOROFLUOROMETHANE		26-Mar-91	-0.5

Table 5, Total VOC water quality samples collected for transient systems.

PWSID	PL	Contaminant	Contaminant Name	MCL	Sample Date	Result
1090016	1	2414	1,2,3-TRICHLOROPROPANE		26-Mar-91	-0.5
1090016	1	2994	ISOPROPYLBENZENE		26-Mar-91	-0.5
1090016	1	2246	HEXACHLOROBUTADIENE		26-Mar-91	-0.5
1090016	1	2984	TRICHLOROETHYLENE	5	26-Mar-91	-0.5
1090016	1	2981	1,1,1-TRICHLOROETHANE	200	26-Mar-91	-0.5
1090016	1	2980	1,2-DICHLOROETHANE	5	26-Mar-91	-0.5
1090016	1	2977	1,1-DICHLOROETHYLENE	7	26-Mar-91	-0.5
1090016	1	2982	CARBON TETRACHLORIDE	5	26-Mar-91	-0.5
1090016	1	2969	p-DICHLOROBENZENE	75	26-Mar-91	-0.5
1090016	1	2990	BENZENE	5	25-Jun-91	-0.5
1090016	1	2976	VINYL CHLORIDE	2	25-Jun-91	-0.5
1090016	1	2984	TRICHLOROETHYLENE	5	25-Jun-91	-0.5
1090016	1	2981	1,1,1-TRICHLOROETHANE	200	25-Jun-91	-0.5
1090016	1	2980	1,2-DICHLOROETHANE	5	25-Jun-91	-0.5
1090016	1	2977	1,1-DICHLOROETHYLENE	7	25-Jun-91	-0.5
1090016	1	2969	p-DICHLOROBENZENE	75	25-Jun-91	-0.5
1090016	1	2982	CARBON TETRACHLORIDE	5	25-Jun-91	-0.5
1090016	1	2251	METHYL-TERT-BUTYL-ETHER		23-Mar-95	-0.5
1090016	1	2984	TRICHLOROETHYLENE	5	23-Mar-95	-0.5
1090016	1	2422	N-BUTYLBENZENE		23-Mar-95	-0.5
1090016	1	2998	n-PROPYLBENZENE		23-Mar-95	-0.5
1090016	1	2420	1,2,3-TRICHLOROBENZENE		23-Mar-95	-0.5
1090016	1	2418	1,2,4-TRIMETHYLBENZENE		23-Mar-95	-0.5
1090016	1	2993	BROMOBENZENE		23-Mar-95	-0.5
1090016	1	2966	p-CHLOROTOLUENE		23-Mar-95	-0.5
1090016	1	2965	o-CHLOROTOLUENE		23-Mar-95	-0.5
1090016	1	2416	2,2-DICHLOROPROPANE		23-Mar-95	-0.5
1090016	1	2216	CHLOROETHANE		23-Mar-95	-0.5
1090016	1	2986	1,1,1,2-TETRACHLOROETHANE		23-Mar-95	-0.5
1090016	1	2967	m-DICHLOROBENZENE		23-Mar-95	-0.5
1090016	1	2212	DICHLORODIFLUOROMETHANE		23-Mar-95	-0.5
1090016	1	2428	SEC-BUTYLBENZENE		23-Mar-95	-0.5
1090016	1	2426	TERT-BUTYLBENZENE		23-Mar-95	-0.5
1090016	1	2995	m-XYLENE		23-Mar-95	-0.5
1090016	1	2997	o-XYLENE		23-Mar-95	-0.5
1090016	1	2962	p-XYLENE		23-Mar-95	-0.5
1090016	1	2408	DIBROMOMETHANE		23-Mar-95	-0.5
1090016	1	2251	METHYL-TERT-BUTYL-ETHER		23-Mar-95	-0.5
1090016	1	2931	1,2-DIBROMO-3-CHLOROPROPANE	0.2	23-Mar-95	-0.5
1090016	1	2946	ETHYLENE DIBROMIDE (EDB)	0.05	23-Mar-95	-0.5
1090016	1	2430	BROMOCHLOROMETHANE		23-Mar-95	-0.5
1090016	1	2030	P-ISOPROPYLTOLUENE		23-Mar-95	-0.5
1090016	1	2424	1,3,5-TRIMETHYLBENZENE		23-Mar-95	-0.5
1090016	1	2218	TRICHLOROFLUOROMETHANE		23-Mar-95	-0.5
1090016	1	2414	1,2,3-TRICHLOROPROPANE		23-Mar-95	-0.5
1090016	1	2994	ISOPROPYLBENZENE		23-Mar-95	-0.5
1090016	1	2246	HEXACHLOROBUTADIENE		23-Mar-95	-0.5
1090016	1	2248	NAPHTHALENE		23-Mar-95	-0.5
1090016	1	2214	BROMOMETHANE		23-Mar-95	-0.5
1090016	1	2210	CHLOROMETHANE		23-Mar-95	-0.5

Table 5 (Continued), Total VOC water quality samples collected for transient systems.

PWSID	PL	Contaminant	Contaminant Name	MCL	Sample Date	Result
1090016	1	2985	1,1,2-TRICHLOROETHANE	5	23-Mar-95	-0.5
1090016	1	2378	1,2,4-TRICHLOROBENZENE	70	23-Mar-95	-0.5
1090016	1	2964	METHYLENE CHLORIDE	5	23-Mar-95	-0.5
1090016	1	2996	STYRENE	100	23-Mar-95	-0.5
1090016	1	2955	XYLENES, TOTAL	10000	23-Mar-95	-0.5
1090016	1	2992	ETHYLBENZENE	700	23-Mar-95	-0.5
1090016	1	2412	1,3-DICHLOROPROPANE		23-Mar-95	-0.5
1090016	1	2988	1,1,2,2-TETRACHLOROETHANE		23-Mar-95	-0.5
1090016	1	2413	1,3-DICHLOROPROPENE		23-Mar-95	-0.5
1090016	1	2410	1,1-DICHLOROPROPENE		23-Mar-95	-0.5
1090016	1	2978	1,1-DICHLOROETHANE		23-Mar-95	-0.5
1090016	1	2991	TOLUENE	1000	23-Mar-95	-0.5
1090016	1	2989	MONOCHLOROBENZENE	100	23-Mar-95	-0.5
1090016	1	2987	TETRACHLOROETHYLENE	5	23-Mar-95	-0.5
1090016	1	2983	1,2-DICHLOROPROPANE	5	23-Mar-95	-0.5
1090016	1	2968	o-DICHLOROBENZENE	600	23-Mar-95	-0.5
1090016	1	2380	cis-1,2-DICHLOROETHYLENE	70	23-Mar-95	-0.5
1090016	1	2979	trans-1,2-DICHLOROETHYLENE	100	23-Mar-95	-0.5
1090016	1	2976	VINYL CHLORIDE	2	23-Mar-95	-0.5
1090016	1	2981	1,1,1-TRICHLOROETHANE	200	23-Mar-95	-0.5
1090016	1	2990	BENZENE	5	23-Mar-95	-0.5
1090016	1	2969	p-DICHLOROBENZENE	75	23-Mar-95	-0.5
1090016	1	2977	1,1-DICHLOROETHYLENE	7	23-Mar-95	-0.5
1090016	1	2980	1,2-DICHLOROETHANE	5	23-Mar-95	-0.5
1090016	1	2982	CARBON TETRACHLORIDE	5	23-Mar-95	-0.5
1090006	1	2990	BENZENE	5	26-Feb-91	-0.5
1090006	1	2982	CARBON TETRACHLORIDE	5	26-Feb-91	-0.5
1090006	1	2969	p-DICHLOROBENZENE	75	26-Feb-91	-0.5
1090006	1	2980	1,2-DICHLOROETHANE	5	26-Feb-91	-0.5
1090006	1	2984	TRICHLOROETHYLENE	5	26-Feb-91	-0.5
1090006	1	2976	VINYL CHLORIDE	2	26-Feb-91	-0.5
1090006	1	2981	1,1,1-TRICHLOROETHANE	200	26-Feb-91	-0.5
1090006	1	2977	1,1-DICHLOROETHYLENE	7	26-Feb-91	-0.5
1090006	1	2251	METHYL-TERT-BUTYL-ETHER		15-Feb-95	-0.5
1090006	1	2990	BENZENE	5	15-Feb-95	-0.5
1090006	1	2992	ETHYLBENZENE	700	15-Feb-95	-0.5
1090006	1	2991	TOLUENE	1000	15-Feb-95	-0.5
1090006	1	2989	MONOCHLOROBENZENE	100	15-Feb-95	-0.5
1090006	1	2987	TETRACHLOROETHYLENE	5	15-Feb-95	1
1090006	1	2983	1,2-DICHLOROPROPANE	5	15-Feb-95	-0.5
1090006	1	2968	o-DICHLOROBENZENE	600	15-Feb-95	-0.5
1090006	1	2380	cis-1,2-DICHLOROETHYLENE	70	15-Feb-95	-0.5
1090006	1	2979	trans-1,2-DICHLOROETHYLENE	100	15-Feb-95	-0.5
1090006	1	2976	VINYL CHLORIDE	2	15-Feb-95	-0.5
1090006	1	2978	1,1-DICHLOROETHANE		15-Feb-95	-0.5
1090006	1	2216	CHLOROETHANE		15-Feb-95	-0.5
1090006	1	2214	BROMOMETHANE		15-Feb-95	-0.5
1090006	1	2210	CHLOROMETHANE		15-Feb-95	-0.5
1090006	1	2985	1,1,2-TRICHLOROETHANE	5	15-Feb-95	-0.5
1090006	1	2378	1,2,4-TRICHLOROBENZENE	70	15-Feb-95	-0.5

Table 5 (Continued), Total VOC water quality samples collected for transient systems.

PWSID	PL	Contaminant	Contaminant Name	MCL	Sample Date	Result
1090006	1	2964	METHYLENE CHLORIDE	5	15-Feb-95	-0.5
1090006	1	2996	STYRENE	100	15-Feb-95	-0.5
1090006	1	2955	XYLENES, TOTAL	10000	15-Feb-95	-0.5
1090006	1	2218	TRICHLOROFLUOROMETHANE		15-Feb-95	-0.5
1090006	1	2414	1,2,3-TRICHLOROPROPANE		15-Feb-95	-0.5
1090006	1	2994	ISOPROPYLBENZENE		15-Feb-95	-0.5
1090006	1	2246	HEXACHLOROBUTADIENE		15-Feb-95	-0.5
1090006	1	2248	NAPHTHALENE		15-Feb-95	-0.5
1090006	1	2422	N-BUTYLBENZENE		15-Feb-95	-0.5
1090006	1	2998	n-PROPYLBENZENE		15-Feb-95	-0.5
1090006	1	2420	1,2,3-TRICHLOROBENZENE		15-Feb-95	-0.5
1090006	1	2418	1,2,4-TRIMETHYLBENZENE		15-Feb-95	-0.5
1090006	1	2251	METHYL-TERT-BUTYL-ETHER		15-Feb-95	-0.5
1090006	1	2931	1,2-DIBROMO-3-CHLOROPROPANE	0.2	15-Feb-95	-0.5
1090006	1	2946	ETHYLENE DIBROMIDE (EDB)	0.05	15-Feb-95	-0.5
1090006	1	2986	1,1,1,2-TETRACHLOROETHANE		15-Feb-95	-0.5
1090006	1	2967	m-DICHLOROBENZENE		15-Feb-95	-0.5
1090006	1	2212	DICHLORODIFLUOROMETHANE		15-Feb-95	-0.5
1090006	1	2428	SEC-BUTYLBENZENE		15-Feb-95	-0.5
1090006	1	2426	TERT-BUTYLBENZENE		15-Feb-95	-0.5
1090006	1	2995	m-XYLENE		15-Feb-95	-0.5
1090006	1	2997	o-XYLENE		15-Feb-95	-0.5
1090006	1	2962	p-XYLENE		15-Feb-95	-0.5
1090006	1	2408	DIBROMOMETHANE		15-Feb-95	-0.5
1090006	1	2430	BROMOCHLOROMETHANE		15-Feb-95	-0.5
1090006	1	2030	P-ISOPROPYLTOLUENE		15-Feb-95	-0.5
1090006	1	2424	1,3,5-TRIMETHYLBENZENE		15-Feb-95	-0.5
1090006	1	2993	BROMOBENZENE		15-Feb-95	-0.5
1090006	1	2966	p-CHLOROTOLUENE		15-Feb-95	-0.5
1090006	1	2965	o-CHLOROTOLUENE		15-Feb-95	-0.5
1090006	1	2416	2,2-DICHLOROPROPANE		15-Feb-95	-0.5
1090006	1	2412	1,3-DICHLOROPROPANE		15-Feb-95	-0.5
1090006	1	2988	1,1,2,2-TETRACHLOROETHANE		15-Feb-95	-0.5
1090006	1	2413	1,3-DICHLOROPROPENE		15-Feb-95	-0.5
1090006	1	2410	1,1-DICHLOROPROPENE		15-Feb-95	-0.5
1090006	1	2984	TRICHLOROETHYLENE	5	15-Feb-95	1
1090006	1	2981	1,1,1-TRICHLOROETHANE	200	15-Feb-95	-0.5
1090006	1	2980	1,2-DICHLOROETHANE	5	15-Feb-95	-0.5
1090006	1	2977	1,1-DICHLOROETHYLENE	7	15-Feb-95	-0.5
1090006	1	2969	p-DICHLOROBENZENE	75	15-Feb-95	-0.5
1090006	1	2982	CARBON TETRACHLORIDE	5	15-Feb-95	-0.5
1090006	1	2251	METHYL-TERT-BUTYL-ETHER		7-Jun-95	-0.5
1090006	1	2990	BENZENE	5	7-Jun-95	-0.5
1090006	1	2955	XYLENES, TOTAL	10000	7-Jun-95	-0.5
1090006	1	2992	ETHYLBENZENE	700	7-Jun-95	-0.5
1090006	1	2991	TOLUENE	1000	7-Jun-95	-0.5
1090006	1	2989	MONOCHLOROBENZENE	100	7-Jun-95	-0.5
1090006	1	2987	TETRACHLOROETHYLENE	5	7-Jun-95	-0.5
1090006	1	2983	1,2-DICHLOROPROPANE	5	7-Jun-95	-0.5
1090006	1	2968	o-DICHLOROBENZENE	600	7-Jun-95	-0.5

Table 5 (Continued), Total VOC water quality samples collected for transient systems.

PWSID	PL	Contaminant	Contaminant Name	MCL	Sample Date	Result
1090006	1	2380	cis-1,2-DICHLOROETHYLENE	70	7-Jun-95	-0.5
1090006	1	2979	trans-1,2-DICHLOROETHYLENE	100	7-Jun-95	-0.5
1090006	1	2976	VINYL CHLORIDE	2	7-Jun-95	-0.5
1090006	1	2251	METHYL-TERT-BUTYL-ETHER		7-Jun-95	-0.5
1090006	1	2931	1,2-DIBROMO-3-CHLOROPROPANE	0.2	7-Jun-95	-0.5
1090006	1	2946	ETHYLENE DIBROMIDE (EDB)	0.05	7-Jun-95	-0.5
1090006	1	2986	1,1,1,2-TETRACHLOROETHANE		7-Jun-95	-0.5
1090006	1	2967	m-DICHLOROBENZENE		7-Jun-95	-0.5
1090006	1	2212	DICHLORODIFLUOROMETHANE		7-Jun-95	-0.5
1090006	1	2428	SEC-BUTYLBENZENE		7-Jun-95	-0.5
1090006	1	2426	TERT-BUTYLBENZENE		7-Jun-95	-0.5
1090006	1	2995	m-XYLENE		7-Jun-95	-0.5
1090006	1	2997	o-XYLENE		7-Jun-95	-0.5
1090006	1	2962	p-XYLENE		7-Jun-95	-0.5
1090006	1	2408	DIBROMOMETHANE		7-Jun-95	-0.5
1090006	1	2430	BROMOCHLOROMETHANE		7-Jun-95	-0.5
1090006	1	2030	P-ISOPROPYLTOLUENE		7-Jun-95	-0.5
1090006	1	2424	1,3,5-TRIMETHYLBENZENE		7-Jun-95	-0.5
1090006	1	2218	TRICHLOROFLUOROMETHANE		7-Jun-95	-0.5
1090006	1	2414	1,2,3-TRICHLOROPROPANE		7-Jun-95	-0.5
1090006	1	2994	ISOPROPYLBENZENE		7-Jun-95	-0.5
1090006	1	2246	HEXACHLOROBUTADIENE		7-Jun-95	-0.5
1090006	1	2248	NAPHTHALENE		7-Jun-95	-0.5
1090006	1	2422	N-BUTYLBENZENE		7-Jun-95	-0.5
1090006	1	2998	n-PROPYLBENZENE		7-Jun-95	-0.5
1090006	1	2420	1,2,3-TRICHLOROBENZENE		7-Jun-95	-0.5
1090006	1	2418	1,2,4-TRIMETHYLBENZENE		7-Jun-95	-0.5
1090006	1	2993	BROMOBENZENE		7-Jun-95	-0.5
1090006	1	2966	p-CHLOROTOLUENE		7-Jun-95	-0.5
1090006	1	2965	o-CHLOROTOLUENE		7-Jun-95	-0.5
1090006	1	2416	2,2-DICHLOROPROPANE		7-Jun-95	-0.5
1090006	1	2412	1,3-DICHLOROPROPANE		7-Jun-95	-0.5
1090006	1	2988	1,1,2,2-TETRACHLOROETHANE		7-Jun-95	-0.5
1090006	1	2413	1,3-DICHLOROPROPENE		7-Jun-95	-0.5
1090006	1	2410	1,1-DICHLOROPROPENE		7-Jun-95	-0.5
1090006	1	2978	1,1-DICHLOROETHANE		7-Jun-95	-0.5
1090006	1	2216	CHLOROETHANE		7-Jun-95	-0.5
1090006	1	2214	BROMOMETHANE		7-Jun-95	-0.5
1090006	1	2210	CHLOROMETHANE		7-Jun-95	-0.5
1090006	1	2944	DIBROMOCHLOROMETHANE		7-Jun-95	-0.5
1090006	1	2941	CHLOROFORM		7-Jun-95	-0.5
1090006	1	2942	BROMOFORM		7-Jun-95	-0.5
1090006	1	2943	BROMODICHLOROMETHANE		7-Jun-95	-0.5
1090006	1	2985	1,1,2-TRICHLOROETHANE	5	7-Jun-95	-0.5
1090006	1	2378	1,2,4-TRICHLOROBENZENE	70	7-Jun-95	-0.5
1090006	1	2964	METHYLENE CHLORIDE	5	7-Jun-95	-0.5
1090006	1	2996	STYRENE	100	7-Jun-95	-0.5
1090006	1	2984	TRICHLOROETHYLENE	5	7-Jun-95	-0.5
1090006	1	2981	1,1,1-TRICHLOROETHANE	200	7-Jun-95	-0.5
1090006	1	2980	1,2-DICHLOROETHANE	5	7-Jun-95	-0.5

Table 5 (Continued), Total VOC water quality samples collected for transient systems.

PWSID	PL	Contaminant	Contaminant Name	MCL	Sample Date	Result
1090006	1	2977	1,1-DICHLOROETHYLENE	7	7-Jun-95	-0.5
1090006	1	2969	p-DICHLOROBENZENE	75	7-Jun-95	-0.5
1090006	1	2982	CARBON TETRACHLORIDE	5	7-Jun-95	-0.5
1090006	1	2251	METHYL-TERT-BUTYL-ETHER		30-Aug-95	-0.5
1090006	1	2976	VINYL CHLORIDE	2	30-Aug-95	-0.5
1090006	1	2955	XYLENES, TOTAL	10000	30-Aug-95	-0.5
1090006	1	2992	ETHYLBENZENE	700	30-Aug-95	-0.5
1090006	1	2991	TOLUENE	1000	30-Aug-95	-0.5
1090006	1	2989	MONOCHLOROBENZENE	100	30-Aug-95	-0.5
1090006	1	2987	TETRACHLOROETHYLENE	5	30-Aug-95	-0.5
1090006	1	2983	1,2-DICHLOROPROPANE	5	30-Aug-95	-0.5
1090006	1	2968	o-DICHLOROBENZENE	600	30-Aug-95	-0.5
1090006	1	2380	cis-1,2-DICHLOROETHYLENE	70	30-Aug-95	-0.5
1090006	1	2979	trans-1,2-DICHLOROETHYLENE	100	30-Aug-95	-0.5
1090006	1	2210	CHLOROMETHANE		30-Aug-95	-0.5
1090006	1	2944	DIBROMOCHLOROMETHANE		30-Aug-95	-0.5
1090006	1	2941	CHLOROFORM		30-Aug-95	-0.5
1090006	1	2942	BROMOFORM		30-Aug-95	-0.5
1090006	1	2943	BROMODICHLOROMETHANE		30-Aug-95	-0.5
1090006	1	2985	1,1,2-TRICHLOROETHANE	5	30-Aug-95	-0.5
1090006	1	2378	1,2,4-TRICHLOROBENZENE	70	30-Aug-95	-0.5
1090006	1	2964	METHYLENE CHLORIDE	5	30-Aug-95	-0.5
1090006	1	2996	STYRENE	100	30-Aug-95	-0.5
1090006	1	2251	METHYL-TERT-BUTYL-ETHER		30-Aug-95	-0.5
1090006	1	2931	1,2-DIBROMO-3-CHLOROPROPANE	0.2	30-Aug-95	-0.5
1090006	1	2946	ETHYLENE DIBROMIDE (EDB)	0.05	30-Aug-95	-0.5
1090006	1	2986	1,1,1,2-TETRACHLOROETHANE		30-Aug-95	-0.5
1090006	1	2967	m-DICHLOROBENZENE		30-Aug-95	-0.5
1090006	1	2212	DICHLORODIFLUOROMETHANE		30-Aug-95	-0.5
1090006	1	2428	SEC-BUTYLBENZENE		30-Aug-95	-0.5
1090006	1	2426	TERT-BUTYLBENZENE		30-Aug-95	-0.5
1090006	1	2995	m-XYLENE		30-Aug-95	-0.5
1090006	1	2997	o-XYLENE		30-Aug-95	-0.5
1090006	1	2962	p-XYLENE		30-Aug-95	-0.5
1090006	1	2408	DIBROMOMETHANE		30-Aug-95	-0.5
1090006	1	2430	BROMOCHLOROMETHANE		30-Aug-95	-0.5
1090006	1	2030	P-ISOPROPYLTOLUENE		30-Aug-95	-0.5
1090006	1	2424	1,3,5-TRIMETHYLBENZENE		30-Aug-95	-0.5
1090006	1	2218	TRICHLOROFLUOROMETHANE		30-Aug-95	-0.5
1090006	1	2414	1,2,3-TRICHLOROPROPANE		30-Aug-95	-0.5
1090006	1	2994	ISOPROPYLBENZENE		30-Aug-95	-0.5
1090006	1	2246	HEXACHLOROBUTADIENE		30-Aug-95	-0.5
1090006	1	2248	NAPHTHALENE		30-Aug-95	-0.5
1090006	1	2422	N-BUTYLBENZENE		30-Aug-95	-0.5
1090006	1	2998	n-PROPYLBENZENE		30-Aug-95	-0.5
1090006	1	2420	1,2,3-TRICHLOROBENZENE		30-Aug-95	-0.5
1090006	1	2418	1,2,4-TRIMETHYLBENZENE		30-Aug-95	-0.5
1090006	1	2993	BROMOBENZENE		30-Aug-95	-0.5
1090006	1	2966	p-CHLOROTOLUENE		30-Aug-95	-0.5
1090006	1	2965	o-CHLOROTOLUENE		30-Aug-95	-0.5

Table 5 (Continued), Total VOC water quality samples collected for transient systems.

PWSID	PL	Contaminant	Contaminant Name	MCL	Sample Date	Result
1090006	1	2416	2,2-DICHLOROPROPANE		30-Aug-95	-0.5
1090006	1	2412	1,3-DICHLOROPROPANE		30-Aug-95	-0.5
1090006	1	2988	1,1,2,2-TETRACHLOROETHANE		30-Aug-95	-0.5
1090006	1	2413	1,3-DICHLOROPROPENE		30-Aug-95	-0.5
1090006	1	2410	1,1-DICHLOROPROPENE		30-Aug-95	-0.5
1090006	1	2978	1,1-DICHLOROETHANE		30-Aug-95	-0.5
1090006	1	2216	CHLOROETHANE		30-Aug-95	-0.5
1090006	1	2214	BROMOMETHANE		30-Aug-95	-0.5
1090006	1	2984	TRICHLOROETHYLENE	5	30-Aug-95	-0.5
1090006	1	2981	1,1,1-TRICHLOROETHANE	200	30-Aug-95	-0.5
1090006	1	2980	1,2-DICHLOROETHANE	5	30-Aug-95	-0.5
1090006	1	2977	1,1-DICHLOROETHYLENE	7	30-Aug-95	-0.5
1090006	1	2969	p-DICHLOROBENZENE	75	30-Aug-95	-0.5
1090006	1	2982	CARBON TETRACHLORIDE	5	30-Aug-95	-0.5
1090006	1	2990	BENZENE	5	30-Aug-95	-0.5
1090006	1	2251	METHYL-TERT-BUTYL-ETHER		5-Dec-95	-0.5
1090006	1	2210	CHLOROMETHANE		5-Dec-95	-0.5
1090006	1	2944	DIBROMOCHLOROMETHANE		5-Dec-95	-0.5
1090006	1	2941	CHLOROFORM		5-Dec-95	-0.5
1090006	1	2942	BROMOFORM		5-Dec-95	-0.5
1090006	1	2943	BROMODICHLOROMETHANE		5-Dec-95	-0.5
1090006	1	2985	1,1,2-TRICHLOROETHANE	5	5-Dec-95	-0.5
1090006	1	2378	1,2,4-TRICHLOROBENZENE	70	5-Dec-95	-0.5
1090006	1	2964	METHYLENE CHLORIDE	5	5-Dec-95	-0.5
1090006	1	2996	STYRENE	100	5-Dec-95	-0.5
1090006	1	2992	ETHYLBENZENE	700	5-Dec-95	-0.5
1090006	1	2991	TOLUENE	1000	5-Dec-95	-0.5
1090006	1	2989	MONOCHLOROBENZENE	100	5-Dec-95	-0.5
1090006	1	2987	TETRACHLOROETHYLENE	5	5-Dec-95	-0.5
1090006	1	2251	METHYL-TERT-BUTYL-ETHER		5-Dec-95	-0.5
1090006	1	2931	1,2-DIBROMO-3-CHLOROPROPANE	0.2	5-Dec-95	-0.5
1090006	1	2946	ETHYLENE DIBROMIDE (EDB)	0.05	5-Dec-95	-0.5
1090006	1	2986	1,1,1,2-TETRACHLOROETHANE		5-Dec-95	-0.5
1090006	1	2967	m-DICHLOROBENZENE		5-Dec-95	-0.5
1090006	1	2212	DICHLORODIFLUOROMETHANE		5-Dec-95	-0.5
1090006	1	2428	SEC-BUTYLBENZENE		5-Dec-95	-0.5
1090006	1	2426	TERT-BUTYLBENZENE		5-Dec-95	-0.5
1090006	1	2995	m-XYLENE		5-Dec-95	-0.5
1090006	1	2997	o-XYLENE		5-Dec-95	-0.5
1090006	1	2962	p-XYLENE		5-Dec-95	-0.5
1090006	1	2408	DIBROMOMETHANE		5-Dec-95	-0.5
1090006	1	2430	BROMOCHLOROMETHANE		5-Dec-95	-0.5
1090006	1	2030	P-ISOPROPYLTOLUENE		5-Dec-95	-0.5
1090006	1	2424	1,3,5-TRIMETHYLBENZENE		5-Dec-95	-0.5
1090006	1	2218	TRICHLOROFLUOROMETHANE		5-Dec-95	-0.5
1090006	1	2414	1,2,3-TRICHLOROPROPANE		5-Dec-95	-0.5
1090006	1	2994	ISOPROPYLBENZENE		5-Dec-95	-0.5
1090006	1	2993	BROMOBENZENE		5-Dec-95	-0.5
1090006	1	2966	p-CHLOROTOLUENE		5-Dec-95	-0.5
1090006	1	2412	1,3-DICHLOROPROPANE		5-Dec-95	-0.5

Table 5 (Continued), Total VOC water quality samples collected for transient systems.

PWSID	PL	Contaminant	Contaminant Name	MCL	Sample Date	Result
1090006	1	2988	1,1,2,2-TETRACHLOROETHANE		5-Dec-95	-0.5
1090006	1	2413	1,3-DICHLOROPROPENE		5-Dec-95	-0.5
1090006	1	2410	1,1-DICHLOROPROPENE		5-Dec-95	-0.5
1090006	1	2978	1,1-DICHLOROETHANE		5-Dec-95	-0.5
1090006	1	2216	CHLOROETHANE		5-Dec-95	-0.5
1090006	1	2214	BROMOMETHANE		5-Dec-95	-0.5
1090006	1	2246	HEXACHLOROBUTADIENE		5-Dec-95	-0.5
1090006	1	2248	NAPHTHALENE		5-Dec-95	-0.5
1090006	1	2422	N-BUTYLBENZENE		5-Dec-95	-0.5
1090006	1	2998	n-PROPYLBENZENE		5-Dec-95	-0.5
1090006	1	2420	1,2,3-TRICHLOROBENZENE		5-Dec-95	-0.5
1090006	1	2418	1,2,4-TRIMETHYLBENZENE		5-Dec-95	-0.5
1090006	1	2983	1,2-DICHLOROPROPANE	5	5-Dec-95	-0.5
1090006	1	2968	o-DICHLOROBENZENE	600	5-Dec-95	-0.5
1090006	1	2380	cis-1,2-DICHLOROETHYLENE	70	5-Dec-95	-0.5
1090006	1	2979	trans-1,2-DICHLOROETHYLENE	100	5-Dec-95	-0.5
1090006	1	2976	VINYL CHLORIDE	2	5-Dec-95	-0.5
1090006	1	2984	TRICHLOROETHYLENE	5	5-Dec-95	-0.5
1090006	1	2981	1,1,1-TRICHLOROETHANE	200	5-Dec-95	-0.5
1090006	1	2980	1,2-DICHLOROETHANE	5	5-Dec-95	-0.5
1090006	1	2965	o-CHLOROTOLUENE		5-Dec-95	-0.5
1090006	1	2416	2,2-DICHLOROPROPANE		5-Dec-95	-0.5
1090006	1	2955	XYLENES, TOTAL	10000	5-Dec-95	-0.5
1090006	1	2977	1,1-DICHLOROETHYLENE	7	5-Dec-95	-0.5
1090006	1	2969	p-DICHLOROBENZENE	75	5-Dec-95	-0.5
1090006	1	2982	CARBON TETRACHLORIDE	5	5-Dec-95	-0.5
1090006	1	2990	BENZENE	5	5-Dec-95	-0.5
1090006	1	2251	METHYL-TERT-BUTYL-ETHER		9-Feb-98	-0.5
1090006	1	2990	BENZENE	5	9-Feb-98	-0.5
1090006	1	2969	p-DICHLOROBENZENE	75	9-Feb-98	-0.5
1090006	1	2980	1,2-DICHLOROETHANE	5	9-Feb-98	-0.5
1090006	1	2994	ISOPROPYLBENZENE		9-Feb-98	-0.5
1090006	1	2418	1,2,4-TRIMETHYLBENZENE		9-Feb-98	-0.5
1090006	1	2412	1,3-DICHLOROPROPANE		9-Feb-98	-0.5
1090006	1	2988	1,1,2,2-TETRACHLOROETHANE		9-Feb-98	-0.5
1090006	1	2413	1,3-DICHLOROPROPENE		9-Feb-98	-0.5
1090006	1	2410	1,1-DICHLOROPROPENE		9-Feb-98	-0.5
1090006	1	2978	1,1-DICHLOROETHANE		9-Feb-98	-0.5
1090006	1	2216	CHLOROETHANE		9-Feb-98	-0.5
1090006	1	2214	BROMOMETHANE		9-Feb-98	-0.5
1090006	1	2996	STYRENE	100	9-Feb-98	0.5
1090006	1	2251	METHYL-TERT-BUTYL-ETHER		9-Feb-98	-0.5
1090006	1	2931	1,2-DIBROMO-3-CHLOROPROPANE	0.2	9-Feb-98	-0.5
1090006	1	2946	ETHYLENE DIBROMIDE (EDB)	0.05	9-Feb-98	-0.5
1090006	1	2986	1,1,1,2-TETRACHLOROETHANE		9-Feb-98	-0.5
1090006	1	2967	m-DICHLOROBENZENE		9-Feb-98	-0.5
1090006	1	2212	DICHLORODIFLUOROMETHANE		9-Feb-98	-0.5
1090006	1	2428	SEC-BUTYLBENZENE		9-Feb-98	-0.5
1090006	1	2426	TERT-BUTYLBENZENE		9-Feb-98	-0.5
1090006	1	2408	DIBROMOMETHANE		9-Feb-98	-0.5

Table 5 (Continued), Total VOC water quality samples collected for transient systems.

PWSID	PL	Contaminant	Contaminant Name	MCL	Sample Date	Result
1090006	1	2430	BROMOCHLOROMETHANE		9-Feb-98	-0.5
1090006	1	2030	P-ISOPROPYLTOLUENE		9-Feb-98	-0.5
1090006	1	2424	1,3,5-TRIMETHYLBENZENE		9-Feb-98	-0.5
1090006	1	2218	TRICHLOROFLUOROMETHANE		9-Feb-98	-0.5
1090006	1	2414	1,2,3-TRICHLOROPROPANE		9-Feb-98	-0.5
1090006	1	2246	HEXACHLOROBUTADIENE		9-Feb-98	-0.5
1090006	1	2248	NAPHTHALENE		9-Feb-98	-0.5
1090006	1	2422	N-BUTYLBENZENE		9-Feb-98	-0.5
1090006	1	2998	n-PROPYLBENZENE		9-Feb-98	-0.5
1090006	1	2420	1,2,3-TRICHLOROBENZENE		9-Feb-98	-0.5
1090006	1	2955	XYLENES, TOTAL	10000	9-Feb-98	-1
1090006	1	2992	ETHYLBENZENE	700	9-Feb-98	-0.5
1090006	1	2991	TOLUENE	1000	9-Feb-98	-0.5
1090006	1	2989	MONOCHLOROBENZENE	100	9-Feb-98	-0.5
1090006	1	2987	TETRACHLOROETHYLENE	5	9-Feb-98	-0.5
1090006	1	2983	1,2-DICHLOROPROPANE	5	9-Feb-98	-0.5
1090006	1	2968	o-DICHLOROBENZENE	600	9-Feb-98	-0.5
1090006	1	2380	cis-1,2-DICHLOROETHYLENE	70	9-Feb-98	-0.5
1090006	1	2993	BROMOBENZENE		9-Feb-98	-0.5
1090006	1	2966	p-CHLOROTOLUENE		9-Feb-98	-0.5
1090006	1	2965	o-CHLOROTOLUENE		9-Feb-98	-0.5
1090006	1	2416	2,2-DICHLOROPROPANE		9-Feb-98	-0.5
1090006	1	2210	CHLOROMETHANE		9-Feb-98	-0.5
1090006	1	2944	DIBROMOCHLOROMETHANE		9-Feb-98	-0.5
1090006	1	2941	CHLOROFORM		9-Feb-98	-0.5
1090006	1	2942	BROMOFORM		9-Feb-98	-0.5
1090006	1	2943	BROMODICHLOROMETHANE		9-Feb-98	-0.5
1090006	1	2985	1,1,2-TRICHLOROETHANE	5	9-Feb-98	-0.5
1090006	1	2378	1,2,4-TRICHLOROBENZENE	70	9-Feb-98	-0.5
1090006	1	2964	METHYLENE CHLORIDE	5	9-Feb-98	-0.5
1090006	1	2979	trans-1,2-DICHLOROETHYLENE	100	9-Feb-98	-0.5
1090006	1	2976	VINYL CHLORIDE	2	9-Feb-98	-0.5
1090006	1	2984	TRICHLOROETHYLENE	5	9-Feb-98	-0.5
1090006	1	2981	1,1,1-TRICHLOROETHANE	200	9-Feb-98	-0.5
1090006	1	2977	1,1-DICHLOROETHYLENE	7	9-Feb-98	-0.5
1090006	1	2982	CARBON TETRACHLORIDE	5	9-Feb-98	-0.5
1090006	1	2251	METHYL-TERT-BUTYL-ETHER		17-Jan-01	-0.5
1090006	1	2969	p-DICHLOROBENZENE	75	17-Jan-01	-0.5
1090006	1	2251	METHYL-TERT-BUTYL-ETHER		17-Jan-01	-0.5
1090006	1	2428	SEC-BUTYLBENZENE		17-Jan-01	-0.5
1090006	1	2426	TERT-BUTYLBENZENE		17-Jan-01	-0.5
1090006	1	2995	m-XYLENE		17-Jan-01	-0.5
1090006	1	2997	o-XYLENE		17-Jan-01	-0.5
1090006	1	2962	p-XYLENE		17-Jan-01	-0.5
1090006	1	2408	DIBROMOMETHANE		17-Jan-01	-0.5
1090006	1	2430	BROMOCHLOROMETHANE		17-Jan-01	-0.5
1090006	1	2030	P-ISOPROPYLTOLUENE		17-Jan-01	-0.5
1090006	1	2994	ISOPROPYLBENZENE		17-Jan-01	-0.5
1090006	1	2986	1,1,1,2-TETRACHLOROETHANE		17-Jan-01	-0.5
1090006	1	2967	m-DICHLOROBENZENE		17-Jan-01	-0.5

Table 5 (Continued), Total VOC water quality samples collected for transient systems.

PWSID	PL	Contaminant	Contaminant Name	MCL	Sample Date	Result
1090006	1	2212	DICHLORODIFLUOROMETHANE		17-Jan-01	-0.5
1090006	1	2246	HEXACHLOROBUTADIENE		17-Jan-01	-0.5
1090006	1	2248	NAPHTHALENE		17-Jan-01	-0.5
1090006	1	2422	N-BUTYLBENZENE		17-Jan-01	-0.5
1090006	1	2998	n-PROPYLBENZENE		17-Jan-01	-0.5
1090006	1	2420	1,2,3-TRICHLOROBENZENE		17-Jan-01	-0.5
1090006	1	2418	1,2,4-TRIMETHYLBENZENE		17-Jan-01	-0.5
1090006	1	2993	BROMOBENZENE		17-Jan-01	-0.5
1090006	1	2412	1,3-DICHLOROPROPANE		17-Jan-01	-0.5
1090006	1	2424	1,3,5-TRIMETHYLBENZENE		17-Jan-01	-0.5
1090006	1	2218	TRICHLOROFLUOROMETHANE		17-Jan-01	-0.5
1090006	1	2414	1,2,3-TRICHLOROPROPANE		17-Jan-01	-0.5
1090006	1	2988	1,1,2,2-TETRACHLOROETHANE		17-Jan-01	-0.5
1090006	1	2413	1,3-DICHLOROPROPENE		17-Jan-01	-0.5
1090006	1	2410	1,1-DICHLOROPROPENE		17-Jan-01	-0.5
1090006	1	2978	1,1-DICHLOROETHANE		17-Jan-01	-0.5
1090006	1	2216	CHLOROETHANE		17-Jan-01	-0.5
1090006	1	2214	BROMOMETHANE		17-Jan-01	-0.5
1090006	1	2210	CHLOROMETHANE		17-Jan-01	-0.5
1090006	1	2955	XYLENES, TOTAL	10000	17-Jan-01	-0.5
1090006	1	2966	p-CHLOROTOLUENE		17-Jan-01	-0.5
1090006	1	2965	o-CHLOROTOLUENE		17-Jan-01	-0.5
1090006	1	2416	2,2-DICHLOROPROPANE		17-Jan-01	-0.5
1090006	1	2992	ETHYLBENZENE	700	17-Jan-01	-0.5
1090006	1	2991	TOLUENE	1000	17-Jan-01	-0.5
1090006	1	2989	MONOCHLOROBENZENE	100	17-Jan-01	-0.5
1090006	1	2987	TETRACHLOROETHYLENE	5	17-Jan-01	-0.5
1090006	1	2983	1,2-DICHLOROPROPANE	5	17-Jan-01	-0.5
1090006	1	2968	o-DICHLOROBENZENE	600	17-Jan-01	-0.5
1090006	1	2380	cis-1,2-DICHLOROETHYLENE	70	17-Jan-01	-0.5
1090006	1	2979	trans-1,2-DICHLOROETHYLENE	100	17-Jan-01	-0.5
1090006	1	2944	DIBROMOCHLOROMETHANE		17-Jan-01	-0.5
1090006	1	2941	CHLOROFORM		17-Jan-01	-0.5
1090006	1	2942	BROMOFORM		17-Jan-01	-0.5
1090006	1	2943	BROMODICHLOROMETHANE		17-Jan-01	-0.5
1090006	1	2985	1,1,2-TRICHLOROETHANE	5	17-Jan-01	-0.5
1090006	1	2378	1,2,4-TRICHLOROBENZENE	70	17-Jan-01	-0.5
1090006	1	2964	METHYLENE CHLORIDE	5	17-Jan-01	-0.5
1090006	1	2996	STYRENE	100	17-Jan-01	-0.5
1090006	1	2976	VINYL CHLORIDE	2	17-Jan-01	-0.5
1090006	1	2984	TRICHLOROETHYLENE	5	17-Jan-01	-0.5
1090006	1	2981	1,1,1-TRICHLOROETHANE	200	17-Jan-01	-0.5
1090006	1	2980	1,2-DICHLOROETHANE	5	17-Jan-01	-0.5
1090006	1	2977	1,1-DICHLOROETHYLENE	7	17-Jan-01	-0.5
1090006	1	2982	CARBON TETRACHLORIDE	5	17-Jan-01	-0.5
1090006	1	2990	BENZENE	5	17-Jan-01	-0.5

Table 5 (Continued), Total VOC water quality samples collected for transient systems.

PWSID	System Name	Possible Number of Septic Systems in Source Water Assessment Area
1091017	Nanticoke Boyscout Reservation	4
1091019	Cedar Medows Rod and Gun Club	9

Table 6. Number of Septic Systems within the Source Water Assessment Areas for Dorchester Unconfined Transient Systems.

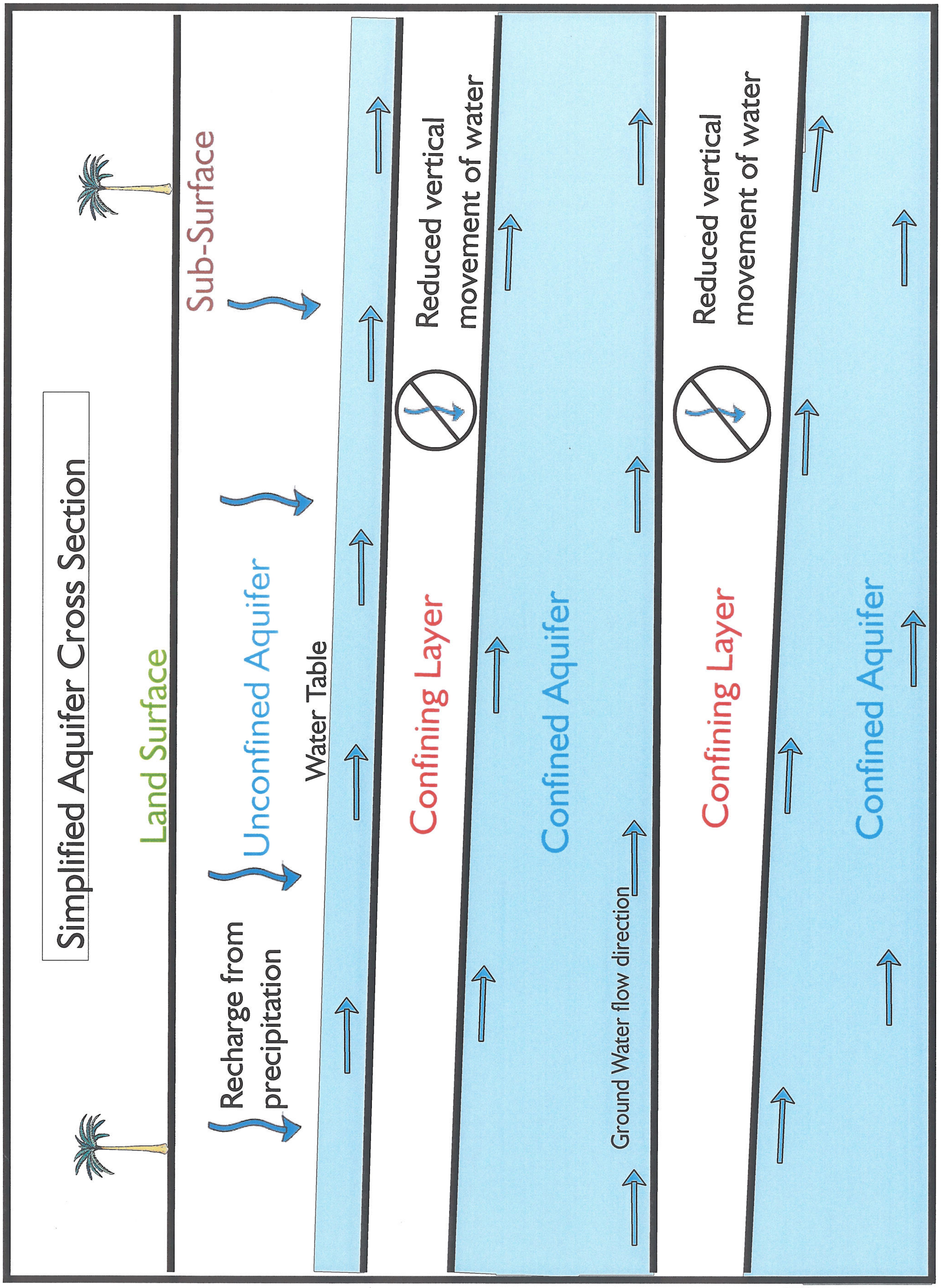
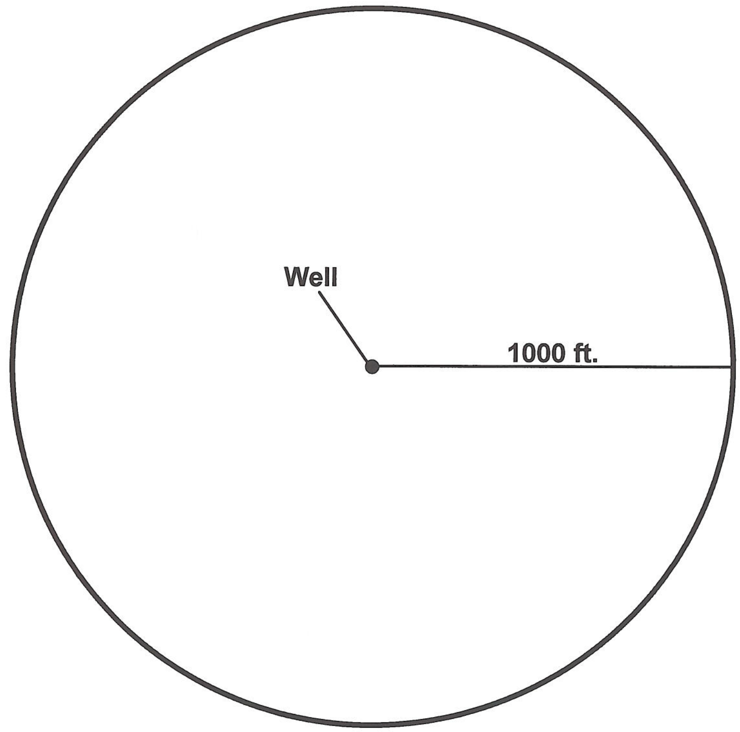

Simplified Aquifer Cross Section
Land Surface
Sub-Surface
Recharge from precipitation
Unconfined Aquifer
Water Table
Confining Layer
Reduced vertical movement of water
Confined Aquifer
Ground Water flow direction
Confining Layer
Reduced vertical movement of water
Confined Aquifer

Figure 2

Circle and Wedge Delineation Areas



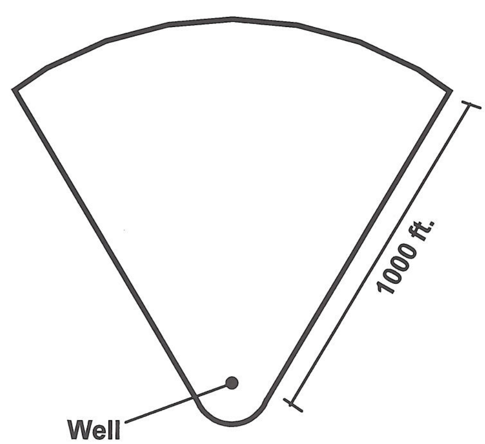


Figure 3

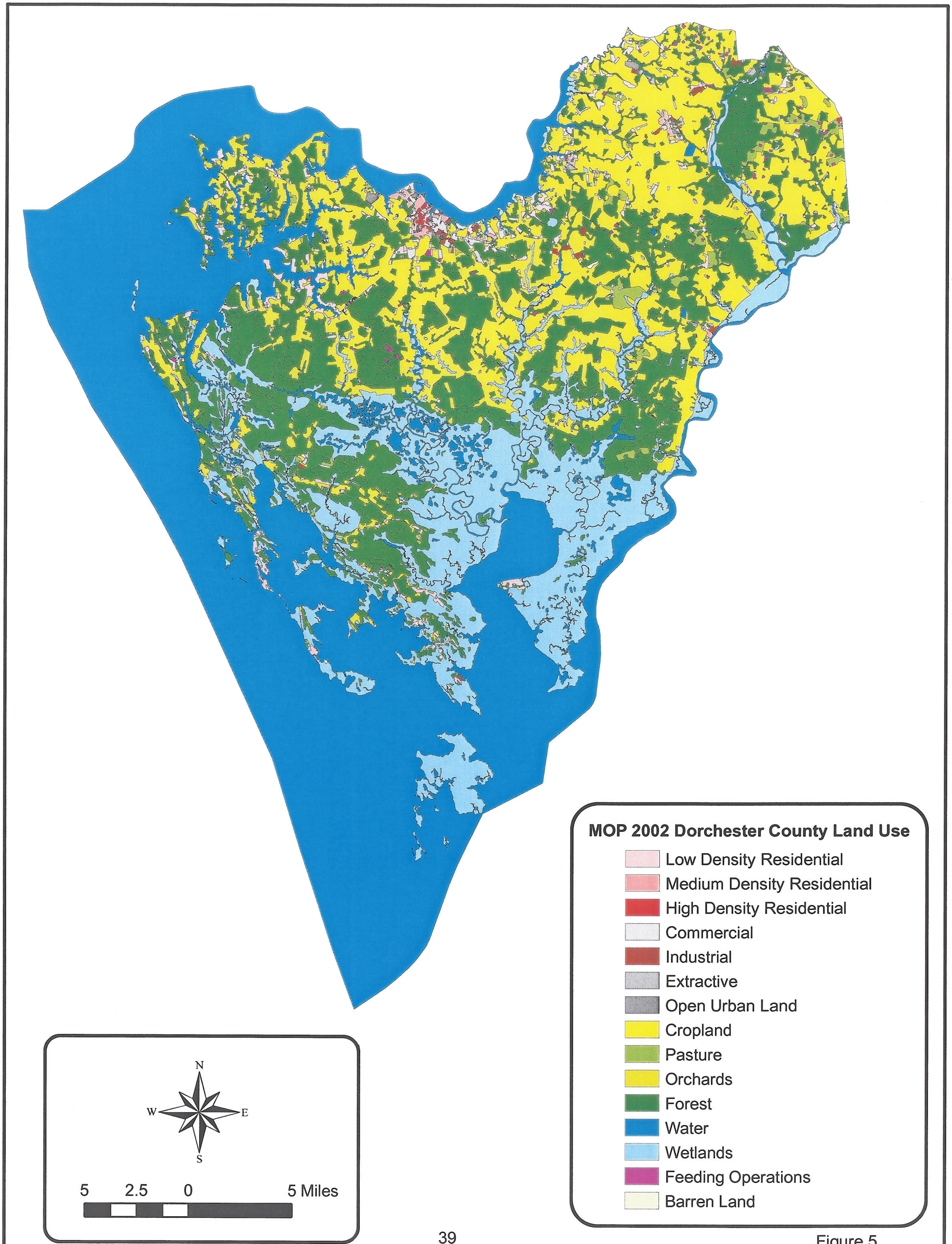

MOP 2002 Dorchester County Land Use
Low Density Residential
Medium Density Residential
High Density Residential
Commercial
Industrial
Extractive
Open Urban Land
Cropland
Pasture
Orchards
Forest
Water
Wetlands
Feeding Operations
Barren Land
N
W
E
S
5 2.5 0 5 Miles

Figure 5

Dorchester County SWAP Land Use Summary

Land Use Type	Land Use Code	Counts in SWAP	Acres in SWAP	% of Total Area
Low Density Residential	11	2	2.31	1.61
Commercial	14, 16	2	33.35	23.24
Cropland	21	1	15.42	10.75
Forest	43	2	92.42	64.40
	Totals	7	143.50	100

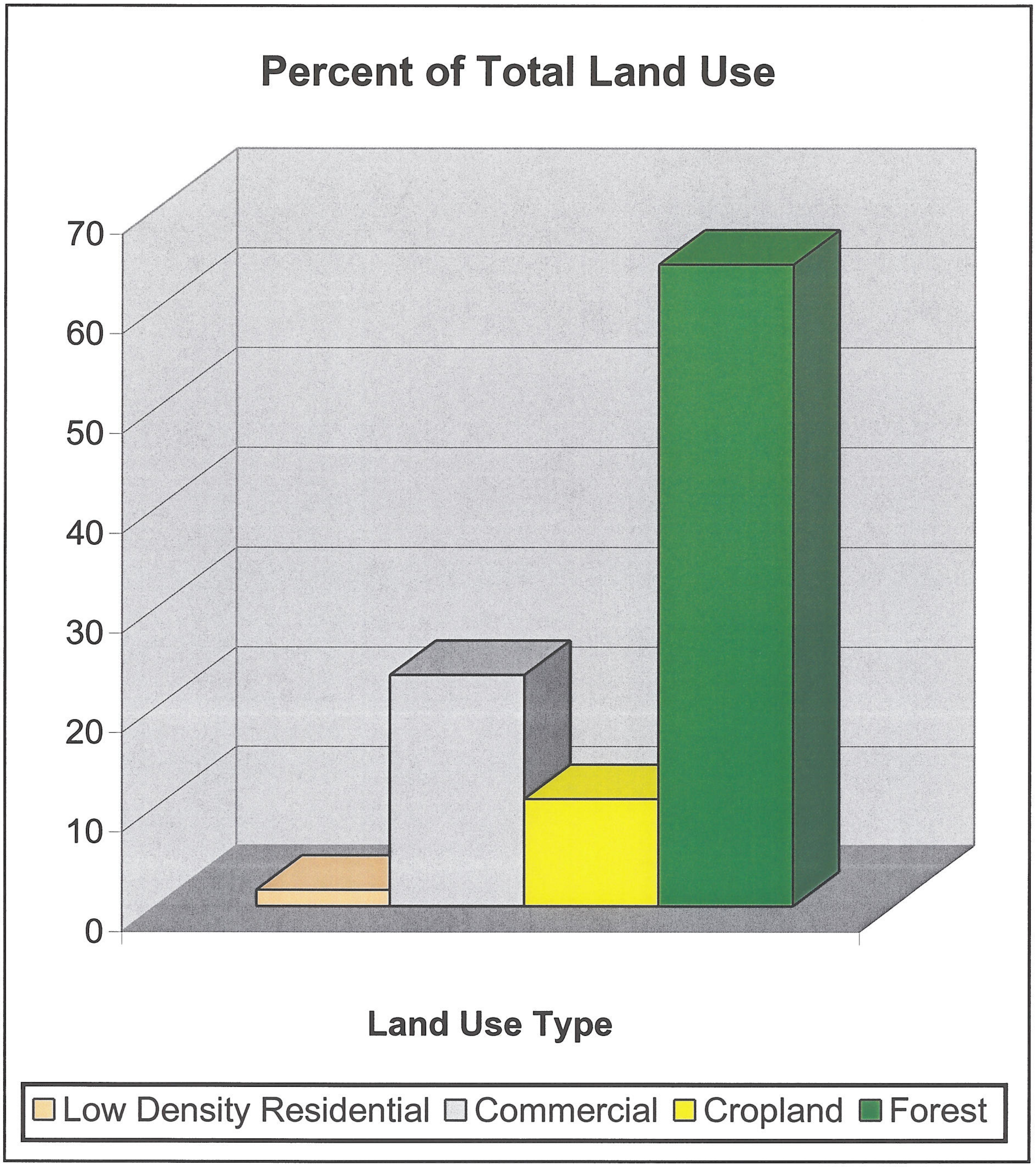


Figure 6

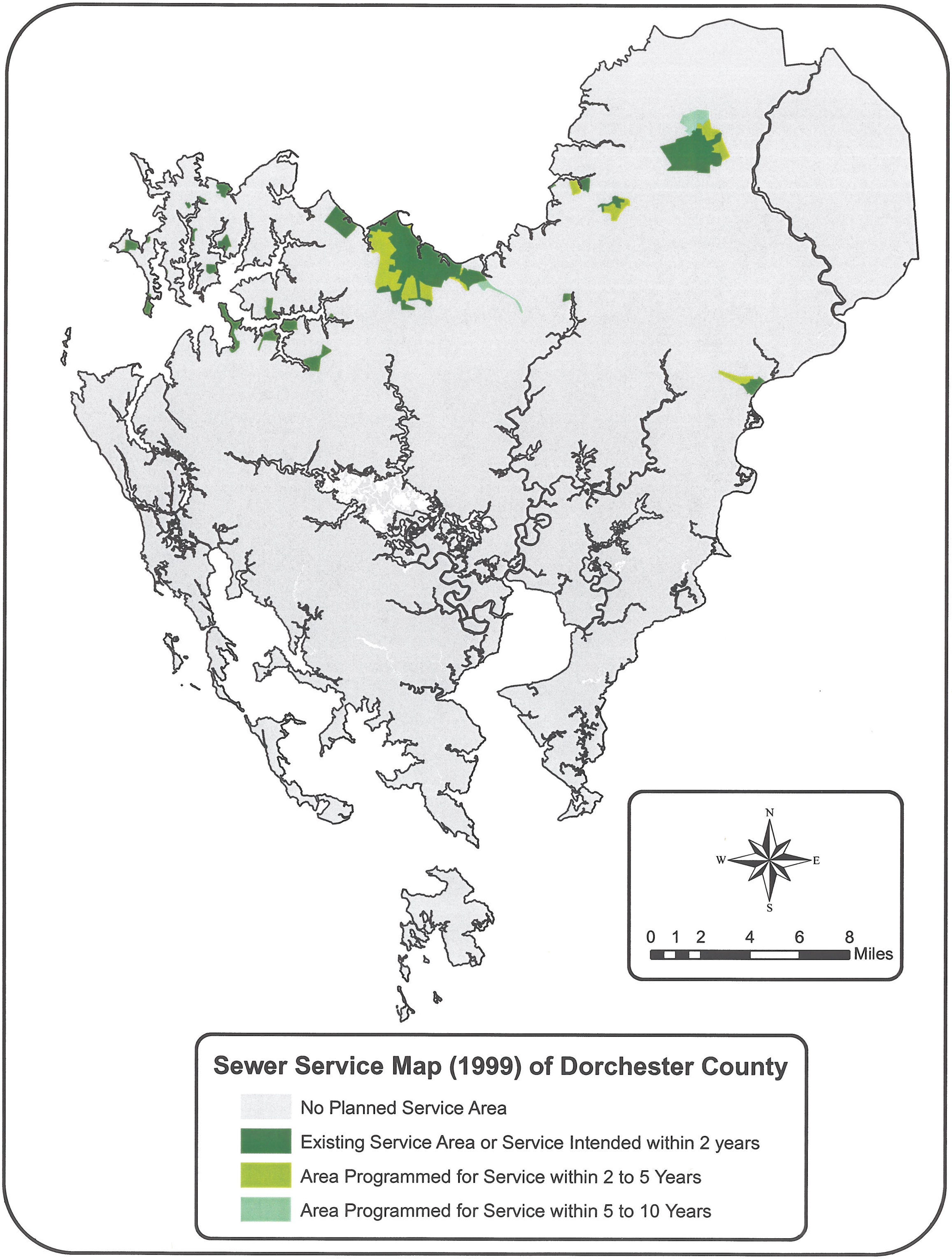

N
W
E
S
0 1 2 4 6 8
Miles
Sewer Service Map (1999) of Dorchester County
No Planned Service Area
Existing Service Area or Service Intended within 2 years
Area Programmed for Service within 2 to 5 Years
Area Programmed for Service within 5 to 10 Years

Figure 7

Management Areas for Dorchester County

Legend

- Unconfined Systems

Area A: Wells Completed in Unconfined Aquifers Allowed

Area B1: Wells must be Completed in Confined Aquifers

Area B2: Wells must be Completed in Confined Aquifers

Area C: Wells must be Completed in Confined Aquifers unless there is a 200 ft. Separation from the Unconfined Well to the Septic System

Figure 8