

**SOURCE WATER PROTECTION PROGRAM
BENEFITING THE OCEAN PINES WATER SYSTEM
(PWSID 023-0005)
WORCESTER COUNTY, MARYLAND**

ALWI Project No. MD7S075

July 31, 2013

**PREPARED FOR THE
OCEAN PINES WATER SYSTEM**

**IN PARTIAL FULFILLMENT OF MARYLAND DEPARTMENT OF THE
ENVIRONMENT IFB SOLICITATION No. U00R1400308**



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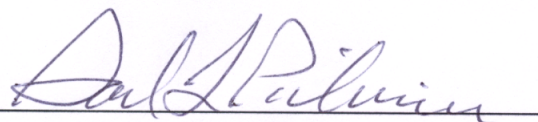
**Prepared for the
OCEAN PINES WATER SYSTEM**

Reviewed and Approved By:

Prepared and Submitted By:



**Mark W. Eisner, P.G.
President**



**David L. Pielmeier
Operations Manager**

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1.0 INTRODUCTION

Advanced Land and Water, Inc. (ALWI) was engaged by the Maryland Department of the Environment (MDE) to assist 12 community groundwater systems, including the Ocean Pines Water System (the System), in developing and implementing Source Water Protection Programs (SWPPs). These programs will help protect public health by identifying implementable measures to address existing and potential contaminant threats to groundwater supplies of safe drinking water.

In 2000, MDE developed a Source Water Assessment report for the System (Appendix A). We updated this assessment for currency, following technical guidance and advice received from the Water Supply Program of MDE. Notwithstanding this, source water assessment is an intrinsically dynamic process. The currency and relevancy of this assessment continuously is affected by new data, changing regulations and the evolving experience and professional judgment of those involved in developing and implementing this assessment and the recommendations herein.

1.1 PURPOSE

Maryland's Source Water Assessment Program was approved by the U.S. Environmental Protection Agency (EPA) in November 1999, and the initial Source Water Assessment report for the System was completed in 2000. The 2000 report included recommendations for ongoing management and protection, as well as periodic updates to reflect changes to the water system, appropriation permit and/or land uses within Source Water Protection Areas (SWPAs) as they may periodically occur. Note that in the 2000 report, SWPAs were termed "wellhead protection areas."

While these past efforts recommended certain source protection and management concepts, MDE determined that the System be included in our current work based on an agency perception of its ongoing vulnerability to potential groundwater contamination. Accordingly, the overall purpose of this contract is to assist the System in developing a more refined and ongoing SWPP, including specific guidance on implementing feasible source protection measures.

1.2 REGULATORY FRAMEWORK

ALWI followed MDE's source water assessment and wellhead protection guidelines, which stem from The Safe Drinking Water Act (SDWA) of 1974 and its later amendments, which established wellhead protection programs for each state under the oversight of the EPA. The

1996 Amendments to the SDWA mandated the State of Maryland to develop a Source Water Assessment Program. MDE completed a Source Water Assessment in 2000 (Appendix A). In September of 2011, ALWI was awarded the SWPP contract to assist the System in developing an ongoing SWPP, including specific guidance on implementing feasible source protection measures. It is important to note that the System's participation in the SWPP was voluntary and not a regulatory requirement under the SDWA.

1.3 BACKGROUND INFORMATION

The System (PWSID 023-0005) currently serves approximately 12,000 seasonal and year-round residents of Ocean Pines, using five wells completed in the Pleistocene Aquifer. Each well has its own adjacent treatment plant, in which hypochlorite is added for disinfection and caustic soda is added for corrosion control. The 2000 MDE assessment covered four then-existing wells. The newest well, Well No. 10, was brought online in 2002, two years after the previous MDE report (Appendix A). Wells 2, 3, and 4 were drilled in 1969 and are not grouted. Wells 5 and 10 were drilled more recently and are grouted.

In 2000, MDE recommended that Ocean Pines form a local planning committee to implement a source water protection plan for the well field, while continuing to monitor contaminants listed in the Safe Water Drinking Act. The Ocean Pines Water and Wastewater Advisory Board functions in this capacity, and also comprises the steering committee for this SWPP.

Additionally, MDE recommended certain source water protection (and other) actions (Appendix A). Many of these actions were not implemented. Herein we update these recommendations based on updated data, steering committee discussions, applicable present guidelines and our professional experience.

One of the goals of this project was to review the data from these monitoring reports to verify that the recommendations listed in this SWPP reduce contaminants according to MDE guidelines. The SWPP effort that is now underway updates the earlier MDE recommendations based on presently applicable regulations and guidelines.

1.4 UPDATE TO DELINEATIONS FROM 2000 REPORT

ALWI updated the previous SWPAs to accommodate the new supply well (Well 10) and the increase in overall water appropriation from 1,000,000 gallons per day (gpd) to 1,500,000 gpd. The MDE Source Water Assessment Program Guidance Document recommends updates to delineations for systems with new sources or changes in appropriation permit amounts. Both of these criteria are applicable to Ocean Pines.

ALWI staff updated SWPA delineations using WHPA Code v. 2.0, an EPA and MDE approved delineation method. This is the same model employed by MDE initially in 1996, and as reported in their 2000 Source Water Assessment. In executing this model, we varied only those input parameters directly relating to the addition of Well 10 and the increase in appropriation.

To assign the daily average pumpage for each supply well that was input into the WHPA Code model, we reviewed System-provided pumpage records from March 2011 to November 2011. ALWI incorporated the average pumping rate for each well (by percentage) into the model, along with the aquifer parameters used by MDE in the 1996 Wellhead Protection Report. We then used the model to calculate one- and ten-year times of travel (Source Water Protection Area Zones 1 and 2, respectively) for the System. Herein we term the aggregate one- and ten-year travel zones the SWPA.

1.5 SUPPLEMENTAL MANAGEMENT AREA

As a further cross-check, we contrasted the areal extent of the resultant 10-year travel zone with that necessary to support the annualized groundwater appropriation (1,500,000 gpd) from a water balance perspective. This seemed appropriate, given the unconfined aquifer conditions present. Considering published annualized recharge rates of approximately 1,000 gpd per acre for the lower eastern shore available in Johnston (1973, 1976 and 1977), the 1.3 square mile 10-year travel zone received 850,000 gpd of groundwater recharge from above. The remaining 650,000 gpd may come from recharge that originates outside of the 10-year travel zone, unless pumping causes increased groundwater recharge at rates that are unnatural.

Given the uncertainties associated with the estimates within the foregoing paragraph and in consideration of the spatial positioning of certain point-source contamination hazards presented in Section 2.4 of this report, ALWI generated a supplemental management area sufficiently large enough, so as to circumscribe the acreage necessary to support the full, annualized appropriation from a water balance perspective (Table 1 and Figure 1). This third management area lies outside of the SWPA defined by one- and ten-year travel zones provided by the WHPA model.

While we acknowledge that applicable MDE source water protection guidance does not mandate such an outer management area (and this outer management area is not regarded as a formal protection zone for this reason), it affords the County an opportunity to adopt additional protections not dissimilar with some of the initial MDE recommendations of 2000 (Appendix A). This recommendation is further discussed in Chapter 5.

2.0 CONTAMINANT THREATS ASSESSMENT

ALWI performed a regulatory database review, field reconnaissance and limited interviews to update the 2000 inventory of potential sources of contamination within the SWPAs. This work was restricted to lands within the 10-year time-of travel delineation as set forth in applicable MDE technical guidance, and then was extended to include the supplemental management area. Both point and non-point sources of contamination were considered in this review.

2.1 STATE ENVIRONMENTAL DATABASE REVIEW

MDE provided ALWI the following state-maintained environmental databases to incorporate into point-source hazard inventories, with the date of database publication provided parenthetically as follows:

- ❑ Municipal and Industrial Groundwater Discharge Permits (6/14/12);
- ❑ Pesticide Dealers (1/12/2012);
- ❑ Land Restoration Program Sites (Voluntary Cleanup Program and Comprehensive Environmental Response, Comprehensive, and Liability Act) (1/16/2012);
- ❑ Oil Control Program (OCP) Underground Storage Tank (UST) and Leaking UST Database (10/14/2011);
- ❑ Supplemental database listings of solid waste facilities, wood waste disposal sites and other hazardous waste generators (2/2012); and
- ❑ Resource Conservation and Recovery Act (RCRA) sites (6/18/2012).

The databases helped with interpretations of groundwater susceptibility, in that the listed facilities may be generators of hazardous materials, petroleum products and/or other drinking water contaminants. Results of this review are integrated with the susceptibility discussion in Chapter 3 of this report.

2.2 FIELD RECONNAISSANCE WITHIN SWPAS

ALWI supplemented the database review with a visual reconnaissance within the SWPA on January 26, 2012. Results of this updated inventory are displayed on Figure 1 and summarized in Table 2. Limited reconnaissance work also extended into portions of the outer management area.

During this reconnaissance, local land use conditions were observed with emphasis on the potential use, storage and disposal practices of hazardous materials and petroleum products in such a location where System wells potentially could entrain related contaminants. Such conditions may have included visual evidence of present or former spills, stained or discolored ground surfaces, stressed vegetation, unusual odors or visible USTs. Adjacent and nearby properties were visually scanned to the degree practicable from public rights-of-way¹.

No significant land use or waste disposal changes were observed. Readers of this update are directed to pages 4 and 5 of the initial MDE assessment dated March, 2000 (Appendix A).

2.3 FIELD RECONNAISSANCE AT/NEAR WELLHEADS

Our January 26, 2012 field reconnaissance indicated that the five municipal production wells appeared to possess good physical integrity. However, subsurface or invasive work of a confirmatory nature was not within the scope for this contract. Each well was surrounded by a

¹ Though ALWI did not observe specific contamination threats warranting further investigation or corrective action, (1) contaminant hazards may exist that remain undetected because of limitations in the methods employed (concealed visual evidence, etc.) and/or (2) new contamination hazards may develop in the future. For these reasons, the measures employed herein for identifying contaminant hazards should be repeated periodically for currency.

locked wooden fence. Additionally, Wells 2, 3, 4 and 5 are located in well houses that were securely locked at the time of our site reconnaissance.

No confirmed sources of existing, direct contamination to the wells within SWPAs were observed. No visible changes in well physical integrity, compared with observations reported by MDE in their 2000 report, were noted.

2.4 POTENTIAL POINT SOURCE CONTAMINATION HAZARDS

When ALWI staff visited the site on January 26, 2012, we did not observe visual evidence of point source contamination hazards within the delineated SWPAs. However, we identified the following point source hazards within the surrounding management area and proximal to the Zone 2 SWPA (Table 2 and Figure 1):

A. **OCP/UST Sites** - The following UST hazard sites were observed in the field by ALWI, and further indicated in the MDE Oil Control Program (OCP) database:

- ❑ **Valero** - ALWI observed active retail fuel UST use at 11121 Race Track Road. On-site USTs are located approximately 2,500 feet west of Well 5. The MDE OCP database indicated that three 8,000 gallon gasohol (gasoline with up to 10% ethanol added) USTs remain in use. The OCP database indicated that gasohol USTs have leaked in the past and that an open OCP case remains for the site.
- ❑ **7-Eleven** - ALWI observed active retail fuel UST use at 11055 Race Track Road. On-site USTs are located approximately 2,500 feet south of Well 5. The OCP database indicated that three 15,000 gallon gasohol USTs remain in use. The OCP database indicated that gasohol USTs have leaked in the past and that an open OCP case remains for the site.
- ❑ **Ocean Pines Association Inc.** - The MDE OCP database indicated that a single, 550-gallon heating oil UST remains in use at 239 Ocean Parkway.

B. **MDE Groundwater Discharge Permit** - The MDE groundwater discharge permit database indicated that the River Run Wastewater Treatment Plant remains active at 11517 River Run Lane.

C. **MDE Hazardous Waste Sites** - The MDE hazardous waste database indicated two sites within the management area. The first site was Verizon Maryland Inc. located at 11017 Cathell Road and the second site was Ocean Pines Parts Plus located at 11070 Cathell Road.

The implication of the presence of open OCP cases in close proximity to the delineated SWPA drove our recommendation that the County adopt an outer management area (Figure 1) as discussed in Chapter 5 herein.

2.5 NON-POINT SOURCE CONTAMINATION HAZARDS AS SUGGESTED BY LAND USE

MDE guidance suggests consideration and mapping of the public sewer service area and the following classifications of land use within the SWPAs: agriculture, forest, residential, industrial, commercial, public lands and mined lands. Each of these has potential implications in terms of non-point contaminant sources (e.g., septic systems outside public sewer service areas and the possibility of leaking mains inside said areas).

ALWI obtained 2010 land use Geographic Information System data for the SWPA for these and other related land uses (Figures 2 and 3), as well as the present municipal sewer service area from the Maryland Department of Planning. We have found that actual sewer service areas differ from those provided by the Maryland Department of Planning. Dominant land uses within the SWPAs are public lands and medium density residential (Zone 1) and low to high-density residential areas (Zone 2).

- ❑ **Inferences from Land Use Data** - Pertinent land use acreages and percentages by SWPA are listed in Table 3. Property owners and occupants outside of the sewer service area on septic systems discharge nitrate- and bacteria-laden wastewater concordant with the intended design of septic systems. They also can include the inappropriate discharge of hazardous and other regulated liquids through such systems, possibly arising from ignorance. Liquid petroleum products commonly are used as a heating fuel. Agricultural land may be fertilized or treated with herbicides and/or pesticides. Furthermore, the generation, storage and discharge of hazardous wastes and other regulated liquids is incidental to many commercial and industrial land uses and activities.
- ❑ **Septic Systems Within Management Area** - System representatives advised that the Pavilions, a small medical/commercial complex at the intersection of Racetrack Road and Beauchamp Road, as well as residences and the Showell Elementary School use septic systems. Failing septic systems, if and when present, may contribute to nitrate contamination, particularly in Well 4 (Section 3.3). Sampling for MBAS, which is a measure of optical brightening dyes in laundry detergents, may help determine whether or not failing septic systems contribute to the nitrates detected in Well 4.

3.0 CONTAMINANT SUSCEPTIBILITY

ALWI completed a review of available groundwater quality records, integrated with other findings herein, to support an assessment of groundwater contaminant susceptibility. MDE guidance defines a threshold for regarding a water source being “susceptible” to a given contaminant as being either:

- ❑ When the concentrations exceed 50% of the Maximum Contaminant Level (MCL) for 10% or more of the documented samples for a regulated contaminant; and/or
- ❑ When a persistent but lower concentration is either increasing or appears to be chemically associated with an unknown or unexpected source.

In addition to these water quality data considerations, ALWI also considered the following factors in evaluating overall susceptibility:

- ❑ The spatial position of sources of potential contamination relative to sources and SWPAs;
- ❑ Observed conditions of wellhead integrity and treatment materials management; and
- ❑ The natural chemical properties of the source water within contributing aquifers.

3.1 WATER QUALITY DATA REVIEW PROCEDURES

ALWI completed the susceptibility assessment in accordance with the following step-wise procedure:

1. **Obtain and Filter Water Quality Databases** - ALWI reviewed available electronic databases of water quality analyses provided by MDE for the period 2000 to 2011. The raw databases were filtered to isolate only prospective groundwater contaminants affecting System groundwater supplies.
2. **Consider Chemical Classes and Sampling Conditions** - The furnished databases were developed by MDE as an incidence of operational compliance record-keeping. They contained analytical records for inorganic compounds including radiological species, synthetic organic, volatile and semi-volatile compounds. In most cases, the available water quality records only reflect post-treatment water samples and not raw groundwater sources, unless otherwise noted. As such, treatment efficacy is reflected in the water quality results as furnished to us. Generally the absence of comprehensive analytical results of raw groundwater samples hampered correlating specific water quality findings to specific wells, aquifers and contributing SWPAs.
3. **Review Paper Records in MDE Files** - ALWI supplemented the MDE databases with laboratory reports available in MDE paper files, which included raw water quality samples for both fecal coliform and total coliform bacteria. Note that because of chlorination, bacteria in raw water do not translate to susceptibility in the distribution system.
4. **Identify “Exceedance” Instances** - To identify water quality sample exceedances, we compared each specific analytical result to published MCLs (in COMAR 26.04.01 as of September 2011). Guided by MDE, we judged that a concentration greater than 50% of a given MCL should be considered an “exceedance.” Procedurally, this was accomplished by sorting the database by analyte and concentration.
5. **Assess Frequency and Relative Percentage of Exceedance Instances** - The number of times that a given analyte was detected in a concentration greater than 50% of its respective MCL was discerned in terms of overall frequency, percentage of total number of samples and date range of exceedance. Contaminants with results equaling or exceeding 50% of the MCL more than 10% of the time were considered *prima facie* susceptible. ALWI also identified changes in contaminant trends over time, even for those that did not equal or exceed 50% of

the MCL more than 10% of the time.

- 6. Integration** - ALWI then considered these identified exceedances in the context of the results of the contamination hazard reconnaissance to correlate water quality results to specific field observations suggestive of a condition of susceptibility.

As discussed in the following subsections, we found Well 5 to be susceptible to Methyl tertiary-butyl ether (MTBE). MTBE was an additive commonly found in gasoline retailed between approximately 1980 and 2008. During the course of this period, MTBE generally was found to be highly water-soluble and thus, mobile in a groundwater environment.

3.2 VOLATILE ORGANIC COMPOUND (VOC) SUSCEPTIBILITY

The only VOC detected that met the definition of susceptibility described in Section 3.1 was MTBE. MTBE was only detected in Well 5. None of the nine documented samples exceeded 50% of the action level of 20 micrograms per liter ($\mu\text{g/L}$). However, concentrations of MTBE generally indicate an increasing trend from 2002 to 2011 (Figure 4). MTBE concentrations nearly tripled between 2008 (1.5 $\mu\text{g/L}$) and 2009 (4.3 $\mu\text{g/L}$), but in 2011 concentrations lowered (1.82 $\mu\text{g/L}$). In light of this relative increase, we have concluded that Well 5 is susceptible to MTBE contamination.

Valero and 7-Eleven (described in Section 2.4) both have open OCP cases, and thus constitute potential sources of the elevated MTBE concentrations in Well 5. We identified no equally plausible source(s). Publicly available OCP information indicates that both gasoline stations have had historic releases from on-premises USTs. Readily-available public records do not detail the type, magnitude, timeframe or current status of the releases.

The MDE OCP databases also identified a heating oil UST at 239 Ocean Parkway. MTBE is not an intrinsic component of heating oil, though the potential presence of trace amounts is not impossible if fuel delivery trucks carried gasoline before being filled with a load of heating oil. The persistence of the MTBE in Well 5 suggests that this is an unlikely explanation.

3.3 NITRATE SUSCEPTIBILITY ASSESSMENT

ALWI did not find a condition of nitrate susceptibility, similar to MDE's 2000 report. Despite these findings, we judged it appropriate to examine nitrate susceptibility with a greater level of scrutiny given that the available water quality data indicated detections that approached the 50% MCL threshold. Our findings for nitrate by well are as follows:

- ❑ **Well 4** - On average, this well had the highest nitrate concentration between 2000 and 2010. Only one of the 23 (<5%) nitrate samples exceeded 50% of the MCL. Nitrate concentrations were highest during the growing seasons from 2000 to 2009. The final sample, collected in 2010, had a concentration of 2.01 milligrams per liter (mg/L), the lowest concentration recorded in the well over the 11-year time period. Within the Zone 1 SWPA of Well 4 existed the Pine Shores Golf Course, which was closed in 2009. Historic fertilizers used at the golf course seem a potential source of the nitrates in Well 4 from 2000 to 2009. Given the

declining nitrate concentrations, we conclude that Well 4 is not susceptible to nitrate contamination.

- ❑ **Wells 2, 3, 5 & 10** - Nitrate concentrations (from 2000 to 2011) did not exceed 50% of the MCL in available sampling results from these wells.

3.4 OTHER GROUNDWATER CONSTITUENTS

We did not find the system susceptible to additional inorganic, synthetic/volatile organic or disinfection byproduct contaminants.

4.0 STEERING COMMITTEE INTERACTIONS

ALWI met with the Ocean Pines Steering Committee on Thursday, April 10, 2012. The Committee was comprised of members of the Ocean Pines Water and Wastewater Advisory Board and a Worcester County official. Specific members included:

- ❑ John Ross (Director of Water and Wastewater; Worcester County),
- ❑ Gail Blazer (Water and Wastewater Advisory Board Member),
- ❑ Mike Hegarty (Water and Wastewater Advisory Board Member),
- ❑ Aris Spengos (Water and Wastewater Advisory Board Member),
- ❑ James N. Spicknall (Water and Wastewater Advisory Board Member), and
- ❑ Frederick F. Stiehl (Water and Wastewater Advisory Board Member).

ALWI presented a slide show (Appendix B) summarizing the local hydrogeology, delineation updates, potential sources of contamination, summary of water quality and preliminary recommendations related to water quality issues. Salient topics of discussion included:

1. **Marginal Conditions of Susceptibility** - None of the available groundwater quality data suggested an acute condition of obvious susceptibility warranting immediate action or undue concern. Discussions then focused on those water quality constituents persistently present but at low concentrations.
2. **SWPA Delineation Limitations vis-à-vis Potential Contamination Sources** - The areal limits of Zone 2 of the SWPA, and the presence of Valero and 7-Eleven close to but outside the delineation were discussed at length. We also discussed delineation input parameters, techniques (including intrinsic simplifying assumptions of the WHPA code), spatial uncertainty and whether ALWI judged the MTBE in Well 5 potentially to have arisen from releases at Valero and/or 7-Eleven. Technical matters such as the possible intercept of shallow groundwater contamination by marshlands proximal to the Ocean City Expressway (MD Route 90) were discussed as well.

3. **Most Likely Sources of Contamination** - ALWI discussed the results of a SWPA field reconnaissance that did not identify other plausible MTBE sources. The Steering Committee came to express a consensus view that the Valero and/or 7-Eleven were the most probable sources of MTBE contamination in Well 5 because of the open OCP cases at both facilities. Similarly, the committee generally agreed that the previous Pine Shores Golf Course presented the most likely source of nitrate contamination for System wells (see Section 3.3).
4. **Limits of Available Information on Open OCP Cases** - The Committee came to desire additional technical information relating to the two known open OCP cases for Valero and 7-Eleven. The Committee sought to understand the spatial positioning, depth and water quality sampling results for various monitoring wells believed present at Valero and/or 7-Eleven. It also sought information on the efficacy and continued presence of active remedial efforts. If this information truly is critical to the Committee, we suggested that it (or a firm engaged to represent the committee) perform a file review of OCP files at MDE.

After the meeting concluded and upon greater reflection, we developed a differing approach to the Valero and 7-Eleven concerns as explained in Section 1.5 and Chapter 5. ALWI concludes that the Chapter 5 recommendations provide better overall source protection and at lower cost to the System. Implementation of these recommendations probably obviates the need for and benefit of such file reviews.

In June of 2013, we received very positive feedback from our point-of-contact. However, he advised that the decision to embrace any source water protection recommendation would be made by other Worcester County officials. Our point-of-contact believed that the County would not be able to prioritize action before the end of our contract, as the elected officials are in a period of transition with a new Administrator. Consequently, we were directed to finalize the SWPP report and include all of our recommendations, including the management area, for future consideration.

5.0 RECOMMENDATIONS

ALWI has developed the following recommendations to improve overall source protection in light of the observations, analyses and interpretations presented herein:

- ❑ **Increase Monitoring Frequency for MTBE and Nitrates** - The System should continue sampling for MTBE and other VOCs associated with gasoline, as well as nitrates. Further action should be considered if MTBE concentrations exceed 10 µg/L, which equates to half of the current EPA and MDE action level. For nitrates, the threshold for further action should be regarded as 5 mg/L, which is 50% of the MCL. While the MTBE and nitrate concerns presently seem isolated to Wells 5 and 4 respectively, as a precaution, sampling each of the raw groundwater sources for these constituents should be conducted on a regular basis, ideally quarterly to capture seasonal variations.
- ❑ **Establish Overlapping Management Area** - ALWI recommends that the County establish and maintain an overlapping management area, the outer perimeter of which should extend

beyond the areal limits of the Zone 2 SWPA. Figure 1 illustrates this management area, the shape of which mimics Zone 2. Its overall area was delineated to support the present MDE groundwater appropriation from a water balance perspective as shown in Table 1. Within this management area, the following monitoring actions, prohibitions and restrictions are recommended:

1. **Monitoring Actions** - We recommend that the County monitor existing and new land uses of a nature potentially incompatible with the continued provision of safe drinking water to the System. Existing planning and zoning review and approval procedures could be the principal tool to achieve this monitoring, but an ordinance overlay district also could be considered. Also, the County should become and remain abreast of those existing point-source contamination hazards, already tracked by MDE, within this area. UST sites, groundwater discharge permittees and nutrient management plan holders are three classes of land uses worthy of being tracked (through periodic agency file reviews and dialog with regulatory officials).
2. **Prohibitions and Restrictions** - The County should consider prohibiting new gasoline USTs, groundwater discharge permittees, municipal sewage sludge disposal, and non-agricultural fertilization practices within the management area. The County also should require that agricultural fertilization not exceed that prescribed in a state-approved nutrient management plan. Note that these prohibitions should not affect land uses within the Ocean Pines community itself, but may affect certain business plans and operations within the recommended management area.
3. **MDE Coordination for Enhanced Regulatory Enforcement** - ALWI recommends that the County proactively coordinate with the Oil Control Program and Groundwater Discharge Permits Division of MDE to request ongoing, strict enforcement of applicable regulations including aggressive investigation and cleanup standards for existing regulated facilities. If MDE comes to require additional groundwater investigation because of the potential spatial spread of regulated liquids in groundwater (i.e., additional monitoring wells, remediation wells or investigative soil borings), the County should require (or request that MDE require) the owner of the regulated facility to also undertake a more robust numerical modeling of the SWPA for Ocean Pines for a more definitive determination of the relation between facility releases and water quality of the System wells. Such modeling should be reviewed and approved both by the System and by the MDE Water Supply Program.