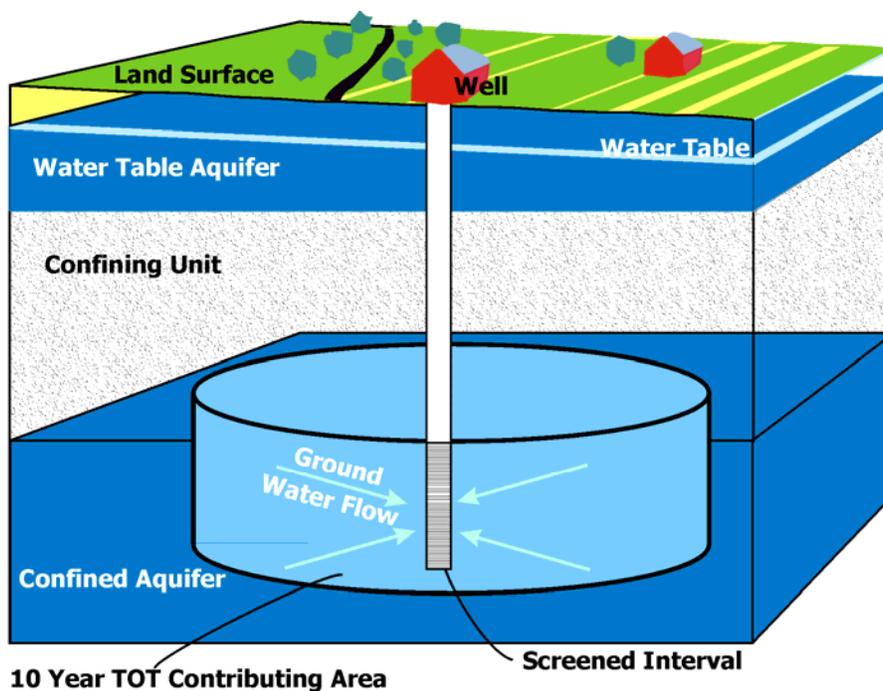


Source Water Assessment for Community Water Systems in Calvert County, MD



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FINAL

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SUMMARY

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for thirty-six community water systems in Calvert 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 drinking water supplies conclude this report.

The water supply sources of the thirty-six community water systems in Calvert County included in this report are naturally protected confined aquifers of the Atlantic Coastal Plain physiographic province. The thirty-six community water systems included in this report are currently using seventy-six wells that draw from four different confined aquifers. The Source Water Assessment areas were delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment areas from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. Maps showing the Source Water Assessment areas are included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the water supplies are not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. Some naturally occurring contaminants do pose a risk to the water supply. It was determined that some water systems that draw water from the Aquia and Piney Point/Nanjemoy aquifer systems are susceptible to arsenic. Some water systems may be susceptible to Radon depending upon the final adopted MCL.

EXECUTIVE SUMMARY

CAVALIER COUNTRY WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for thirty-six community water systems in Calvert County, including the Cavalier Country water system. 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.

The source of the Cavalier Country's water supply is the Magothy aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Cavalier Country water system currently uses two wells in the Magothy. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. Maps showing the Source Water Assessment areas are included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Cavalier Country water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers.

EXECUTIVE SUMMARY

CHESAPEAKE BEACH WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for thirty-six community water systems in Calvert County, including the Chesapeake Beach water system. 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.

The source of the Chesapeake Beach's water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Chesapeake Beach water system currently uses one well in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. Maps showing the Source Water Assessment areas are included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Chesapeake Beach water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it was determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply. The susceptibility of the water supply to Radon will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

CHESAPEAKE RANCH ESTATES WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for thirty-six community water systems in Calvert County, including the Chesapeake Ranch Estates water system. 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.

The source of the Chesapeake Ranch Estates' water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Chesapeake Ranch Estates water system currently uses four wells in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. Maps showing the Source Water Assessment areas are included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Chesapeake Ranch Estates water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it was determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply. The susceptibility of the water supply to Radon will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

DARES BEACH WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for thirty-six community water systems in Calvert County, including the Dares Beach water system. 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.

The source of the Dares Beach's water supply is the Aquia and Nanjemoy aquifers, two naturally protected confined aquifers of the Atlantic Coastal Plain physiographic province. The Dares Beach water system currently uses two wells, one in each of the Aquia and Nanjemoy. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. Maps showing the Source Water Assessment areas are included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Dares Beach water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it was determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply. The susceptibility of the water supply to Radon will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

HUNTING HILLS WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for thirty-six community water systems in Calvert County, including the Hunting Hills water system. 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.

The sources of the Hunting Hills' water supply are the Aquia and Nanjemoy aquifers, two naturally protected confined aquifers of the Atlantic Coastal Plain physiographic province. The Hunting Hills water system currently uses two wells, one in each of the Aquia and Nanjemoy. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. Maps showing the Source Water Assessment areas are included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Hunting Hills water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it was determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply. The susceptibility of the water supply to Radon will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

KENWOOD BEACH WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Kenwood Beach water system. 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.

The source of the Kenwood Beach's water supply is the Piney Point aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Kenwood Beach water system currently uses two wells in the Piney Point. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Kenwood Beach water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to Radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY LAKEWOOD WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Lakewood water system. 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.

The source of the Lakewood's water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Lakewood water system currently uses two wells in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Lakewood water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to Radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

BEACHES WATER COMPANY WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for thirty-six community water systems in Calvert County, including the Beaches Water Company water system. 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.

The source of the Beaches Water Company's water supply is the Aquia and Nanjemoy aquifers, two naturally protected confined aquifers of the Atlantic Coastal Plain physiographic province. The Beaches Water Company water system currently uses eight wells, three in the Aquia and five in the Nanjemoy. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. Maps showing the Source Water Assessment areas are included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Beaches Water Company water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it was determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply. The susceptibility of the water supply to Radon will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

PARIS OAKS/DAYS END WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Paris Oaks/Days End water system. 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.

The source of the Paris Oaks/Days End's water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Paris Oaks/Days End water system currently uses two wells in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Paris Oaks/Days End water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to Radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

PRINCE FREDERICK WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for thirty-six community water systems in Calvert County, including the Prince Frederick water system. 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.

The source of the Prince Frederick's water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Prince Frederick water system currently uses three wells in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. Maps showing the Source Water Assessment areas are included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Prince Frederick water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it was determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply. The susceptibility of the water supply to Radon will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

ST. LEONARD WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the St. Leonard water system. 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.

The source of the St. Leonard's water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The St. Leonard water system currently uses two wells in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the St. Leonard water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it was determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply.

EXECUTIVE SUMMARY

SCIENTIST CLIFFS WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for thirty-six community water systems in Calvert County, including the Scientist Cliffs water system. 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.

The sources of the Scientist Cliffs' water supply are the Aquia and Nanjemoy aquifers, naturally protected confined aquifers of the Atlantic Coastal Plain physiographic province. The Scientist Cliffs water system currently uses four wells, two in the Aquia and two in the Nanjemoy. The Source Water Assessment areas were delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. Maps showing the Source Water Assessment areas are included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Scientist Cliffs water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it was determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply. The susceptibility of the water supply to Radon will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

SHORES OF CALVERT WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Shores of Calvert water system. 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.

The source of the Shores of Calvert's water supply is the Magothy aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Shores of Calvert water system currently uses two wells in the Magothy. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Shores of Calvert water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to Radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

WESTERN SHORES WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Western Shores water system. 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.

The source of the Western Shores' water supply is the Piney Point aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Western Shores water system currently uses one well in the Piney Point. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Western Shores water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to Radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

WHITE SANDS WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for thirty-six community water systems in Calvert County, including the White Sands water system. 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.

The source of the White Sands' water supply is the Piney Point aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The White Sands water system currently uses one well in the Piney Point. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. Maps showing the Source Water Assessment areas are included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the White Sands water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it was determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply. The susceptibility of the water supply to Radon will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

CHESAPEAKE HEIGHTS WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for thirty-six community water systems in Calvert County, including the Chesapeake Heights water system. 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.

The source of the Chesapeake Heights' water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Chesapeake Heights water system currently uses two wells in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. Maps showing the Source Water Assessment areas are included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Chesapeake Heights water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it was determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply. The susceptibility of the water supply to Radon will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

CALVERT BEACH - FOREST TRAIL WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Calvert Beach - Forest Trail water system. 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.

The source of the Calvert Beach - Forest Trail's water supply is the Piney Point aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Calvert Beach - Forest Trail water system currently uses one well in the Piney Point. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Calvert Beach - Forest Trail water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to Radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

SOLOMONS RECREATION CENTER WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Solomons Recreation Center water system. 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.

The source of the Solomons Recreation Center's water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Solomons Recreation Center water system currently uses two wells in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Solomons Recreation Center water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it was determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply.

EXECUTIVE SUMMARY

CALVERT BEACH - DECATUR STREET WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Calvert Beach - Decatur Street water system. 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.

The source of the Calvert Beach - Decatur Street's water supply is the Piney Point aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Calvert Beach - Decatur Street water system currently uses two wells in the Piney Point. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Calvert Beach - Decatur Street water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to Radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

WOODBIDGE WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for thirty-six community water systems in Calvert County, including the Woodbridge water system. 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.

The source of the Woodbridge's water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Woodbridge water system currently uses one well in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. Maps showing the Source Water Assessment areas are included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Woodbridge water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it was determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply. The susceptibility of the water supply to Radon will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

SUMMIT/HIGHLANDS WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Summit/Highlands water system. 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.

The source of the Summit/Highlands' water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Summit/Highlands water system currently uses four wells in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Summit/Highlands water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to Radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY SOLOMONS WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for thirty-six community water systems in Calvert County, including the Solomons water system. 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.

The source of the Solomons' water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Solomons water system currently uses two wells in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. Maps showing the Source Water Assessment areas are included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Solomons water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it was determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply. The susceptibility of the water supply to Radon will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

TOWN OF NORTH BEACH WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Town of North Beach water system. 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.

The source of the Town of North Beach's water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Town of North Beach water system currently uses two wells in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Town of North Beach water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to Radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

PARKERS CREEK KNOLLS WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Parkers Creek Knolls water system. 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.

The source of the Parkers Creek Knolls' water supply is the Piney Point aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Parkers Creek Knolls water system currently uses well in the Piney Point. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Parkers Creek Knolls water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to Radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

JOHNSON ACRES WATER CO. WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Johnson Acres Water Co. water system. 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.

The source of the Johnson Acres Water Co.'s water supply is the Nanjemoy aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Johnson Acres Water Co. water system currently uses one well in the Nanjemoy. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Johnson Acres Water Co. water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to Radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

SOUTHERN PINES ELDERLY HOUSING WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Southern Pines Elderly Housing water system. 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.

The source of the Southern Pines Elderly Housing's water supply is the Piney Point aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Southern Pines Elderly Housing water system currently uses one well in the Piney Point. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Southern Pines Elderly Housing water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to Radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

TARA SUBDIVISION WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for thirty-six community water systems in Calvert County, including the Tara Subdivision water system. 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.

The source of the Tara Subdivision's water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Tara Subdivision water system currently uses two wells in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. Maps showing the Source Water Assessment areas are included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Tara Subdivision water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it was determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply. The susceptibility of the water supply to Radon will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

WALNUT CREEK WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for thirty-six community water systems in Calvert County, including the Walnut Creek water system. 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.

The source of the Walnut Creek's water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Walnut Creek water system currently uses two wells in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. Maps showing the Source Water Assessment areas are included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Walnut Creek water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it was determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply. The susceptibility of the water supply to Radon will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

CROSS POINT SUBDIVISION WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for thirty-six community water systems in Calvert County, including the Cross Point Subdivision water system. 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.

The source of the Cross Point Subdivision's water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Cross Point Subdivision water system currently uses three wells in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. Maps showing the Source Water Assessment areas are included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Cross Point Subdivision water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers.

EXECUTIVE SUMMARY

MARLEY RUN WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Marley Run water system. 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.

The source of the Marley Run's water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Marley Run water system currently uses two wells in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Marley Run water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it was determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply.

EXECUTIVE SUMMARY

REGENCY MANOR MOBILE HOME PARK WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Regency Manor Mobile Home Park water system. 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.

The source of the Regency Manor Mobile Home Park's water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Regency Manor Mobile Home Park water system currently uses four wells in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Regency Manor Mobile Home Park water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to Radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

BAY VIEW MOBILE MANOR WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Bay View Mobile Manor water system. 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.

The source of the Bay View Mobile Manor's water supply is the Nanjemoy aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Bay View Mobile Manor water system currently uses one well in the Nanjemoy. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Bay View Mobile Manor water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to Radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

CALVERT MOBILE HOME PARK WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Calvert Mobile Home Park water system. 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.

The source of the Calvert Mobile Home Park's water supply is the Nanjemoy aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Calvert Mobile Home Park water system currently uses one well in the Nanjemoy. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Calvert Mobile Home Park water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to Radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

HALLOWING POINT TRAILER PARK WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for thirty-six community water systems in Calvert County, including the Hallowing Point Trailer Park water system. 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.

The source of the Hallowing Point Trailer Park's water supply is the Aquia aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Hallowing Point Trailer Park water system currently uses one well in the Aquia. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. Maps showing the Source Water Assessment areas are included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Hallowing Point Trailer Park water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. However, it was determined that arsenic, a naturally occurring contaminant, does pose a risk to the water supply. The susceptibility of the water supply to Radon will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

BUCKLER MOBILE HOME PARK WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Buckler Mobile Home Park water system. 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.

The source of the Buckler Mobile Home Park's water supply is the Nanjemoy aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Buckler Mobile Home Park water system currently uses two wells in the Nanjemoy. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Buckler Mobile Home Park water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to Radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

EXECUTIVE SUMMARY

PINE TRAILER PARK WATER SYSTEM

The Maryland Department of the Environment's Water Supply Program (WSP) has conducted Source Water Assessments for nineteen community water systems in Calvert County, including the Pine Trailer Park water system. 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.

The source of the Pine Trailer Park's water supply is the Nanjemoy aquifer, a naturally protected confined aquifer of the Atlantic Coastal Plain physiographic province. The Pine Trailer Park water system currently uses one well in the Nanjemoy. The Source Water Assessment area was delineated by the WSP using U.S. EPA approved methods specifically designed for water supplies in confined aquifers.

Potential sources of contamination were researched and identified within the assessment area from field inspections, contaminant and well inventory databases, and land use maps. Well information and water quality data were also reviewed. A map showing the Source Water Assessment areas is included in this report.

The susceptibility analysis is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the Pine Trailer Park water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The susceptibility of the water supply to Radon, a naturally occurring element, will depend upon the final MCL that is adopted for this contaminant.

INTRODUCTION

The Water Supply Program has conducted Source Water Assessments for the thirty-six community water systems in Calvert County. Calvert County is in Southern Maryland and lies on the western shore of the Chesapeake Bay. Calvert County's total population, reported in July 2001, is 78,400 (Md. Assoc. of Counties, 2000/2001). The thirty-six community water systems included in this report serve a population of approximately 31,200 of the county residents, while the remaining residents in the county obtain their water supply from individual wells. The community water systems include the two incorporated municipalities of Chesapeake Beach and North Beach, twenty unincorporated areas whose water systems are owned and operated by the County Bureau of Utilities, thirteen areas owned and operated by private entities or community associations, and one Federal facility (Table 1). The community water systems included in this report are shown in Figure 1.

WELL INFORMATION

Well information for each system was obtained from the Water Supply Program's database, site visits, well completion reports, sanitary survey inspection reports, and published reports. Amongst the thirty-six community water systems included in this report, a total of 76 wells are currently used or are backup wells. Fifty-six of these wells were drilled after 1973 and should comply with Maryland's well construction regulations. The remaining twenty wells were drilled prior to 1973, when regulations went into effect, and may not meet the current construction standards. Table 2 contains a summary of well information for each of the community water systems.

Based on site visits, most wells were in good condition and appeared to be regularly maintained, sealed, and protected to insure integrity. Some of the older wells had a one-piece well cap, which may present a possible route of contamination (insects) through unscreened vents and electrical holes. This situation is easily remedied with the installation of a new two-piece sanitary well cap to prevent contamination. There are some wells observed during field inspections that appear unused or in disrepair. If these wells are screened in the same aquifer as the water supply well they may represent a potential route for contamination to the water supply. Some are backup wells and as long as these wells are sealed with a tight cap and the pumps are exercised regularly, they pose no threat to the production wells. However, unused wells with loose caps, no pumps, or with no potential for use in the future should be rectified or permanently abandoned and sealed by a licensed well driller because they represent a pathway for contamination to the water supply aquifer.

HYDROGEOLOGY

Ground water flows through pores between gravel, sand, and silt grains in unconsolidated sedimentary aquifers such as those used by the community water systems in Calvert County. An aquifer is any formation that is capable of yielding a significant amount of water. The transmissivity is a measure of the amount of water an aquifer is capable of producing and is related to the hydraulic conductivity and the thickness of the aquifer. A confining unit is a layer composed of fine material such as clay and silt, which transmits relatively very little water. Confined aquifers are the water-bearing formations that are overlain by a confining unit. Confined aquifers are recharged from the water stored in the confining unit above and from precipitation that infiltrates into the formation where it is exposed at the surface. Due to the depth and areal extent of the unconsolidated sediments in Southern Maryland, water stored in these aquifers is very old and the water pumped from wells in these aquifers has generally traveled great distances from its origin at the land surface.

Calvert County lies within the Atlantic Coastal Plain physiographic province, which in Maryland includes roughly the area east of Interstate 95. This province is characterized by low topography due to the underlying horizontal layers of unconsolidated clastic sediments that are Lower Cretaceous to recent in age and thicken to the southeast. In Calvert County, the community water system's included in this report draw water from three different confined aquifer systems known as the, the Aquia, Piney-Point/Nanjemoy, and Magothy aquifers. These aquifers have been studied considerably and hydrologic, lithologic, and geochemical data is available in several Maryland Geological Survey Reports (1977, 1979, 1983, 1984, 1988, 1996, 2003). The descriptive material below is summarized from these reports and the reader is referred to them for further information.

The Piney Point/Nanjemoy system is a significant aquifer used by community water systems in the southern half of Calvert County due to its accessibility at relatively shallow depths, its generally good transmissivity, and its good water quality. The top of the aquifer in Calvert County ranges from 50 feet below sea level near the northern tip of the county, where its limited thickness prohibits its use, to approximately 250 feet below sea level at the southeastern end of the county (Appendix, Fig. 8). The Piney Point/Nanjemoy does not crop out at the surface in Maryland and is overlain by the Chesapeake Group sediments, which vary in thickness depending on the geographic location. The Piney Point/Nanjemoy formation is composed primarily of quartz sand, glauconite, and shell fragments. Clay content tends to increase towards the bottom of the formation. The effective thickness (the thickness of the sandy portion of the formation that produces water) of the Piney Point/Nanjemoy in Calvert County ranges from approximately 0 to 80 feet. Transmissivity values, estimated by modeling and aquifer tests, range from less than 100 to 500 feet²/day, and are highest near Solomons in the southern part of the County.

The Aquia aquifer represents the largest water use by community water systems in Calvert County due to its accessibility in the northern half of the County, its high transmissivity, and its relatively good water quality. The top of the Aquia aquifer in Calvert County ranges from 125 feet below sea level near the northern tip of the County to approximately 450 feet below sea level at the southern end of the County near Solomons Island (Appendix, Fig. 4). The Aquia is overlain by the Nanjemoy formation, which acts as a leaky confining unit, and is between 100 and 200 feet thick depending on the geographic location. The Aquia is composed of fine to medium-grained sands, of varying composition but are generally quartz and glauconite rich with calcite cementation. Shell material is more abundant in the upper portion of the aquifer. Transmissivity values, as determined by aquifer tests, range from 900 to 1300 feet²/day, and tend to be highest in the northernmost portions of the County.

The use of the Magothy aquifer is limited to the northernmost reaches of Calvert County. The top of the Magothy aquifer in this part of the county is approximately 300 to 350 feet below sea level. The Magothy is a primary water source in Anne Arundel County, but is not present in much of southern Calvert County. The overlying confining units are the Severn and Matawan formations. The Magothy is not well studied in this part of the State due to its limited use, but in other parts of Southern Maryland and the Eastern Shore it is a highly producing aquifer. Published transmissivity values for this aquifer are as high as 10,000 ft²/day (MGS, 1984.) The Magothy is composed of interbedded silt, sand, and clay and ranges from 350 to 1,700 feet thick depending on geographic location.

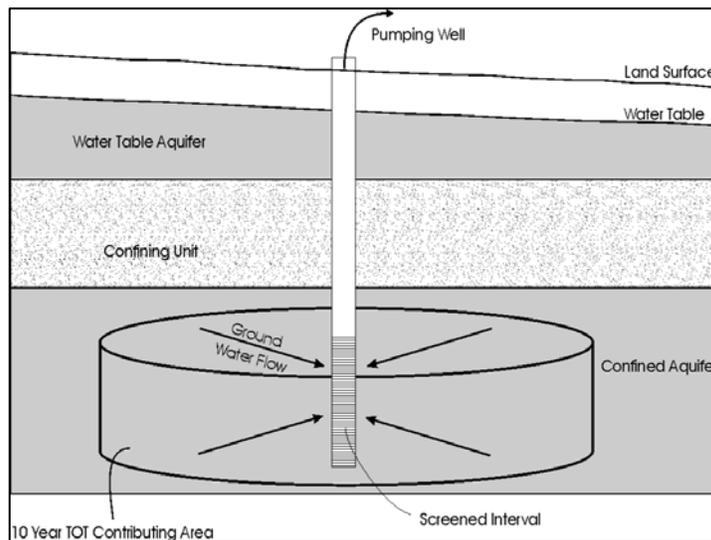
SOURCE WATER ASSESSMENT AREA DELINEATION

For ground water systems, a Wellhead Protection Area (WHPA) is considered the source water assessment area for the system. The WHPA's were delineated using the methodology described in Maryland's Source Water Assessment Plan (MDE, 1999) for confined aquifers in the Coastal Plain, often referred to as the "Florida Method". The area is a radial zone of transport within the aquifer and is based on: 1) a 10-year time of travel (TOT), 2) the pumping rate, 3) the screened interval(s) of the well or wells included in the WHPA, and 4) the porosity of the aquifer. The illustration below shows a conceptual model of this zone of transport. The Florida Method is a modification of Darcy's law for radial flow to a well and the WHPA's were calculated using the following volumetric equation:

$$r = \sqrt{\frac{Qt}{\pi nH}}$$

- where r = calculated fixed radius in feet (ft)
- t = time of travel in years (yr)
- Q = pumping rate of well (ft³/yr)
- n = aquifer porosity (dimensionless)
- H = length of well screen (ft)

Table 3 gives the values used and the calculated radius for each water system's WHPA. The pumping rate (Q) used is generally the permitted daily average. If a water system has more than one well, the wells usually alternate pumpage. Therefore, the total appropriated amount was used in the calculation for each well, since, in theory each well is producing a zone of transport based on the average pumping rate. In some cases, the wells are a significant distance apart and the areas were merged. In others, the zone of transport for one well encompasses that of a nearby well due to differences in screen length. In the case where a water system has an appropriation permit split amongst multiple wells in different locations, then the pumping rates were estimated based on percentage of use as determined by monthly operating reports.



Conceptual illustration of a zone of transport for a confined aquifer

A conservative estimate of porosity (n) of 25% was used for each of the aquifers based on published reports. The lengths of the well screens (H) were obtained from well completion reports. In the instance that there were multiples screens, the sum of the individual screen lengths was used. Using these parameters the radius was calculated with the above equation for the WHPA delineation (Table 3). Circles around each of the wells with the appropriate calculated radius represents the WHPA and are shown in Figure 2. The circles represent the aquifer zone of transport in the subsurface as illustrated above.

POTENTIAL SOURCES OF CONTAMINATION

In confined aquifer settings, sources of contamination at the land surface are generally not a threat unless there is a pathway for direct injection into the deeper aquifer

such as through unused wells or along well casings that are not intact or have no grout seal.

Potential sources of contamination are classified as either point or non-point sources. Examples of point sources of contamination are leaking underground storage tanks, landfills, discharge permits, large-scale feeding operations, and CERCLA sites. These sites are generally associated with commercial or industrial facilities that use chemical substances that may, if inappropriately handled, contaminate ground water via a discrete point location. Non-point sources of contamination are associated with certain land use activities that may lead to ground water contamination over a larger area. All potential sources of contamination are identified at the land surface and therefore have the potential to impact the shallow water table aquifer. Therefore, as long as there is no risk of direct injection into the deeper confined aquifers, the water supply used by the community water systems should be well protected from ground water contamination.

Potential sources are identified if they fall within the WHPA for awareness and to ensure that the deep aquifer does not become affected by unused wells or poorly constructed wells in the water supply aquifer. Table 4 lists the facilities identified from MDE databases as potential sources of contamination and their locations are shown in Figures 3a-i. Underground storage tanks (UST's) sites are facilities that store petroleum on site in underground tanks registered with the MDE Waste Management Administration. Controlled Hazardous Substance generators (CHS) are facilities that may use or store any hazardous substance on site. Ground water discharge (GWDP) permits are issued by MDE's water management administration for discharge of wastewater to ground water. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) established a nationwide database of groundwater contamination sites targeted for cleanup.

The contaminants associated with the types of facilities are based on generalized categories and often the potential contaminant depends on the specific chemicals and processes being used at the individual facility. The potential contaminants for an activity may not be limited to those listed in Table 4. Potential contaminants are grouped as Volatile Organic Compounds (VOC), Synthetic Organic Compounds (SOC), Heavy Metals (HM), Metals (M), Nitrate/Nitrite (NN), and Microbiological Pathogens (MP).

WATER QUALITY DATA

Water Quality data was reviewed from the Water Supply Program's database for Safe Drinking Water Act (SDWA) contaminants. The State's SWAP defines a threshold for reporting water quality data as 50% of the Maximum Contaminant Level (MCL). If a monitoring result is greater than 50% of an MCL, this report will describe the sources of such a contaminant and, if possible, locate the specific sources that are the cause of the elevated contaminant level. All data reported is from the finished (treated) water unless otherwise noted. Table 5 summarizes the various treatment methods used at the water treatment plants for each of the thirty-six community water systems.

A review of the monitoring data for the thirty-six community water systems indicates that the water supplies meet drinking water standards with the exception of arsenic in five systems. Table 6 summarizes the available water quality data and any occurrences over the 50% MCL target for each water system by contaminant group.

Inorganic Compounds (IOCs)

A review of the data shows that arsenic is the only significant inorganic compound detected above 50% of an MCL. Nineteen of the thirty-six water systems had one or more results above 50% of the MCL, and five of these systems had levels at or above the arsenic standard of 0.010 mg/L (Table 7a). The arsenic MCL was recently lowered by the U.S. Environmental Protection Agency and adopted in Maryland and therefore, these results were not considered violations at the time they were collected. For many of these systems, additional water treatment will be necessary to meet the new standard, which will be enforced beginning January 23, 2006.

Arsenic is present in ground water in Maryland's Coastal Plain due to the natural presence of this contaminant in aquifer material. The nineteen water systems that reported arsenic above 0.005 mg/L all draw water from either the Nanjemoy or Aquia aquifers. A recent study of arsenic concentrations in the major aquifers of the Coastal Plain indicates that arsenic is present at the highest concentrations in the Aquia aquifer on the Eastern Shore of Maryland (MGS, 2003). However, levels above 0.010 mg/L are common in the Aquia in Southern Maryland as shown both in the MGS study and the monitoring data in this report. Arsenic is commonly found in the range of 0.002-0.010 mg/L in the Piney Point/Nanjemoy aquifer system in Calvert County.

Barium was detected at 1.2 mg/L, greater than half of its MCL of 2 mg/L, once in samples collected from the Town of North Beach. However, this result has not been repeated and the remaining sample results averaged at 0.12 mg/L, significantly lower than the earlier detected level. Barium occurs naturally in ore minerals, however it's possible that barium was introduced to the ground water during the well drilling process, as it is a component of a large variety of electronic components.

A review of the data shows that other inorganic compounds were not detected above 50% of their MCL's in the nineteen community water systems.

Radionuclides

Gross alpha radiation was reported above 50% of the MCL in the Shores of Calvert water system on one occasion (Table 7b). Gross-alpha is a measure of alpha radiation, which is emitted from certain radioactive elements such as Radium. Radium-226 and Radium-228 are only measured when gross-alpha radiation exceeds 5 pCi/L. The Radium samples collected subsequent to this gross-alpha result were non-detect (Table 7b) and other gross-alpha results for this system did not exceed 50% of the MCL.

Radon-222 was reported above 150 pCi/L in thirty water systems (Table 7c). There is currently no MCL for Radon-222, however EPA has proposed an MCL of 300 pCi/L or an alternate of 4000 pCi/L for community water systems if the State has a program to address the more significant risk from radon in indoor air. The EPA received many comments in response to their proposed rule, and promulgation may be delayed. Radon-222 values were above 50% of the lower proposed MCL of 300 pCi/L but well below the higher proposed MCL of 4000 pCi/L.

Volatile Organic Compounds (VOCs)

A review of the data for the thirty-six water systems shows that VOCs have not been detected above 50% of an MCL.

Synthetic Organic Compounds (SOCs)

A review of the data shows that SOCs have not been detected above 50% of an MCL with the exception of Di(2-Ethylhexyl)Phthalate (Table 7d). However, the laboratory reported this sample result as being less than 10 times the amount found in the laboratory blank sample and therefore they it considered invalid.

Microbiological Contaminants

Routine bacteriological monitoring is conducted in the finished water for each water system on a monthly basis and measures Total Coliform bacteria. Most water systems disinfect their water at the treatment plant, and therefore the finished water bacteriological data does not give much indication of the quality of raw water directly from the well. Three systems had positive Total Coliform results (Table 8). Total Coliform bacteria are not pathogenic, but are used as an indicator organism for other disease-causing microorganisms. Total Coliform bacteria are ubiquitous in the environment and detection could be result of a variety of deficiencies in the water system or an indicator of poor well integrity. Loose caps or insufficient seals are common causes of coliform contamination since insects are able to crawl in the wellhead. Many of these situations are easily remedied.

A major breach of the system or the aquifer would likely cause a positive total coliform result in systems with disinfection and would require follow-up Total and Fecal Coliform analysis. In the water systems that had positive Total Coliform in their routine bacteriological samples, the maximum occurrence rate was 3% of total samples collected.

SUSCEPTIBILITY ANALYSIS

The wells serving the community water systems in Calvert County draw water from confined aquifers. Confined aquifers are naturally protected from activity on the land surface due to the confining layers that provide a barrier for water movement from the surface into the aquifer below. A properly constructed well with the casing extended to the confined aquifer and with sufficient grout should be well protected from contamination at the land surface. The only instance in which a contaminant at the

surface could impact the water supply is through direct injection into the aquifer from within the WHPA. This could occur via poorly constructed wells, wells out of use that penetrate the aquifer, and underground injection wells.

Some contaminants such as radionuclides and other chemical elements are naturally occurring in the aquifer and in some instances can reach concentrations that pose a risk to the water supply. In the case of confined aquifers, natural contaminants are generally a more common source than contaminants at the land surface. The Aquia and Piney Point aquifers are susceptible to arsenic concentrations that pose a health risk. All of the aquifers used for water supply in Calvert County tend to have Radon at significant levels. Otherwise, water quality is excellent, with taste and odor constituents such as iron and manganese presenting a small impact to the water systems.

The susceptibility of the source water to contamination is determined for each group of contaminants based on the following criteria: 1) the presence of natural and anthropogenic contaminant sources within the WHPA, 2) water quality data, 3) well integrity, and 4) the aquifer conditions. The susceptibility analysis is summarized for each water system in Table 9.

Inorganic Compounds

Inorganic compounds were not present at significant levels with the exception of arsenic as described above. The source of inorganic compounds can be either the aquifer material or from human activity. Due to the confined nature of the aquifers, these contaminants are unlikely to originate from the land surface. In addition, the arsenic levels reported for both aquifers are consistent with naturally occurring levels measured in studies on the occurrence of arsenic in the State.

Arsenic is present in significant concentrations in nineteen community water systems in Calvert County. The source of arsenic in these water supplies is the natural occurrence and mobility of this contaminant in the aquifer material. A recent study of the occurrence of arsenic in Coastal Plain aquifers indicates that the Aquia and Piney Point/Nanjemoy aquifer systems have ground water arsenic concentrations that between non detectable and 14 ppb in Calvert County (MGS, 2003). The data has not been fully interpreted, but it does not seem to be related to any geochemical indices such as pH or specific conductance. The concentration of arsenic in ground water of these aquifers may simply be dependent on the amount of arsenic in the aquifer at certain locations. Due to the presence and levels of arsenic in the Aquia and Piney Point/Nanjemoy aquifers, many water supplies drawing from these aquifers **are susceptible** to this contaminant (Table 9). Since arsenic levels are variable within each aquifer, the susceptibility determination is based on the actual levels measured for each water system.

The remaining seventeen water systems that did not detect arsenic at significant levels are determined **not susceptible** to arsenic if they had enough sample results to verify that arsenic levels are consistently below 0.005 mg/L. Water systems with low-level arsenic tend to draw water from the Piney Point or Magothy aquifers. The

systems that use the Aquia aquifer near the northern border of the county also proved to have low arsenic levels. Therefore, it appears that geographic location within the Aquia aquifer has the most bearing on arsenic concentrations in this aquifer.

Two water systems had significant sources of inorganic contaminants identified within the WHPAs at the land surface (Table 4). The Marley Run wastewater treatment plant has a permit to discharge treated wastewater to the water table aquifer (Fig. 3h). Although the point of discharge is within the zone of transport at the surface, the water supply should not be impacted as long as there is no direct route (such as unused wells) from the water table aquifer to the deeper water supply aquifer. The potential contaminant source identified in the Dares Beach water system is a wastewater pumping station located adjacent to the wells (Fig. 3c). This facility consists of a concrete holding tank that pumps sewage from the residential units along the beach through the force main and then to the Prince Frederick wastewater treatment plant via a 4-inch HDPE pipe. The raw sewer line is within 10 feet of Well 2. This facility would only impact the wells if the lines or tanks failed and the confining layer were breached, which is unlikely as long as the grout seal in the wells are intact. Encasing the sewer line in concrete in the vicinity of the wells would ensure greater protection to the water supply

Due to the naturally protected characteristics of the confined aquifers, the water quality data, and the lack of potential sources of contamination, the water supplies are considered **not susceptible** to other inorganic compounds.

Radionuclides

The source of radionuclides in ground water can be traced back to the natural occurrence of uranium in rocks. Radionuclides are present in ground water due to radioactive decay of uranium bearing minerals in the sediment that makes up the aquifer material.

There is currently no MCL for Radon-222, however EPA has proposed an MCL of 300 pCi/L or an alternate of 4000 pCi/L if the State has a program to address the more significant risk from radon in indoor air. Radon is present in thirty water systems at a level that is greater than 50% of the lower proposed MCL of 300 pCi/L. The EPA has information on proposed regulations for radon in indoor air and drinking water on their web site (<http://www.epa.gov/OGWDW/radon.html>). Currently, it appears that these thirty water systems may be susceptible to radon if the lower standard is adopted.

Based on the water quality data, the community water systems are **not susceptible** to radiological contaminants other than Radon-222.

Volatile Organic Compounds

Volatile organic compounds have not been detected in the routine samples collected for the water systems. Several potential sources for these types of contaminants were identified in the Wellhead Protection Areas, mostly in the form of gasoline or heating

oil storage. These are mapped for the purpose of awareness and to ensure that they do not contaminate the ground water near the land surface around the water supply wells. As long as there is no potential for direct injection into the deep aquifers, the water supplies should **not** be susceptible to contamination from these sources.

Synthetic Organic Compounds

Synthetic organic compounds have not been detected in the water supplies and a confined aquifer waiver has been issued for each water system for monitoring for these contaminants. SOC sources are generally pesticides and herbicides application and due to the confined nature of the aquifers, they do not pose a threat to the water supply. Therefore based on lack of contaminant sources and water quality data, the water supplies are considered **not** susceptible to SOCs.

Microbiological Contaminants

Raw water microbiological monitoring is not required of water systems in confined aquifers because they are considered naturally protected from sources of pathogens at the land surface. Three systems did have positive total coliform in their routine sample collection, however they did not occur at a significant rate to warrant further investigation. These are likely to be the result of water system or well construction deficiencies and are unlikely to be representative of the water quality of the aquifer. In these instances the wellheads should be inspected and any obvious deficiencies remedied. Due to the confined nature of the aquifers the water supplies are considered **not** susceptible to microbiological contaminants.

MANAGEMENT OF THE SOURCE WATER ASSESSMENT AREA

With the information contained in this report the community water systems in Calvert County are in a position to protect their water supplies by staying aware of the area delineated for source water protection. Specific management recommendations for consideration are listed below:

Form a Local Planning Team

- The team should represent all the interests in the community, such as the water suppliers, home association officers, the County Health Department, local planning agencies, local business, developers, and property owners, and residents within and near the WHPA. The team should work to reach a consensus on how to protect the water supply.

Public Awareness and Outreach

- The Consumer Confidence Report should list that this report is available to the general public through their county library, by contacting the operator or MDE.
- Conduct educational outreach to businesses and residents within the WHPA focusing on potential contaminant sources. Important topics include: (a) compliance with MDE and federal guidelines for gasoline and heating oil UST's, (c) hazardous material disposal and storage, (d) well abandonment regulations and procedures.

Monitoring

- Continue to monitor for all required Safe Drinking Water Act contaminants.
- Annual raw water bacteriological testing is a good test for well integrity.

Contingency Plan

- COMAR 26.04.01.22 requires all community water systems to prepare and submit for approval a plan for providing a safe and adequate drinking water supply under emergency conditions.

Contaminant Source Inventory Updates/ Inspections/Maintenance

- Conduct a survey of the WHPA and inventory any potential sources of contamination, including unused wells that may have not been included in this report. Keep records of new development within the WHPA and new potential sources of contamination that may be associated with the new use.
- Work with the County Health Department to ensure that there are no unused wells within the WHPA. An improperly abandoned well can be a potential source of contamination to the aquifer.
- Water operation personnel should have a program for periodic inspections and maintenance of the supply wells and backup wells to ensure their integrity and protect the aquifer from contamination.

Changes in Use

- An increase in use or the addition of new wells may require revisions to the WHPA. The water system is required to notify MDE if such changes are proposed.

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- Maryland Geological Survey Interim Report, 2003, Summary of Ground-Water Arsenic Concentrations in the Major Aquifers of the Maryland Coastal Plain., 23 pp.
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- U.S. Environmental Protection Agency, 1991, Wellhead Protection Strategies for Confined-Aquifer Settings: Office of Ground Water and Drinking Water, EPA/570/9-91-008, 168 pp.

OTHER SOURCES OF DATA

Water Appropriation and Use Permits
Public Water Supply Sanitary Survey Inspection Reports
MDE Water Supply Program Oracle® Database
MDE Waste Management Sites Database
Department of Natural Resources Digital Orthophoto Quarter Quadrangles in Calvert
County
USGS Topographic 7.5 Minute Quadrangles in Calvert County
Maryland Office of Planning 2000 Calvert County Digital Land Use Map
Maryland Office of Planning 1996 Calvert County Digital Sewer Map

FIGURES

TABLES

PUBLIC WATER SYSTEM ID (PWSID)	SYSTEM NAME	POPULATION SERVED	OWNER/OPERATOR TYPE
0040002	CAVALIER COUNTRY	400	LOCAL GOVERNMENT (COUNTY)
0040003	CHESAPEAKE BEACH	3000	LOCAL GOVERNMENT (MUNCIPALITY)
0040004	CHESAPEAKE RANCH ESTATES	9500	INVESTOR/TRUST/WATER ASSOC
0040005	DARES BEACH	600	LOCAL GOVERNMENT (COUNTY)
0040006	HUNTING HILLS	150	LOCAL GOVERNMENT (COUNTY)
0040007	KENWOOD BEACH	350	LOCAL GOVERNMENT (COUNTY)
0040008	LAKWOOD	200	LOCAL GOVERNMENT (COUNTY)
0040009	BEACHES WATER COMPANY	1800	INVESTOR/TRUST/WATER ASSOC
0040010	PARIS OAKS / DAYS END	275	LOCAL GOVERNMENT (COUNTY)
0040011	PRINCE FREDERICK	3150	LOCAL GOVERNMENT (COUNTY)
0040013	ST LEONARD	200	LOCAL GOVERNMENT (COUNTY)
0040014	SCIENTISTS CLIFFS	425	INVESTOR/TRUST/WATER ASSOC
0040015	SHORES OF CALVERT	400	LOCAL GOVERNMENT
0040016	WESTERN SHORES	155	INVESTOR/TRUST/WATER ASSOC
0040017	WHITE SANDS	100	LOCAL GOVERNMENT (COUNTY)
0040018	CHESAPEAKE HEIGHTS AKA BAYSIDE FOREST	850	LOCAL GOVERNMENT (COUNTY)
0040020	CALVERT BEACH / FOREST TRAIL	100	INVESTOR/TRUST/WATER ASSOC
0040023	SOLOMONS RECREATION CENTER	1200	FEDERAL
0040024	CALVERT BEACH - DECATUR STREET	350	INVESTOR/TRUST/WATER ASSOC
0040025	WOODBIDGE - MASON ROAD	100	LOCAL GOVERNMENT (COUNTY)
0040026	SUMMIT/HIGHLANDS	800	LOCAL GOVERNMENT (COUNTY)
0040027	SOLOMONS	2700	LOCAL GOVERNMENT (COUNTY)

Table 1. Community Water Systems in Calvert County

PUBLIC WATER SYSTEM ID (PWSID)	SYSTEM NAME	POPULATION SERVED	OWNER/OPERATOR TYPE
0040030	TOWN OF NORTH BEACH	3000	LOCAL GOVERNMENT (MUNICIPALITY)
0040031	PARKERS CREEK KNOLLS	60	LOCAL GOVERNMENT
0040032	JOHNSON ACRES WATER CO	50	INVESTOR/TRUST/WATER ASSOC
0040033	SOUTHERN PINES ELDERLY HOUSING	93	LOCAL GOVERNMENT (COUNTY)
0040034	TARA SUBDIVISION	250	LOCAL GOVERNMENT (COUNTY)
0040035	WALNUT CREEK	50	LOCAL GOVERNMENT (COUNTY)
0040052	CROSS POINT SUBDIVISION	50	LOCAL GOVERNMENT (COUNTY)
0040053	MARLEY RUN	240	LOCAL GOVERNMENT (COUNTY)
0040202	REGENCY MANOR MOBILE HOME PARK	224	INVESTOR/TRUST/WATER ASSOC
0040204	BAY VIEW MOBILE MANOR	100	INVESTOR/TRUST/WATER ASSOC
0040206	CALVERT MOBILE HOME PARK	60	INVESTOR/TRUST/WATER ASSOC
0040208	HALLOWING POINT TRAILER PARK	100	INVESTOR/TRUST/WATER ASSOC
0040209	BUCKLER MOBILE HOME PARK	65	INVESTOR/TRUST/WATER ASSOC
0040210	PINE TRAILER PARK	65	INVESTOR/TRUST/WATER ASSOC

Table 1. Community Water Systems in Calvert County (cont.)

PWSID	SYSTEM NAME	PLANT ID	SOURCE ID	USE CODE	WELL NAME	WELL PERMIT NO.	WELL DEPTH	CASING DEPTH	SCREENED DEPTH(S)	YEAR DRILLED	AQUIFER
0040002	CAVALIER COUNTRY	01	01	P	CAVALIER COUNTRY 1	CA710012	542	522	522-542	1970	MAGOTHY FORMATION
			02	P	CAVALIER COUNTRY 2	CA710013	552	533	533-552	1970	MAGOTHY FORMATION
0040003	CHESAPEAKE BEACH	01	02	P	CHESAPEAKE BEACH 2	CA734240	550	285	300-420	1982	AQUIA FORMATION
0040004	CHESAPEAKE RANCH ESTATES	01	01	P	CLUB HOUSE DR WELL 1R	CA940409	643	560	560-640	1997	AQUIA FORMATION
			02	P	THUNDERBIRD DR WELL 2A	CA811754	650	580	580-640	1985	AQUIA FORMATION
			03	P	BONANZA TRAIL WELL 3A	CA880667	678	578	578-678	1989	AQUIA FORMATION
			04	P	GUNSMOKE TRAIL WELL 4	CA883340	687	550	604-684	1993	AQUIA FORMATION
0040005	DARES BEACH	01	01	P	DARES BEACH 2 (AQUIA)	CA880852	570	530	510-530	1990	AQUIA FORMATION
			02	P	DARES BEACH 1(NANJEMOY)	CA730777	272	251	251-272	1974	NANJEMOY FORMATION
0040006	HUNTING HILLS	01	01	P	HUNTING HILLS 1	CA034328	365	252	252-270	1959	NANJEMOY FORMATION
			02	P	HUNTING HILLS 2	CA720024	504	450	490-500	1972	AQUIA FORMATION
0040007	KENWOOD BEACH	01	01	P	KENWOOD BEACH 1	CA690015	365	268	263-275	1968	PINEY POINT FORMATION
			02	P	KENWOOD BEACH 2	CA814117	300	273	280-300	1988	PINEY POINT FORMATION
0040008	LAKEWOOD	01	01	P	LAKEWOOD 1	CA660044	425	345	345-355	1966	AQUIA FORMATION
			02	P	LAKEWOOD 2	CA730196	335	315	315-320, 330-335	1973	AQUIA FORMATION

Table 2. Well Information for Community Water Systems in Calvert County

PWSID	SYSTEM NAME	PLANT ID	SOURCE ID	USE CODE	WELL NAME	WELL PERMIT NO.	WELL DEPTH	CASING DEPTH	SCREENED DEPTH(S)	YEAR DRILLED	AQUIFER
0040009	BEACHES WATER COMPANY	01	01	P	HARBOR (FLAG HARBOR)	CA733266	272	237	262-272	1979	NANJEMOY FORMATION
		02	02	P	RAUSCH (BALSAM)	CA054331	365	280	280-300	1964	NANJEMOY FORMATION
		03	04	P	JORGENSEN 1 (LOCUST 1)	CA054043	360	350	350-360	1963	NANJEMOY FORMATION
		04	05	P	GERARD (BAYFRONT/BAY VIEW)	CA029966	452	151	277-301	1958	AQUIA FORMATION
		05	06	P	SLATER 2	CA811940	356	331	331-356	1986	NANJEMOY FORMATION
			07	P	JORGENSEN 2 (LOCUST 2)	CA811941	357	332	332-357	1986	NANJEMOY FORMATION
			08	P	SLATER 3	CA882256	585	555	555-585	1991	AQUIA FORMATION
			09	P	SLATER 1 (NEW WELL)	CA920901	590	520	570-590	1996	AQUIA FORMATION
		0040010	PARIS OAKS / DAYS END	01	01	P	PARIS OAKS 1	CA730474	413	379	388-413
02	P				PARIS OAKS 2	CA880715	450	410	440-450	1989	AQUIA FORMATION
0040011	PRINCE FREDERICK	03	02	P	HOSPITAL WELL	CA730631	589	532	528-589	1974	AQUIA FORMATION
		02	03	P	WELL 1 (FIRE DEPT)	CA882573	605	525	525-605	1992	AQUIA FORMATION
		02	04	P	WELL 2 (FIRE DEPT)	CA882253	605	525	525-605	1992	AQUIA FORMATION
0040013	ST LEONARD	01	02	P	NEW WELL	CA812328	603	583	583-603	1986	AQUIA FORMATION
			03	P	FIRE CO WELL	CA942436	606	581	581-601	2000	AQUIA FORMATION
0040014	SCIENTISTS CLIFFS	01	01	P	BLUEBELL RD #1	CA001331	360	15	350-360	1947	NANJEMOY FORMATION
		02	02	P	ASPEN RD #2	CA012178	227	219	217-227	1953	NANJEMOY FORMATION
		03	03	P	LAKE ANNE #3	CA650113	537	516	514-537	1965	AQUIA FORMATION
		04	04	P	DOVETREE RD #4	CA812652	516	464	466-516	1987	AQUIA FORMATION

Table 2. Well Information for Community Water Systems in Calvert County (cont.)

PWSID	SYSTEM NAME	PLANT ID	SOURCE ID	USE CODE	WELL NAME	WELL PERMIT NO.	WELL DEPTH	CASING DEPTH	SCREENED DEPTH(S)	YEAR DRILLED	AQUIFER
0040015	SHORES OF CALVERT	01	01	P	SHORES OF CALVERT 1	CA730094	473	452	448-473	1973	MAGOTHY FORMATION
			02	P	SHORES OF CALVERT 2	CA730095	473	452	448-473	1973	MAGOTHY FORMATION
0040016	WESTERN SHORES	01	01	P	WESTERN SHORES	CA660003	325	270	270-280	1966	PINEY POINT FORMATION
0040017	WHITE SANDS	01	01	P	WHITE SANDS	CA023170	389	340	314-356, 374-389	1956	PINEY POINT FORMATION
0040018	CHESAPEAKE HEIGHTS AKA BAYSIDE FOREST	01	01	P	HILL	CA731780	595	555	555-595	1978	AQUIA FORMATION
			02	P	BEACH	CA034123	475	430	430-475	1959	AQUIA FORMATION
0040020	CALVERT BEACH / FOREST	01	01	P	FOREST TR	CA730938	262	220	252-262	1975	PINEY POINT FORMATION
0040023	SOLOMONS RECREATION CENTER	03	01	P	N S W 1	CA884089	567	465	465-485, 505-565	1994	AQUIA FORMATION
			02	P	N S W 2	CA884088	557	475	475-555	1994	AQUIA FORMATION
0040024	CALVERT BEACH - DECATUR STREET	02	02	P	DECATUR 2	CA732925	325	258	258-325	1978	PINEY POINT FORMATION
			03	P	DECATUR 1	CA732926	350	262	303-323	1978	PINEY POINT FORMATION
0040025	WOODBIDGE - MASON ROAD	01	01	P	WOODBIDGE	CA732670	542	491	512-542	1978	AQUIA FORMATION
0040026	SUMMIT/HIGHLANDS	02	03	P	HIGHLAND 1	CA814173	530	442	450-530	1988	AQUIA FORMATION
			04	P	HIGHLAND 2	CA814174	548	467	468-548	1989	AQUIA FORMATION
			05	P	HIGHLAND 4 (8735)	CA880595	487	400	400-487	1989	AQUIA FORMATION
			06	P	HIGHLAND 3 (PARK)	CA880592	480	400	400-480	1989	AQUIA FORMATION
0040027	SOLOMONS	01	01	P	DOWELL RD WELL	CA811194	546	442	452-460, 466-504, 512-536	1985	AQUIA FORMATION
			02	P	STANDPIPE WELL	CA811193	620	534	542-574, 580-618	1985	AQUIA FORMATION

Table 2. Well Information for Community Water Systems in Calvert County (cont.)

PWSID	SYSTEM NAME	PLANT ID	SOURCE ID	USE CODE	WELL NAME	WELL PERMIT NO.	WELL DEPTH	CASING DEPTH	SCREENED DEPTH(S)	YEAR DRILLED	AQUIFER
0040030	TOWN OF NORTH BEACH	01	01	P	NORTH BEACH 2	CA881829	435	320	320-435	1991	AQUIA FORMATION
		02	02	P	NORTH BEACH 1	CA881828	435	320	310-435	1991	AQUIA FORMATION
0040031	PARKERS CREEK KNOLLS	01	01	P	PARKERS CREEK KNOLLS	CA733367	340	320	320-340	1979	PINEY POINT FORMATION
0040032	JOHNSON ACRES WATER CO	01	01	P	WELL 1	CA733588	360	325	325-345	1980	NANJEMOY FORMATION
0040033	SOUTHERN PINES ELDERLY HOUSING	01	01	P	SOUTHERN PINES WELL 1	CA920668	666	625	625-665	1996	PINEY POINT FORMATION
0040034	TARA SUBDIVISION	01	01	P	WELL 1	CA920962	548	513	513-538	1997	AQUIA FORMATION
			02	P	WELL 2	CA920963	558	523	523-548	1997	AQUIA FORMATION
0040035	WALNUT CREEK	01	01	P	WELL 1	CA940614	540	500	520-540	1998	AQUIA FORMATION
			02	P	WELL 2	CA940615	520	500	500-520	1998	AQUIA FORMATION
0040052	CROSS POINT SUBDIVISION	01	01	P	CROSS POINT 1	CA941098	394	372	372-394	1998	AQUIA FORMATION
			02	P	CROSS POINT 2	CA941099	398	376	376-396	1998	AQUIA FORMATION
			03	P	CROSS POINT 3	CA943579	430	360	410-420	1996	AQUIA FORMATION
0040053	MARLEY RUN	01	02	P	WELL 1 PHASE I	CA942501	562	510	532-562	2000	AQUIA FORMATION
			03	P	WELL 2 PHASE I	CA942502	553	500	523-553	2001	AQUIA FORMATION
0040202	REGENCY MANOR MOBILE HOME PARK	01	01	S	REGENCY MANOR 1(HILLTOP)	CA811573	410	370	400-410	1985	AQUIA FORMATION
			02	S	REGENCY MANOR 2(SHED)	CA047010	444	319		1962	AQUIA FORMATION
		03	03	P	REGENCY MANOR 3(HALLMARK)	CA037400	360	252	252-262	1960	AQUIA FORMATION
			04	P	REGENCY MANOR 4	CA941879	390	357	357-388	2000	AQUIA FORMATION

Table 2. Well Information for Community Water Systems in Calvert County (cont.)

PWSID	SYSTEM NAME	PLANT ID	SOURCE ID	USE CODE	WELL NAME	WELL PERMIT NO.	WELL DEPTH	CASING DEPTH	SCREENED DEPTH(S)	YEAR DRILLED	AQUIFER
0040204	BAY VIEW MOBILE MANOR	01	01	P	BAY VIEW 1	CA057105	265	210	210-220	1964	NANJEMOY FORMATION
0040206	CALVERT MOBILE HOME PARK	01	01	P	CALVERT MHP 1	CA049187	384	220	274-284	1962	NANJEMOY FORMATION
0040208	HALLOWING POINT TRAILER PARK	01	01	P	HALLOWING POINT1	CA734382	405	336	395-405	1982	AQUIA FORMATION
0040209	BUCKLER MOBILE HOME PARK	01	01	P	BUCKLERS 1	CA731791	330	220	220-345	1977	NANJEMOY FORMATION
		02	02	P	BUCKLERS 2	CA880176	330	255	270-330	1988	NANJEMOY FORMATION
0040210	PINE TRAILER PARK	01	01	P	PINE TRAILER PARK	CA650044	365	297	297-312	1964	NANJEMOY FORMATION

Table 2. Well Information for Community Water Systems in Calvert County (cont.)

WATER SUPPLY PROGRAM DATABASE FIELD NAMES:

PWSID = Public Water System ID Number

PLANT ID = Water Treatment Plant ID Number

SOURCE ID = Unique Identifier Number for Well

USE CODE: P = Production, S = Standby

PWSID	System Name	Wells included in WHPA	Aquifer	Discharge (Q) in gal/day	Screened Interval (H) in feet	Calculated Radius for WHPA in feet	Acreage of WHPA	Comment
0040002	CAVALIER COUNTRY	CAVALIER COUNTRY 1	MAGOTHY FORMATION	55,000	20	1,300	121	
		CAVALIER COUNTRY 2	MAGOTHY FORMATION	55,000	19	1,300	121	
0040003	CHESAPEAKE BEACH	CHESAPEAKE BEACH 2	AQUIA FORMATION	371,000	120	1,400	141	
0040004	CHESAPEAKE RANCH ESTATES	CLUB HOUSE DR WELL 1R	AQUIA FORMATION	191,000	80	1,200	103	Q estimated from current use rates and divided among current appropriated amount of 900,000 gpd
		THUNDERBIRD DR WELL 2A	AQUIA FORMATION	162,000	60	1,300	121	
		BONANZA TRAIL WELL 3A	AQUIA FORMATION	255,000	100	1,300	121	
		GUNSMOKE TRAIL WELL 4	AQUIA FORMATION	292,000	80	1,500	161	
0040005	DARES BEACH	AQUIA WELL	AQUIA FORMATION	25,000	20	900	56	
		NANJEMOY WELL	NANJEMOY FORMATION	25,000	21	900	53	
0040006	HUNTING HILLS	WELL 1	NANJEMOY FORMATION	10,000	18	600	25	
		WELL 2	AQUIA FORMATION	10,000	10	800	45	
0040007	KENWOOD BEACH	WELLS 1 AND 2	PINEY POINT FORMATION	25,000	12	1,200	95	
0040008	LAKWOOD	LAKWOOD 1	AQUIA FORMATION	15,000	10	1,000	72	
0040008	LAKWOOD	LAKWOOD 2	AQUIA FORMATION	15,000	10	1,000	72	

Table 3. Parameters used for WHPA delineations

PWSID	System Name	Wells included in WHPA	Aquifer	Discharge (Q) in gal/day	Screened Interval (H) in feet	Calculated Radius for WHPA in feet	Acreage of WHPA	Comment
0040009	BEACHES WATER COMPANY	HARBOR (FLAG HARBOR)	NANJEMOY FORMATION	3,150	10	400	11	Q estimated from current use rates and divided among current appropriated amount of 105,000 gpd
		RAUSCH (BALSAM)	NANJEMOY FORMATION	11,550	20	600	26	
		JORGENSEN 1 AND 2	NANJEMOY FORMATION	47,250	10	1,700	207	
		GERARD (BAYFRONT/BAY VIEW)	AQUIA FORMATION	6,300	24	400	11	
		SLATER 2	NANJEMOY FORMATION	36,750	25	1,000	72	
		SLATER 1 AND 3	AQUIA FORMATION	36,750	20	1,100	87	
0040010	PARIS OAKS	WELLS 1 AND 2	AQUIA FORMATION	26,000	10	1,300	121	Two circles merged
0040011	PRINCE FREDERICK	HOSPITAL WELL	AQUIA FORMATION	232,515	61	1,500	161	
		PRINCE FREDERICK 1 (FIRE DEPT)	AQUIA FORMATION	80,651	80	800	46	
		PRINCE FREDERICK 2 (FIRE DEPT)	AQUIA FORMATION	80,651	80	800	46	
0040013	ST. LEONARD	WELLS 1 AND 2	AQUIA FORMATION	20,000	20	800	46	Two circles merged
0040014	SCIENTIST CLIFFS	WELL 1 (CHESTNUT)	NANJEMOY FORMATION	33,000	10	1,500	147	
		WELL 2 (A ST.)	NANJEMOY FORMATION	33,000	10	1,500	147	
		WELL 3 (HILL)	AQUIA FORMATION	17,000	23	700	33	
		WELL 4 (D ST.)	AQUIA FORMATION	17,000	50	500	15	

Table 3. Parameters used for WHPA delineations (cont.)

PWSID	System Name	Wells included in WHPA	Aquifer	Discharge (Q) in gal/day	Screened Interval (H) in feet	Calculated Radius for WHPA in feet	Acreage of WHPA	Comment
0040015	SHORES OF CALVERT	SHORES OF CALVERT 1	MAGOTHY FORMATION	35,000	25	900	58	
		SHORES OF CALVERT 2	MAGOTHY FORMATION	35,000	25	900	58	
0040016	WESTERN SHORES	WELL	PINEY POINT FORMATION	25,000	10	1,300	111	
0040017	WHITE SANDS	WHITE SANDS	PINEY POINT FORMATION	10,000	30	500	18	
0040018	CHESAPEAKE HEIGHTS	HILL WELL	AQUIA FORMATION	75,000	40	1,100	84	
		BEACH WELL	AQUIA FORMATION	75,000	45	1,100	74	
0040020	CALVERT BEACH - FOREST	WELL	PINEY POINT FORMATION	10,000	10	800	45	
		WELLS 1 AND 2	PINEY POINT FORMATION	30,000	20	1,000	72	Two circles merged
0040023	SOLOMONS RECREATION CENTER	N S W 1	AQUIA FORMATION	100,000	80	800	58	
		N S W 2	AQUIA FORMATION	100,000	80	800	58	
0040025	WOODBIDGE - MASON ROAD	WOODBIDGE	AQUIA FORMATION	6,500	30	400	11	
0040026	SUMMIT/HIGHLANDS	HIGHLAND 1	AQUIA FORMATION	128,600	80	1,000	72	
		HIGHLAND 2	AQUIA FORMATION	128,600	80	1,000	72	
		HIGHLAND 4 (8735)	AQUIA FORMATION	128,600	87	1,000	72	
		HIGHLAND 3 (PARK)	AQUIA FORMATION	128,600	80	1,000	72	
0040027	SOLOMONS	DOWELL RD WELL	AQUIA FORMATION	175,000	70	1,300	121	
		STANDPIPE WELL	AQUIA FORMATION	175,000	70	1,300	121	Q estimated from current use rates

PWSID	System Name	Wells included in WHPA	Aquifer	Discharge (Q) in gal/day	Screened Interval (H) in feet	Calculated Radius for WHPA in feet	Acreage of WHPA	Comment
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Table 3. Parameters used for WHPA delineations (cont.)

PWSID	System Name	Wells included in WHPA	Aquifer	Discharge (Q) in gal/day	Screened Interval (H) in feet	Calculated Radius for WHPA in feet	Acreage of WHPA	Comment
0040030	TOWN OF NORTH BEACH	NORTH BEACH 2	AQUIA FORMATION	203,574	115	1,000	72	Q estimated from current use rates
		NORTH BEACH 1	AQUIA FORMATION	42,553	115	500	18	
0040031	PARKERS CREEK KNOLLS	PARKERS CREEK KNOLLS	PINEY POINT FORMATION	2,700	20	300	6	
0040032	JOHNSON ACRES WATER CO	WELL 1	NANJEMOY FORMATION	3,200	20	300	6	
0040033	SOUTHERN PINES ELDERLY HOUSING	SOUTHERN PINES WELL 1	PINEY POINT FORMATION	9,000	40	400	11	
0040034	TARA SUBDIVISION	WELLS 1 AND 2	AQUIA FORMATION	5,700	25	400	11	Two circles merged
0040035	WALNUT CREEK	WELLS 1 AND 2	AQUIA FORMATION	14,700	20	700	35	Two circles merged
0040052	CROSS POINT	WELLS 1 AND 2	AQUIA FORMATION	37,000	200	1,100	87	Two circles merged
0040053	MARLEY RUN	WELL 1 PHASE I	AQUIA FORMATION	38,200	30	900	58	
		WELL 2 PHASE I	AQUIA FORMATION	38,200	30	900	58	
0040202	REGENCY MANOR MOBILE HOME PARK	REGENCY MANOR 3(HALLMARK)	AQUIA FORMATION	20,000	10	1,100	87	
		REGENCY MANOR 4	AQUIA FORMATION	20,000	31	600	26	
0040204	BAY VIEW MOBILE MANOR	BAY VIEW 1	NANJEMOY FORMATION	9,900	10	800	46	
0040206	CALVERT MOBILE HOME PARK	CALVERT MHP 1	NANJEMOY FORMATION	4,500	10	500	18	
0040208	HALLOWING POINT TRAILER PARK	HALLOWING POINT1	AQUIA FORMATION	7,500	10	700	35	
0040209	BUCKLER MOBILE HOME PARK	BUCKLERS 1 AND 2	NANJEMOY FORMATION	4,800	125	200	17	Two circles merged
0040210	PINE TRAILER PARK	PINE TRAILER PARK	NANJEMOY FORMATION	6,300	15	500	18	

PWSID	System Name	Wells included in WHPA	Aquifer	Discharge (Q) in gal/day	Screened Interval (H) in feet	Calculated Radius for WHPA in feet	Acreage of WHPA	Comment
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Table 3. Parameters used for WHPA delineations (cont.)

ID*	Type	Facility Name	Address	*Reference Location	WHPA System Name	No. of UST's/ Capacity/Substance/ Other Comments	Potential Contaminants
1	UST	Tucker's Sunoco	7631 Bayside Rd	Figure 3a	Calvert Beach	Two 8,000 gal. Gasoline, One 2,000 gal. Kerosene in use	VOC
2	UST	Beach Elementary School	7900 Old Bayside Rd	Figure 3a	Calvert Beach	One 10,000 gal. Heating Oil in use	VOC
3	UST	Nationwide Insurance	7623 Bayside Rd	Figure 3a	Calvert Beach	One 500 gal. Heating Oil tank status unknown	VOC
4	UST	Appeal Elementary School	11655 Hg Trueman Rd	Figure 3b	Chesapeake Ranch Estates	One 10,000 gal. Heating Oil in use	VOC
5	UST	Patuxent Elementary	35 Appeal Ln	Figure 3b	Chesapeake Ranch Estates	One 10,000 gal. Heating Oil, One 550 gal. Diesel in use	VOC
6	MISC	Sewage Pumping Station		Figure 3c	Dares Beach	Force main lies within 25 feet of wells	NN, MP
7	UST	Windy Hill Middle School	9560 Boyds Turn Rd	Figure 3d	Paris Oaks	One 15,000 gal. Diesel in use	VOC
8	UST	Windy Hill Elementary School	9550 Boyds Turn Rd	Figure 3d	Paris Oaks	One 10,000 gal. Heating Oil, One 550 gal. Diesel in use	VOC
9	UST	Prince Frederick Shopping Center	28 Solomons Island Rd N	Figure 3e	Prince Frederick	Facility permanently closed, status of tanks unknown	VOC
10	UST	Calvert Memorial Hospital Annex	120 Hospital Rd	Figure 3e	Prince Frederick	One 10,000 gal. Heating Oil in use	VOC
11	UST	The John Gott Company-Bulk Plant	410 Solomons Island Rd N	Figure 3e	Prince Frederick	One 1,000 gal. Heating Oil in use	VOC
12	UST	Calvert Memorial Hospital	100 Hospital Rd	Figure 3e	Prince Frederick	One 10,000 gal. Diesel in use	VOC
13	UST	Calvert Gas & Go	410 Solomons Island Rd N	Figure 3e	Prince Frederick	Three 10,000 gal. Gasoline, One 10,000 gal. Diesel in use	VOC
14	UST	Prince Frederick Exxon Shop	875 Solomons Island Rd N	Figure 3e	Prince Frederick	Three 12,000 gal. Gasoline, One 10,000 gal. Diesel, One 2,000 gal. Kerosene, One 550 gal. Heating Oil in use	VOC

Table 4. Potential Contaminant Point Sources Within WHPA's.

*See referenced figure for location

ID*	Type	Facility Name	Address	*Reference Location	WHPA System Name	No. of UST's/ Capacity/Substance/ Other Comments	Potential Contaminants
15	UST	Calvert Co. Nursing Center	85 Hospital Rd	Figure 3e	Prince Frederick	One 550 gal. Gasoline in use	VOC
16	UST	Amoco Service Station #5133	10 Solomons Island Rd N	Figure 3e	Prince Frederick	Three 10,000 gal. Gasoline, One 550 gal. Used Oil in use	VOC
17	CHS	Calvert Memorial Hospital	Route 4	Figure 3e	Prince Frederick		VOC, HM
18	UST	Weems Texaco Service	4909 Saint Leonard Rd	Figure 3f	St. Leonard	Facility permanently closed, at least one tank closed ind place, 3 other tanks' status unknown	VOC
19	UST	Four Star Pizza	4985 Saint Leonard Rd	Figure 3f	St. Leonard	One 550 gal. Heating Oil in use	VOC
20	UST	St. Leonard Fastop	4990 Saint Leonard Rd	Figure 3f	St. Leonard	Two 12,000 gal. and Two 6,000 gal. Gasoline, and Two 8,000 gal. Diesel in use	VOC
21	CERCLA	Naval Recreation Center		Figure 3g	Solomon's Rec Center	Four areas being studied for cleanup. See fact sheet attached in appendix	VOC,M
22	GWDP	Marley Run WWTP		Figure 3h	Marley Run	GWDP # 97DP3232, spray irrigation in fields within WHPA	NN,MP
23	UST	Bridge Drive-In	6654 Hallowing Point Rd	Figure 3i	Hallowing Point Trailer Park	Three 4,000 gal. and One 2,000 gal. Gasoline in use	VOC

Table 4. Potential Contaminant Point Sources Within WHPA's (cont.)

*See referenced figure for location

UST =Underground Storage Tank of Petroleum Products

CHS = Controlled Hazardous Substance Generator

PEST = Pesticide Dealer

GWDP = State of Maryland Ground Water Discharge Permit

PWSID	PWS NAME	PLANT ID	TREATMENT METHOD	PURPOSE
0040002	CAVALIER COUNTRY	01	HYPOCHLORINATION, POST	Disinfection
		01	SEQUESTRATION	Iron Removal
0040003	CHESAPEAKE BEACH	01	HYPOCHLORINATION, POST	Disinfection
		01	SEQUESTRATION	Iron Removal
0040004	CHESAPEAKE RANCH ESTATES	01	GASEOUS CHLORINATION, POST	Disinfection
		01	HYPOCHLORINATION, POST	Disinfection
		02	HYPOCHLORINATION, POST	Disinfection
		03	HYPOCHLORINATION, POST	Disinfection
		04	HYPOCHLORINATION, POST	Disinfection
0040005	DARES BEACH	01	HYPOCHLORINATION, PRE	Disinfection
0040006	HUNTING HILLS	01	HYPOCHLORINATION, POST	Disinfection
0040007	KENWOOD BEACH	01	HYPOCHLORINATION, POST	Disinfection
0040008	LAKWOOD	01	HYPOCHLORINATION, POST	Disinfection
0040009	BEACHES WATER COMPANY	01	HYPOCHLORINATION, POST	Disinfection
		02	GASEOUS CHLORINATION, POST	Disinfection
		03	GASEOUS CHLORINATION, POST	Disinfection
		04	GASEOUS CHLORINATION, POST	Disinfection
		05	GASEOUS CHLORINATION, POST	Disinfection
0040010	PARIS OAKS / DAYS END	01	HYPOCHLORINATION, POST	Disinfection
0040011	PRINCE FREDERICK	02	HYPOCHLORINATION, POST	Disinfection
		03	GASEOUS CHLORINATION, POST	Disinfection
		03	HYPOCHLORINATION, PRE	Disinfection
0040013	ST LEONARD	01	HYPOCHLORINATION, POST	Disinfection
0040014	SCIENTISTS CLIFFS	01	HYPOCHLORINATION, POST	Disinfection
		02	HYPOCHLORINATION, POST	Disinfection
		03	HYPOCHLORINATION, POST	Disinfection
		04	HYPOCHLORINATION, POST	Disinfection
0040015	SHORES OF CALVERT	01	INHIB., POLYPHOSPHATE	Corrosion Control
		01	HYPOCHLORINATION, POST	Disinfection
0040016	WESTERN SHORES	01	HYPOCHLORINATION, POST	Disinfection
0040017	WHITE SANDS	01	HYPOCHLORINATION, POST	Disinfection
0040018	CHESAPEAKE HEIGHTS AKA BAYSIDE FOREST	01	HYPOCHLORINATION, POST	Disinfection
		02	HYPOCHLORINATION, POST	Disinfection
0040020	CALVERT BEACH / FOREST TRAIL	01	HYPOCHLORINATION, POST	Disinfection
0040023	SOLOMONS RECREATION CENTER	03	HYPOCHLORINATION, PRE	Disinfection
0040024	CALVERT BEACH - DECATUR STREET	02	HYPOCHLORINATION, POST	Disinfection
0040025	WOODBIDGE - MASON ROAD	01	HYPOCHLORINATION, POST	Disinfection
0040026	SUMMIT/HIGHLANDS	02	HYPOCHLORINATION, POST	Disinfection
		02	SEQUESTRATION	Iron Removal

PWSID	PWS NAME	PLANT ID	TREATMENT METHOD	PURPOSE
0040027	SOLOMONS	01	HYPOCHLORINATION, POST	Disinfection
		02	GASEOUS CHLORINATION, POST	Disinfection
0040030	TOWN OF NORTH BEACH	01	SEQUESTRATION	Corrosion Control
		01	HYPOCHLORINATION, PRE	Disinfection
		01	SEQUESTRATION	Iron Removal
		02	INHIB., ORTHOPHOSPHATE	Corrosion Control
		02	GASEOUS CHLORINATION, POST	Disinfection
		02	SEQUESTRATION	Iron Removal
0040031	PARKERS CREEK KNOLLS	01	HYPOCHLORINATION, POST	Disinfection
0040032	JOHNSON ACRES WATER CO	01	HYPOCHLORINATION, PRE	Disinfection
0040033	SOUTHERN PINES ELDERLY HOUSING	01	HYPOCHLORINATION, POST	Disinfection
0040034	TARA SUBDIVISION	01	HYPOCHLORINATION, POST	Disinfection
0040035	WALNUT CREEK	01	HYPOCHLORINATION, POST	Disinfection
0040052	CROSS POINT SUBDIVISION	01	HYPOCHLORINATION, POST	Disinfection
0040053	MARLEY RUN	01	HYPOCHLORINATION, PRE	Disinfection
0040202	REGENCY MANOR MOBILE HOME PARK	03	NO TREATMENT	
0040204	BAY VIEW MOBILE MANOR	01	HYPOCHLORINATION, POST	Disinfection
0040206	CALVERT MOBILE HOME PARK	01	HYPOCHLORINATION, POST	Disinfection
0040208	HALLOWING POINT TRAILER PARK	01	HYPOCHLORINATION, POST	Disinfection
0040209	BUCKLER MOBILE HOME	01	HYPOCHLORINATION, POST	Disinfection
0040209	PARK	02	HYPOCHLORINATION, POST	Disinfection
0040210	PINE TRAILER PARK	01	HYPOCHLORINATION, POST	Disinfection

Table 5. Treatment Methods

PWSID	PWS NAME	PLANT ID	IOCs (except Arsenic)		Arsenic		Radionuclides		VOCs		SOCs	
			No. of Samples Collected	No. of Samples > Half MCL	No. of Samples Collected	No. of Samples > Half MCL	No. of Samples Collected	No. of Samples > Half MCL	No. of Samples Collected	No. of Samples > Half MCL	No. of Samples Collected	No. of Samples > Half MCL
0040002	CAVALIER COUNTRY	01	61	0	6	0	7	1 ¹	5	0	1	0
0040003	CHESAPEAKE BEACH	01	65	0	3	1	7	1 ¹	3	0	1	0
0040004	CHESAPEAKE RANCH ESTATES	01	32	0	4	4	3	0	5	0	1	0
		02	50	0	3	1	5	1 ¹	3	0	0	0
		03	50	0	3	3	5	1 ¹	3	0	0	0
		04	46	0	5	1	5	0	10	0	0	0
0040005	DARES BEACH	01	58	0	3	1	5	1 ¹	3	0	0	0
0040006	HUNTING HILLS	01	51	0	3	1	7	1 ¹	6	0	0	0
0040007	KENWOOD BEACH	01	48	0	3	0	5	1 ¹	6	0	0	0
0040008	LAKWOOD	01	50	0	4	0	7	1 ¹	6	0	1	0
0040009	BEACHES WATER COMPANY	01	55	0	4	3	5	1 ¹	3	0	0	0
		02	52	0	5	4	5	1 ¹	3	0	0	0
		03	51	0	4	2	5	1 ¹	3	0	0	0
		04	50	0	4	3	5	1 ¹	3	0	0	0
		05	49	0	4	3	5	1 ¹	7	0	0	0
0040010	PARIS OAKS / DAYS END	01	49	0	3	0	5	1 ¹	6	0	1	0

Table 6. Summary of Water Quality Results

PWSID	PWS NAME	PLANT ID	IOCs (except Arsenic)		Arsenic		Radionuclides		VOCs		SOCs	
			No. of Samples Collected	No. of Samples > Half MCL	No. of Samples Collected	No. of Samples > Half MCL	No. of Samples Collected	No. of Samples > Half MCL	No. of Samples Collected	No. of Samples > Half MCL	No. of Samples Collected	No. of Samples > Half MCL
0040011	PRINCE FREDERICK	02	53	0	3	1	6	2 ¹	3	0	0	0
		03	52	0	9	6	6	0	3	0	0	0
0040013	ST LEONARD	01	46	0	5	3	5	0	3	0	0	0
0040014	SCIENTISTS CLIFFS	01	57	0	3	1	6	2 ¹	3	0	0	0
		02	56	0	3	1	6	1 ¹	3	0	0	0
		03	55	0	3	1	6	2 ¹	3	0	0	0
		04	55	0	3	2	6	2 ¹	3	0	0	0
0040015	SHORES OF CALVERT	01	51	0	3	0	7	1	3	0	0	0
0040016	WESTERN SHORES	01	43	0	3	0	5	1 ¹	4	0	1	0
0040017	WHITE SANDS	01	44	0	3	1	9	1 ¹	7	0	1	0
0040018	CHESAPEAKE HEIGHTS AKA BAYSIDE FOREST	01	49	0	5	2	7	1 ¹	3	0	0	0
		02	50	0	3	0	7	0	1	0	0	0
0040020	CALVERT BEACH / FOREST TRAIL	01	47	0	2	0	5	1 ¹	4	0	1	0
0040023	SOLOMONS RECREATION CENTER	03	108	0	6	2	7	0	19	0	1	0
0040024	CALVERT BEACH DECATUR	02	46	0	2	0	5	1 ¹	3	0	1	0

Table 6. Summary of Water Quality Results (cont.)

PWSID	PWS NAME	PLANT ID	IOCs (except Arsenic)		Arsenic		Radionuclides		VOCs		SOCs	
			No. of Samples Collected	No. of Samples > Half MCL	No. of Samples Collected	No. of Samples > Half MCL	No. of Samples Collected	No. of Samples > Half MCL	No. of Samples Collected	No. of Samples > Half MCL	No. of Samples Collected	No. of Samples > Half MCL
0040025	WOODBRIAGE - MASON ROAD	01	45	0	3	1	7	1 ¹	6	0	0	0
0040026	SUMMIT/ HIGHLANDS	02	53	0	3	0	5	1 ¹	7	0	0	0
0040027	SOLOMONS	01	98	0	3	0	5	1 ¹	2	0	0	0
		02	53	0	3	1	5	0	3	0	0	0
0040030	TOWN OF NORTH BEACH	01	72	1	2	0	7	0	4	0	1	0
		02	72	1	2	0	7	1 ¹	3	0	1	0
0040031	PARKERS CREEK KNOLLS	01	43	0	3	0	5	1 ¹	3	0	1	0
0040032	JOHNSON ACRES WATER CO	01	48	0	3	0	6	1 ¹	6	0	1	0
0040033	SOUTHERN PINES ELDERLY	01	56	0	3	0	7	1 ¹	9	0	0	0
0040034	TARA SUBDIVISION	01	38	0	4	2	9	1 ¹	6	0	0	0
0040035	WALNUT CREEK	01	44	0	3	3	23	1 ¹	5	0	1	0
0040052	CROSS POINT SUBDIVISION	01	74	0	3	0	15	0	7	0	1	0
0040053	MARLEY RUN	01	26	0	1	1	8	0	4	0	1	0
0040202	REGENCY MANOR MOBILE HOME PARK	03	24	0	1	0	5	1 ¹	4	0	1	1 ²
0040204	BAY VIEW MOBILE MANOR	01	59	0	5	0	15	2 ¹	7	0	3	0
0040206	CALVERT MOBILE HOME	01	42	0	3	0	7	1 ¹	6	0	1	0

Table 6. Summary of Water Quality Results (cont.)

PWSID	PWS NAME	PLANT ID	IOCs (except Arsenic)		Arsenic		Radionuclides		VOCs		SOCs	
			No. of Samples Collected	No. of Samples > Half MCL	No. of Samples Collected	No. of Samples > Half MCL	No. of Samples Collected	No. of Samples > Half MCL	No. of Samples Collected	No. of Samples > Half MCL	No. of Samples Collected	No. of Samples > Half MCL
0040208	HALLOWING POINT TRAILER PARK	01	51	0	4	1	5	1 ¹	6	0	0	0
0040209	BUCKLER MOBILE HOME PARK	01	46	0	2	0	7	1 ¹	3	0	0	0
		02	45	0	2	0	7	1 ¹	3	0	0	0
0040210	PINE TRAILER PARK	01	43	0	3	0	5	1 ¹	4	0	2	0

Table 6. Summary of Water Quality Results (cont.)

¹ Proposed MCL for Radon-222

² Sample for Di(2-Ethylhexyl)Phthalate invalid because of presence in blank

PWSID	PWS NAME	PLANT ID	SAMPLE DATE	RESULT (mg/L) ¹
0040003	CHESAPEAKE BEACH	01	5-May-98	0.008
			23-Mar-01	-0.005
			13-Sep-01	0.002
0040004	CHESAPEAKE RANCH ESTATES	01	20-May-02	0.014
			20-May-02	0.014
			19-Nov-02	0.013
			10-Dec-02	0.013
		02	12-Dec-95	-0.005
			18-Dec-98	0.005
			27-Jun-01	0.004
		03	12-Dec-95	0.018
			18-Dec-98	0.012
			27-Jun-01	0.010
		04	12-Dec-95	0.007
			18-Dec-98	-0.005
			27-Jun-01	0.004
			20-May-02	0.004
0040005	DARES BEACH	01	20-May-02	0.004
			12-Dec-95	-0.010
			23-Mar-98	-0.010
0040006	HUNTING HILLS	01	18-Oct-01	0.008
			12-Dec-95	-0.010
			6-Jan-98	-0.010
0040009	BEACHES WATER COMPANY	01	27-Aug-01	0.005
			1-Dec-95	0.002
			17-Feb-99	0.011
			5-Feb-01	0.005
		02	22-Oct-02	0.006
			1-Dec-95	0.003
			17-Feb-99	0.009
			5-Feb-01	0.008
			5-Feb-01	0.008
		03	10-Oct-02	0.006
			1-Dec-95	0.003
			17-Feb-99	0.008
			11-Jun-02	0.008
		04	10-Oct-02	0.004
			1-Dec-95	0.004
			17-Feb-99	0.005
			11-Jun-02	0.008
05	10-Oct-02	0.005		
	1-Dec-95	0.004		
	17-Feb-99	0.009		
	5-Feb-01	0.010		
			10-Oct-02	0.007

Table 7a. Arsenic results for systems where Arsenic has been detected above 50% of the MCL.

PWSID	PWS NAME	PLANT ID	SAMPLE DATE	RESULT (mg/L) ¹
0040011	PRINCE FREDERICK	02	12-Dec-95	0.002
			21-Oct-98	-0.005
			27-Aug-01	0.005
		03	12-Dec-95	0.003
			21-Oct-98	-0.005
			10-Oct-00	0.009
			27-Aug-01	0.011
			23-May-02	0.011
			29-May-02	0.010
			4-Jun-02	-0.005
			12-Jun-02	0.010
			13-Jun-02	0.010
0040013	ST LEONARD	01	12-Dec-95	0.002
			10-Mar-98	-0.010
			18-Dec-01	0.005
			20-May-02	0.006
			20-May-02	0.006
0040014	SCIENTISTS CLIFFS	01	15-Dec-95	0.006
			15-Jul-98	-0.010
			17-Dec-01	0.004
		02	15-Dec-95	0.010
			15-Jul-98	-0.010
			17-Dec-01	0.003
		03	15-Dec-95	-0.032
			15-Jul-98	-0.010
			17-Dec-01	0.014
		04	15-Dec-95	0.005
			15-Jul-98	-0.010
			17-Dec-01	0.007
0040017	WHITE SANDS	01	12-Dec-95	-0.010
			29-Oct-98	-0.010
			18-Dec-01	0.005
0040018	CHESAPEAKE HEIGHTS AKA BAYSIDE FOREST	01	12-Dec-95	-0.010
			24-Sep-98	-0.010
			18-Oct-01	0.004
			20-May-02	0.006
			20-May-02	0.005
0040023	SOLOMONS RECREATION CENTER	03	26-Jul-94	-0.005
			2-Aug-94	-0.005
			1-Apr-97	-0.010
			16-Dec-98	0.006
			3-Apr-00	-0.010
			30-Apr-03	0.008
0040025	WOODBIDGE - MASON ROAD	01	29-Jun-94	-0.010
			24-Sep-98	0.010
			18-Dec-01	0.003
0040027	SOLOMONS	02	12-Dec-95	0.002
			20-Oct-98	-0.005
			18-Dec-01	0.005

Table 7a. Arsenic results for systems where Arsenic has been detected above 50% of the MCL (cont.)

PWSID	PWS NAME	PLANT ID	SAMPLE DATE	RESULT (mg/L) ¹
0040034	TARA SUBDIVISION	01	24-Mar-99	-0.010
			1-May-02	0.007
			4-Jun-02	-0.005
			4-Jun-02	0.006
0040035	WALNUT CREEK	01	10-Oct-00	0.006
			31-Jan-01	0.007
			19-Jun-01	0.006
0040053	MARLEY RUN	01	21-Nov-02	0.006
0040208	HALLOWING POINT TRAILER PARK	01	1-Apr-96	-0.002
			9-Aug-99	-0.010
			16-Oct-02	0.006
			15-Nov-02	-0.003

Table 7a. Arsenic results for systems where Arsenic has been detected above 50% of the MCL (cont.)

¹ A negative symbol indicates below the detectable level shown.
Results in bold are greater than 50% of the MCL.

PWSID	PWS NAME	PLANT ID	CONTAMINANT	MCL (pCi/L)	SAMPLE DATE	RESULT (pCi/L) ¹
0040003	CHESAPEAKE BEACH	01	RADON-222	300 ²	11-Jun-98	195
0040004	CHESAPEAKE RANCH ESTATES	02	RADON-222	300 ²	31-Mar-98	180
		03	RADON-222	300 ²	31-Mar-98	250
0040005	DARES BEACH	01	RADON-222	300 ²	23-Mar-98	195
0040006	HUNTING HILLS	01	RADON-222	300 ²	6-Jan-98	180
0040007	KENWOOD BEACH	01	RADON-222	300 ²	23-Mar-98	195
0040008	LAKWOOD	01	RADON-222	300 ²	11-Jun-98	155
0040009	BEACHES WATER COMPANY	01	RADON-222	300 ²	18-Mar-98	210
		02	RADON-222	300 ²	18-Mar-98	205
		03	RADON-222	300 ²	18-Mar-98	290
		04	RADON-222	300 ²	18-Mar-98	225
		05	RADON-222	300 ²	18-Mar-98	235
0040010	PARIS OAKS / DAYS END	01	RADON-222	300 ²	11-Jun-98	160
0040011	PRINCE FREDERICK		RADON-222	300 ²	6-Sep-94	300
		02	RADON-222	300 ²	6-Jan-98	260
0040014	SCIENTISTS CLIFFS	01	RADON-222	300 ²	7-Dec-95	205
			RADON-222	300 ²	15-Jul-98	170
		02	RADON-222	300 ²	7-Dec-95	265
			RADON-222	300 ²	15-Jul-98	140
		03	RADON-222	300 ²	15-Aug-96	225
			RADON-222	300 ²	15-Jul-98	225
		04	RADON-222	300 ²	15-Aug-96	255
			RADON-222	300 ²	15-Jul-98	235
0040015	SHORES OF CALVERT	01	GROSS ALPHA	15.0	31-Mar-98	-2
			GROSS ALPHA	15.0	25-Apr-02	8
			COMBINED RADIUM (226 & 228)	5.0	25-Apr-02	-1
			RADIUM-226	5.0	25-Apr-02	-1
			RADIUM-228	5.0	25-Apr-02	-1
0040016	WESTERN SHORES	01	RADON-222	300 ²	31-Mar-98	220
0040017	WHITE SANDS	01	RADON-222	300 ²	29-Oct-98	315
0040018	CHESAPEAKE HEIGHTS AKA BAYSIDE FOREST	01	RADON-222	300 ²	24-Sep-98	230
0040020	CALVERT BEACH / FOREST TRAIL	01	RADON-222	300 ²	10-Mar-98	190
0040024	CALVERT BEACH - DECATUR STREET	02	RADON-222	300 ²	10-Mar-98	220
0040025	WOODBIDGE - MASON ROAD	01	RADON-222	300 ²	24-Sep-98	235

Table 7b. Results of Radionuclides detected above 50% of their MCL.

PWSID	PWS NAME	PLANT ID	CONTAMINANT	MCL (pCi/L)	SAMPLE DATE	RESULT (pCi/L) ¹
0040026	SUMMIT/ HIGHLANDS	02	RADON-222	300 ²	7-Jan-98	155
0040027	SOLOMONS	01	RADON-222	300 ²	6-Jan-98	260
0040030	TOWN OF NORTH BEACH	02	RADON-222	300 ²	6-Sep-94	155
			RADON-222	300 ²	1-Apr-97	90
			RADON-222	300 ²	29-Apr-98	105
0040031	PARKERS CREEK KNOLLS	01	RADON-222	300 ²	28-Apr-98	755
0040032	JOHNSON ACRES WATER CO	01	RADON-222	300 ²	3-Apr-00	165
0040033	SOUTHERN PINES ELDERLY HOUSING	01	RADON-222	300 ²	23-Mar-98	165
0040034	TARA SUBDIVISION	01	RADON-222	300 ²	9-Aug-99	230
0040035	WALNUT CREEK	01	RADON-222	300 ²	21-Nov-02	235
0040202	REGENCY MANOR MOBILE HOME PARK	03	RADON-222	300 ²	16-Apr-02	200
0040204	BAY VIEW MOBILE MANOR	01	RADON-222	300 ²	6-May-02	92
			RADON-222	300 ²	8-Oct-02	180
			RADON-222	300 ²	2-Dec-02	225
0040206	CALVERT MOBILE HOME PARK	01	RADON-222	300 ²	24-Sep-98	265
0040208	HALLOWING POINT TRAILER PARK	01	RADON-222	300 ²	5-Aug-98	345
0040209	BUCKLER MOBILE HOME PARK	01	RADON-222	300 ²	30-Jul-98	240
		02	RADON-222	300 ²	30-Jul-98	255
0040210	PINE TRAILER PARK	01	RADON-222	300 ²	28-Apr-98	290

Table 7b. Results of Radionuclides detected above 50% of their MCL. (cont.)

PWSID	PWS NAME	PLANT ID	CONTAMINANT	MCL (ug/L)	SAMPLE DATE	RESULT (ug/L) ¹
40202	REGENCY MANOR MOBILE HOME PARK	01	DI(2- ETHYLHEXYL) PHTHALATE	6.0	15-Apr-02	18.1 ³

Table 7c. Results of Synthetic Organic Compounds where detected above 50% of their MCL.

¹ A negative symbol indicates below the detectable level shown. Results in bold are greater than 50% of the MCL.

² Proposed MCL

³ Sample for Di(2-Ethylhexyl)Phthalate invalid because of presence in blank

PWSID	PWS NAME	No. of Samples Collected	No. of Positive Samples	Disinfection Treatment?
0040002	CAVALIER COUNTRY	81	0	Y
0040003	CHESAPEAKE BEACH	80	0	Y
0040004	CHESAPEAKE RANCH ESTATES	81	0	Y
0040005	DARES BEACH	80	0	Y
0040006	HUNTING HILLS	80	0	Y
0040007	KENWOOD BEACH	80	0	Y
0040008	LAKWOOD	80	0	Y
0040009	BEACHES WATER COMPANY	80	0	Y
0040010	PARIS OAKS / DAYS END	80	0	Y
0040011	PRINCE FREDERICK	80	0	Y
0040013	ST LEONARD	80	0	Y
0040014	SCIENTISTS CLIFFS	79	0	Y
0040015	SHORES OF CALVERT	80	0	Y
0040016	WESTERN SHORES	80	1	Y
0040017	WHITE SANDS	80	0	Y
0040018	CHESAPEAKE HEIGHTS AKA BAYSIDE FOREST	80	0	Y
0040020	CALVERT BEACH / FOREST TRAIL	80	0	Y
0040023	SOLOMONS RECREATION CENTER	80	0	Y
0040024	CALVERT BEACH - DECATUR STREET	80	0	Y
0040025	WOODBIDGE - MASON ROAD	80	0	Y
0040026	SUMMIT/HIGHLANDS	80	0	Y
0040027	SOLOMONS	80	0	Y
0040030	TOWN OF NORTH BEACH	80	0	Y
0040031	PARKERS CREEK KNOLLS	81	0	Y
0040032	JOHNSON ACRES WATER CO	49	1	Y
0040033	SOUTHERN PINES ELDERLY HOUSING	79	0	Y
0040034	TARA SUBDIVISION	71	0	Y
0040035	WALNUT CREEK	42	0	Y
0040052	CROSS POINT SUBDIVISION	47	0	Y
0040053	MARLEY RUN	24	0	Y
0040202	REGENCY MANOR MOBILE HOME PARK	80	0	N
0040204	BAY VIEW MOBILE MANOR	80	0	Y
0040206	CALVERT MOBILE HOME PARK	80	0	Y
0040208	HALLOWING POINT TRAILER PARK	80	0	Y
0040209	BUCKLER MOBILE HOME PARK	80	2	Y
0040210	PINE TRAILER PARK	80	0	Y

Table 8. Routine Bacteriological Monitoring Results from System Distribution

(Sample results available since 1995)

PWSID	PWS Name	Is the Water System Susceptible to...					
		Inorganic Compounds (except Arsenic)	Arsenic	Radionuclides	Volatile Organic Compounds	Synthetic Organic Compounds	Microbiological Contaminants
0040002	CAVALIER COUNTRY	N	N	N	N	N	N
0040003	CHESAPEAKE BEACH	N	YES	YES ¹	N	N	N
0040004	CHESAPEAKE RANCH ESTATES	N	YES	YES ¹	N	N	N
0040005	DARES BEACH	N	YES	YES ¹	N	N	N
0040006	HUNTING HILLS	N	YES	YES ¹	N	N	N
0040007	KENWOOD BEACH	N	N	YES ¹	N	N	N
0040008	LAKWOOD	N	N	YES ¹	N	N	N
0040009	BEACHES WATER COMPANY	N	YES	YES ¹	N	N	N
0040010	PARIS OAKS / DAYS END	N	N	YES ¹	N	N	N
0040011	PRINCE FREDERICK	N	YES	YES ¹	N	N	N
0040013	ST LEONARD	N	YES	N	N	N	N
0040014	SCIENTISTS CLIFFS	N	YES	YES ¹	N	N	N
0040015	SHORES OF CALVERT	N	N	YES ¹	N	N	N
0040016	WESTERN SHORES	N	N	YES ¹	N	N	N
0040017	WHITE SANDS	N	YES	YES ¹	N	N	N
0040018	CHESAPEAKE HEIGHTS AKA BAYSIDE FOREST	N	YES	YES ¹	N	N	N
0040020	CALVERT BEACH / FOREST TRAIL	N	N	YES ¹	N	N	N
0040023	SOLOMONS RECREATION CENTER	N	YES	N	N	N	N
0040024	CALVERT BEACH - DECATUR STREET	N	N	YES ¹	N	N	N
0040025	WOODBIDGE - MASON ROAD	N	YES	YES ¹	N	N	N

Table 9. Susceptibility Analysis Summary

PWSID	PWS Name	Is the Water System Susceptible to...					
		Inorganic Compounds (except Arsenic)	Arsenic	Radionuclides	Volatile Organic Compounds	Synthetic Organic Compounds	Microbiological Contaminants
0040026	SUMMIT/HIGHLANDS	N	N	YES ¹	N	N	N
0040027	SOLOMONS	N	YES	YES ¹	N	N	N
0040030	TOWN OF NORTH BEACH	N	N	YES ¹	N	N	N
0040031	PARKERS CREEK KNOLLS	N	N	YES ¹	N	N	N
0040032	JOHNSON ACRES WATER CO	N	N	YES ¹	N	N	N
0040033	SOUTHERN PINES ELDERLY HOUSING	N	N	YES ¹	N	N	N
0040034	TARA SUBDIVISION	N	YES	YES ¹	N	N	N
0040035	WALNUT CREEK	N	YES	YES ¹	N	N	N
0040052	CROSS POINT SUBDIVISION	N	N	N	N	N	N
0040053	MARLEY RUN	N	YES	N	N	N	N
0040202	REGENCY MANOR MOBILE HOME PARK	N	N	YES ¹	N	N	N
0040204	BAY VIEW MOBILE MANOR	N	N	YES ¹	N	N	N
0040206	CALVERT MOBILE HOME PARK	N	N	YES ¹	N	N	N
0040208	HALLOWING POINT TRAILER PARK	N	YES	YES ¹	N	N	N
0040209	BUCKLER MOBILE HOME PARK	N	N	YES ¹	N	N	N
0040210	PINE TRAILER PARK	N	N	YES ¹	N	N	N

Table 9. Susceptibility Analysis Summary (cont.)

¹ Based on Proposed MCL for Radon-222