Blossom Point Research Facility
Charles County, Maryland

Joint Land Use Study

FINAL

April 10, 2012

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This study was prepared under contract with the Charles County Commissioners, Maryland, with financial support from the Office of Economic Adjustment, Department of Defense. The content reflects the views of the Charles County Commissioners and does not necessarily reflect the views of the Office of Economic Adjustment.

Planning Consultant:

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COUNTY COMMISSIONERS OF CHARLES COUNTY, MARYLAND

RESOLUTION NO. 2012-15

WHEREAS, the Blossom Point Joint Land Use Study was initiated in 2009 to identify measures to ensure that future land use and development near the Blossom Point Research Facility is compatible with the mission of the facility; and

WHEREAS, the Study is considered vital to protecting the mission of the facility and thus maintaining the positive economic impact the Blossom Point installation has on Charles County; and

WHEREAS, public participation for this plan included a public forum on December 10, 2009, and interviews with key stakeholders; and

WHEREAS, the Planning Commission held a public hearing on the draft Study on August 8, 2011 to hear public comment followed by a work session on November 7, 2011 where the plan was recommended for approval by the Charles County Planning Commission with a unanimous vote; and

WHEREAS, a public hearing was held by the Charles County Commissioners on February 7, 2012 to hear public comment and a work session was held on April 10, 2012 at which time the plan was adopted with a unanimous vote.

NOW, THEREFORE, BE IT RESOLVED, this 10th day of April, 2012, by the County Commissioners of Charles County that the document consisting of text, maps, and graphics, entitled *Blossom Point Joint Land Use Study, April 2012*, is hereby adopted by the Charles County Commissioners and will be incorporated by reference into the

2012 Update of the Charles County Comprehensive Plan.

COUNTY COMMISSIONERS OF
CHARLES COUNTY, MARYLAND

Candice Quinn Kelly, President

Reuben B. Collins, II, Esq., Vice President

Ken Robinson

Debra M. Davis, Esq.

Bobby Rucci

ATTEST:

Denise Ferguson, Clerk

Mission Statement: The mission of Charles County Government is to provide our citizens the highest quality service possible in a timely, efficient, and courteous manner. To achieve this goal, our government must be operated in an open and accessible atmosphere, be based on comprehensive long- and short-term planning, and have an appropriate managerial organization tempered by fiscal responsibility.

Vision Statement: Charles County is a place where all people thrive and businesses grow and prosper; where the preservation of our heritage and environment is paramount; where government services to its citizens are provided at the highest level of excellence; and where the quality of life is the best in the nation.

ACKNOWLEDGEMENTS

County Commissioners of Charles County

Candice Quinn Kelly
President

Reuben B. Collins, II, Esq.
Vice President

Ken Robinson
District 1

Debra M. Davis, Esq.
District 2

Bobby Rucci
District 4

Charles County Planning Commission

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ACKNOWLEDGEMENTS (CONTINUED)

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INTRODUCTION

Military installations are critical to local, regional, and state economies throughout the United States, generating tens of thousands of jobs and billions of dollars in direct and indirect economic activity annually. The State of Maryland is fortunate to be home to several large military installations, including Andrews Air Force Base, Patuxent River Naval Air Station, and Fort Meade. Several smaller installations, including the Indian Head Naval Surface Warfare Center and the Blossom Point Research Facility (BPRF) are located in Charles County, Maryland. Planning for military installations has been important to the County, as the presence of these facilities provides a strong economic base for the County and region. In 2005, Congress established the Base Closure and Realignment Commission (BRAC) to review military installations around the country. In an effort to protect the future existence of BPRF, The U.S. Army has worked cooperatively with Charles County to obtain federal funds to study the compatibility of the Blossom Point Research Facility and neighboring community, in an effort to ensure the facility's long term ability to meet their mission at this location.

1.1 Goals

A Joint Land Use Study, or JLUS, is produced by the local jurisdiction, in this case Charles County, Maryland. It is intended to benefit both the local community and the military installation as a basic planning process designed to identify issues confronting both the civilian community and the military installation and to recommend strategies to address the issues in the context of local comprehensive and general planning programs.

A. The general JLUS program goals include:[1]
   1. To encourage cooperative land use planning between military installations and the surrounding communities so that future civilian growth and development are compatible with operational missions of the installation; and
   2. To seek ways to reduce the operational impacts of BPRF on adjacent land.

B. The specific JLUS objectives for this Blossom Point Research Facility study include:
   1. Charles County will work with the United States Department of the Army and Naval Research Lab to provide an environment in which, to the extent possible, land uses in proximity to Blossom Point remain compatible with the operations of the Blossom Point Research Facility.

[1] *Joint Land Use Study Program Guidance Manual*, Office of Economic Adjustment, November 2006.

2. Charles County will work with the United States Department of the Army and Naval Research Lab to facilitate the ability of the Blossom Point Research Facility to achieve its mission, maintain military readiness, and support national defense objectives.
3. Charles County will work with the United States Department of the Army and Naval Research Lab to promote the health, safety, and welfare of military and civilian personnel living and working near Blossom Point Research Facility.

1.2 Study Area and Study Focus

The scope of this project included:

Task 1: Project Initiation
Task 2: Existing and Historical Conditions Analysis and Mapping
Task 3: Land Use and Conflict Identification Analysis
Task 4: Future Development Potential Analysis and Future Land Use Conflict Assessment
Task 5: Land Use Objectives, Policies, and Regulation Recommendations
Task 6: Implementation Plan, Action Steps, and Ongoing Monitoring
Task 7: Final Report

The study area for this JLUS, as shown in Figure 1-1 and Map 1, consists of properties within Charles County that surround or are in the immediate vicinity of the current Blossom Point Research Facility and adjacent waterways of Nanjemoy Creek, Port Tobacco River, and Potomac River. The study area extends as far east as Chapel Point Road and south along the eastern shore of the Port Tobacco River to the vicinity of Popes Creek Road, to the south through the Potomac River to the vicinity of the intersection of Port Tobacco Road (Rt. 6) and Riverside Road (Rt. 224), then extends northeast across Nanjemoy Creek to MD 6 at Welcome, Maryland.

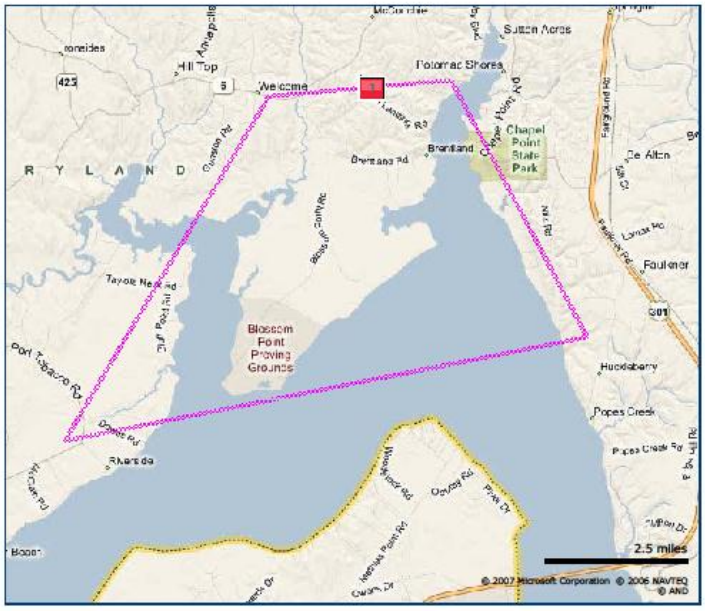


Figure 1-1: Study Area Map

The study area was established by Army and Navy personnel as the area most likely to be impacted by military testing or associated operations of the facility.

1.3 Process

This JLUS has been conducted in a collaborative manner involving all stakeholders, including the local elected officials, planning commissioners, local military base command staff, community business leaders, homebuilders, real estate interests, landowners, and neighboring residents.

A Policy Committee was formed at the beginning of this process to provide technical guidance and direction to the project consultant. As the study progressed, the committee reviewed draft reports, policy recommendations, and the proposed implementation matrix. The committee included representation from the following several entities, as listed in Table 1.1

Table 1-1: Policy Committee

Organization	Department
Charles County	Office of Planning & Growth Management
State of Maryland	Department of Business and Economic Development
U.S. Department of Defense	Office of Economic Adjustment (Ex-officio)
U.S. Army	Blossom Point Research Facility
U.S. Navy	Naval Research Lab

Potential stakeholders were identified early in this process and included neighboring property owners, developers, businesses, and local organizations. All stakeholders were invited to participate in a series of stakeholder interviews held in-person and via phone during the first several months of the study process. Interviews were conducted with several property owners and developers, the State of Maryland Department of Natural Resources, the Conservancy for Charles County, and the Nature Conservancy.

On December 10, 2009, a public forum was held at the Charles County Government Building. The purpose of this meeting was to inform the general public about the JLUS, to provide an opportunity for the general public to ask questions about the Blossom Point Research Facility, and to solicit feedback for use in this study. In addition to the Policy Committee, over twenty persons from the general public attended this public forum. A summary of this forum is contained within the appendices of this study.

1.4 Background & History

1.4.1 History of Military Planning in Charles County

The military's presence is extremely important to the economic sustainability of Charles County. The 2006 Charles County Comprehensive Plan identifies government employment as a major engine of growth for the County. "The County's economy is highly dependent on government in several ways. The Naval Surface Warfare Center at Indian Head is the largest single employer in the County with the Navy reporting employment at approximately 2,900 people in 2002. The consolidation of bases at the Patuxent River Naval Air Station in St. Mary's County during the 1990's drove new residential growth into Charles County as employees were relocated from other parts of the country."[2]

The Comprehensive Plan's Economic Development component identified the following as a key goal:

"Continue to foster a positive working relationship between the County and the Navy in order to capitalize on the role of the naval facilities as a major employer, source of new commercial technology, and spending." (Business Development #4.4)

At present, Charles County is home to several military facilities, as identified in Table 1-2. Several government agencies and contractors are tenants within these facilities.

Table 1-2: Charles County Military Facilities

Facility	Primary Affiliation	Acreage
Blossom Point Research Facility	Army	1,600
Naval Research Laboratory – Blossom Point	Navy	41 (within BPRF's 1,600 acres)
Naval Surface Warfare Center Indian Head	Navy	2,031
Stump Neck	Navy	1,113
Pomonkey	Navy	58

Source: U.S. Department of Defense

[2] 2006 Charles County Comprehensive Plan, Charles County Department of Planning & Growth Management

1.4.1 History of Military Planning in Charles County Continued

Charles County has demonstrated their commitment to the future presence of these facilities through their participation in planning and economic studies such as the 2002 "Analysis of the Economic Impact of the Naval Air Station at Patuxent River and the Naval Surface Warfare Center at Indian Head." Their commitment has been continued with this current BPRF Joint Land Use Study.

While BPRF may appear to be a small facility in an isolated location, its overall importance to the County and region is significant. BPRF offers opportunities to the U.S. Army, U.S. Navy, federal agencies, and military contractors that are not readily available at other facilities in the region. Obtaining time at another facility for testing can take many months or more, while BPRF is able to provide the same service with much less lead time. This decreased scheduling time can be extremely important for new product research and testing. BPRF's economic impact to the region including payroll, contracts, supplies and materials, travel and transportation, and communications totaled nearly $2 million in FY 2010. This does not include the economic impact to the community from BPRF customers who contribute to the local economy while conducting business at the Facility. There are also 55 Blossom Point facility employees who are residents of Charles County.

BPRF's direct contribution to the economy of Charles County is somewhat smaller than Indian Head, but is still important to the county and community.

In late 2008, Charles County began a partnership with private developers to create the Indian Head Science and Technology Park on a 227 acre site in Bryans Road. The purpose of this park, as stated by the County, is to "provide a desirable location in Charles County for defense and federal contractors, their vendors, and other related companies to bring more high-paying jobs to the county and reduce the number of residents who must commute out of the county for work."[3] One anticipated benefit to the community is to help protect against future base closings in the county by providing linkages between contractors at this new park and the work being done at County military facilities.

[3] Indian Head Science and Technology Park, *Frequently Asked Questions*, Charles County Department of Economic Development and Tourism, 2008

1.4.2 Overview of the Blossom Point Research Facility

1.4.2.1 Location

Blossom Point Research Facility is located approximately five miles south of Maryland Route 6 on Blossom Point Road, as shown in Figures 1-2 through 1-5, as well as Map 2.

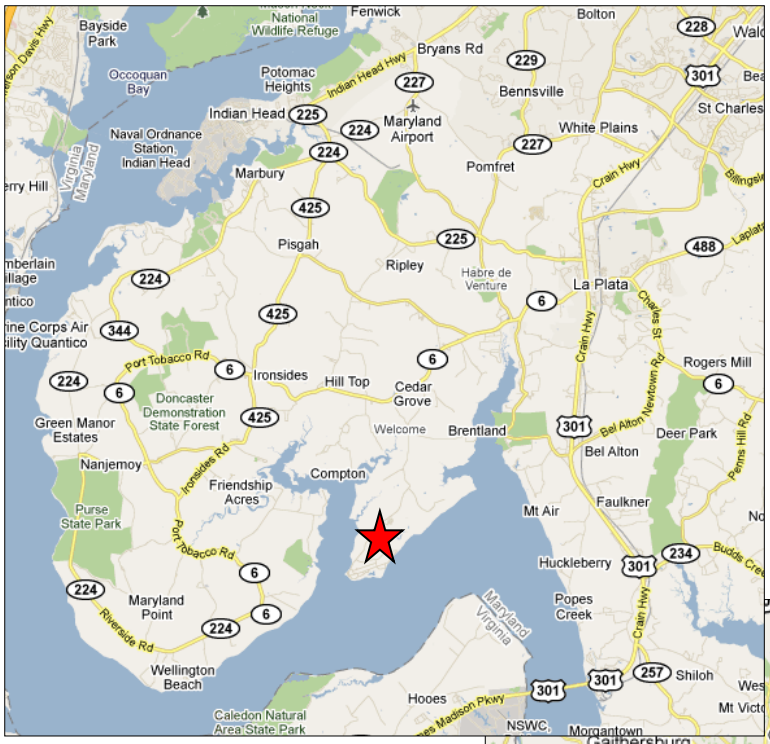


Figure 1-2: Location Map

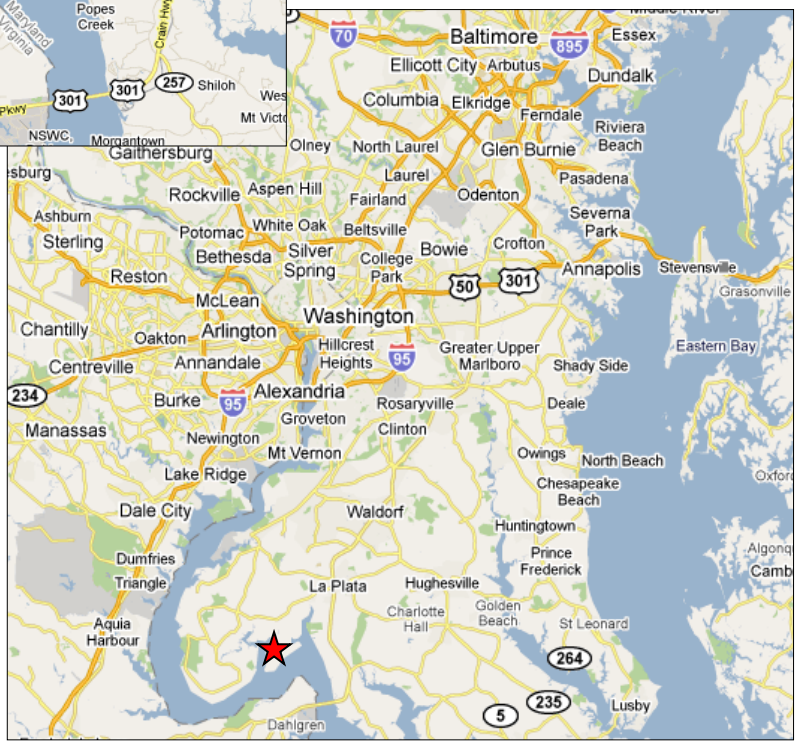


Figure 1-3: Location Map

Figure 1-4: Location Aerial Photo

The above aerial photo shows the Blossom Point Research Facility (BPRF). To the right is the Naval Research Laboratory (NRL) facility located at BPRF.

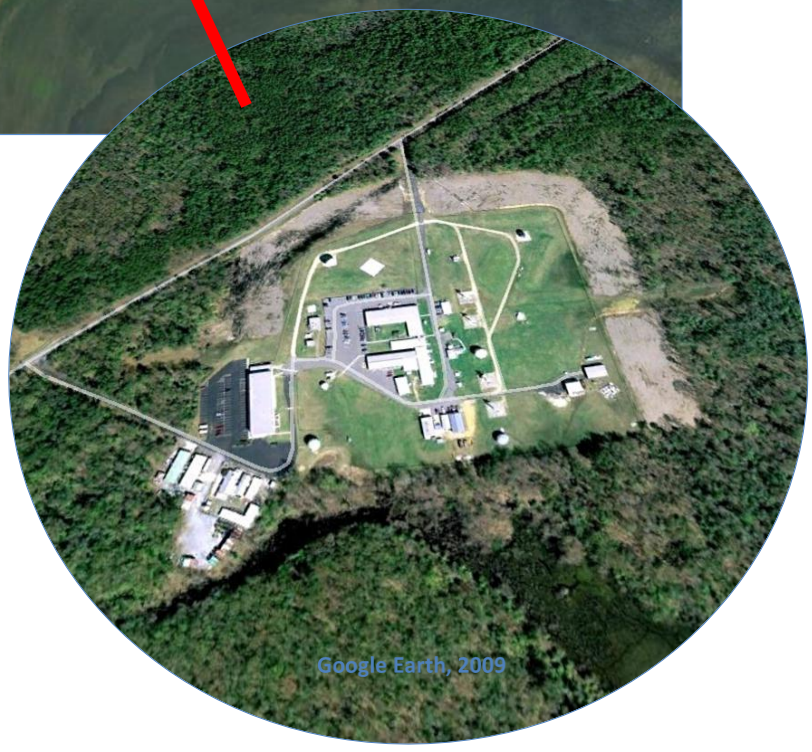


Figure 1-5: Site Aerial Photo

1.4.2.2 Region

BPRF is located in Cedar Point Neck in southern Charles County, Maryland and is bounded on three sides by bodies of water, including Nanjemoy Creek on the west side, the Potomac River to the south, and Port Tobacco River on the east side. BPRF occupies approximately 1,600 acres of land.

Charles County, Maryland is located in southern Maryland, bounded by Prince George's County, Maryland to the north, St. Mary's County, Maryland to the southeast, and King George County, Virginia to the south directly across the Potomac River. Washington, D.C. is located approximately 20 miles to the north of the County line and Baltimore, Maryland is located approximately 80 miles to the north.

La Plata, Maryland, the County seat for Charles County, Maryland, is located several miles northeast of BPRF. Port Tobacco, Maryland and Indian Head, Maryland are the County's other two incorporated municipalities, both of which are located in close proximity to BPRF.

1.4.2.3 Mission

The Blossom Point Research Facility (BPRF) is a 1,600 acre U.S. Army property located in Charles County, Maryland. The facility is under the leadership of the U.S. Army Garrison, Adelphi Laboratory Center in Adelphi, Maryland. BPRF is classified as a military range and is closed to the public.

Also present at BPRF is a facility run by the Naval Research Laboratory (NRL). The NRL leases 41 acres from the U.S. Army for research and activities related to satellites. The NRL consists of 13 buildings and 65,000 square feet of floor space as well as numerous other structures, including antennas and power supplies. According to the internet site "Global Security," BPRF provides "horizon to horizon look angles and an interference free, low noise environment."[4] A 2,000 foot radius buffer zone has been established to provide some level of protection from outside interference. The NRL's facility at BPRF provides "simultaneous tracking and data acquisition, health and status monitoring, and command and control for NRL and Navy satellites." All research and activities are in support of the mission of the United States Navy in an effort to support and protect our troops and sailors around the world.

[4] http://www.globalsecurity.org/military/facility/blossom-point.htm

The primary mission of BPRF is to "field test fuze, explosives, and pyrotechnic devices and electronic telemetry systems." Other elements of their mission include[5]:

- Operate and maintain an ordnance and electronics research facility in Welcome, Maryland as a site to the U.S. Army Garrison, Adelphi Laboratory Center. Support the Acoustic/Electro-Optic Propagation Research Site (AEOPRS) operated by the U.S. Army Research Laboratory (ARL).
- Provide reimbursable, customer supported explosives, pyrotechnic, electronic telemetry, laser facility operations for the Army and other Department of Defense, Federal, and Private Agencies.
- Operate and manage the loading facility at BPRF. Provide the best support possible to accommodate the needs and requirements of the US Army and other organizations in their field research programs. Respond to these requests in a timely, professional and cost effective manner. Stay abreast of, and move effectively forward on the associated technology. Maintain liaison between our counterparts throughout the research and development community.
- Maintain and repair the roads, grounds, equipment and structures for the use before, during and after the programs are completed. Perform as good land stewards and maintain the property for the wildlife, protected and endangered species on the site.
- Maintain own fleet of heavy equipment, farm tractors, bull dozers, forklift, 30 ton mobile crane, and GSA vehicles for over the road activities. BPRF maintains own bulk fuel storage capabilities for on-site requirements.
- Maintain and repair the power grid for BPRF and their customers, uploading facility for the researchers, and RF shielded room for working inside away from radio frequencies, onsite range control and radio safety communications, buildings, roads and grounds maintenance, painting, carpentry, plumbing, welding, safety, firefighting, technical support for testing, physical security, wildlife conservation, shipping and receiving and administration of the workforce.

[5] Source: BPRF Staff

Table 1-3: Blossom Point Research Facility Facts	
Acreage	1,600
Buildings	46
Army	24
Navy	22
Square Footage	70,000
Army	22,000
Navy	12,000
Other	36,000

Source: U.S. Department of Defense

In addition to the primary mission of BPRF, the facility offers limited public recreational opportunities. These opportunities include hunting of game and waterfowl. Game hunting is permitted by special permit only and is strictly managed by BPRF to ensure safety and security. The Maryland Department of Natural Resources currently manages four waterfowl blinds along the shorelines of BPRF.

1.4.3 History of the Blossom Point Research Facility

U.S. Army

Studies have determined that the land now occupied by BPRF was once used by Indian populations dating back about 5,000 years.[6] The Indian Village of Nushemouck located at this site was recorded by John Smith during his 1608 explorations of the Chesapeake Bay. The first non-Indian settlements of the area date back to about 1650.

In 1642, this property was granted to the Catholic Church as part of the St. Thomas Manor. The property was maintained by the Corporation of Roman Catholic Clergymen of Maryland (Maryland Province Society of Jesus) and used by farmers in 1943 when the United States Department of Commerce, National Bureau of Standards first leased the property. At that time, the National Bureau of Standards, Ordnance Development Division used the site for fuze and ordnance testing. The site was designated the Blossom Point Proving Ground.

[6] *Historical Records Review*, Blossom Point Research Facility, Malcolm Pirnie, Inc., May 2006.

In 1953, the Ordnance Development Division was transferred to the Department of the Army as a result of a special commission established to examine the role of the National Bureau of Standards. Once transferred, the facility was renamed the Diamond Ordnance Fuze Laboratory Test Area after Harry Diamond, a government scientist and pioneer in the field of radio frequency research.

In May of 1956, the Department of the Navy was first granted permission to use 23 acres of land at this site for Project Vanguard, a communications tracking station for satellites. This site was selected based primarily on its isolation from noise and electronic interference. The facility was named the Naval Research Laboratory (NRL) Cedar Point Neck Site, Blossom Point Research Facility. From 1958 to 1968, the project had been transferred to the NASA Goddard Space Flight Center in nearby Greenbelt, Maryland.

NIST Photographic Collection, WWII

In 1962, the Diamond Ordnance Fuze Laboratory was renamed the Harry Diamond Laboratories and the mission was expanded as one of the Army's five corporate laboratories. The site was again renamed – this time to the Harry Diamond Laboratories Test Area, Charles County, Maryland. In 1974, testing at this site was suspended, leading to interest by developers to create a 7,000 unit planned community. The Department of the Army studied this site in an effort to determine if the site should be purchased or decontaminated. In 1980, the Department of the Army purchased the 1,600 acre property at which time the site was renamed the Blossom Point Field Test Facility, Charles County, Maryland. The purchase of this property allowed the Army to continue use of the site without the need for a costly decontamination of the entire site.

In 1986, the Department of the Army extended its lease to the Department of the Navy for approximately 265 acres of the BPRF site, including 41.38 acres for NRL use and the remainder serving as a buffer. The lease is renewed every five years. In 2003 the Army renamed the site to Blossom Point Research Facility (BPRF).

Until 2004, BPRF was aligned under the Army Research Laboratory (ARL), a tenant headquarters at the Adelphi Laboratory Center (ALC) in Adelphi, Maryland, however in 2007, BPRF was realigned under the ALC host unit, the U.S. Army Garrison ALC, which is currently responsible for the oversight of BPRF land, buildings, roads, grounds, and other infrastructure. The ARL continues to be a BPRF customer and uses its range for variety of research and testing.

The BPRF garrison is responsible for the Army installation facilities and uses thereof. There is a unique function that BPRF fulfills for their customers and for the Army. BPRF has access to the multi-purpose ranges, with numerous applications from small arms testing up to a 105mm recoilless rifle. BPRF provides storage facilities, certified handlers and drivers, certified vehicles, and flexibility on the test ranges. The services and facilities provided at BPRF is difficult to obtain elsewhere in the United States.

1.4.4 BPRF Installation Description

BPRF consists of 1,600 acres. There are no housing, recreational, or field training facilities required or located at this site. The site is composed of:

- Forestland: 897 acres
- Grassy land: 703 acres

1.4.5 Future of BPRF

The 2007 Long Range Component,[7] created for the U.S. Army, identified goals and objectives for the future of BPRF, including:

Goal 1: Advance the research mission of the ARL located at ALC, Adelphi, Maryland
Objectives:

- Provide appropriate and efficient facilities for ARL & RDECOM research, acoustics and optical systems, as well as electronic telemetry systems.
- Provide development of fuzes, explosives, and pyrotechnic devices for ARDEC and other agencies development.
- Relocate and consolidate facilities to avoid shoreline erosion and mission impairment.
- Provide effective and economical administrative, operational, and engineering office space.

[7] USAG Adelphi Laboratory Center at BPRF: Long Range Component 2007 – Final Submittal

- Provide utility systems to accommodate new research requirements.
- Support physical security of the installation, with appropriate safeguards for personnel, classified material and all property assets. Implement anti-terrorism and force protection measures needed to protect personnel and operations.
- Provide for real property support for successful accomplishments and advancement of the assigned mission.

Goal 2: Develop and manage BPRF in an efficient, effective, and environmentally sensitive manner, which responds to its inventory of cultural resources, its natural setting, and the natural environment.

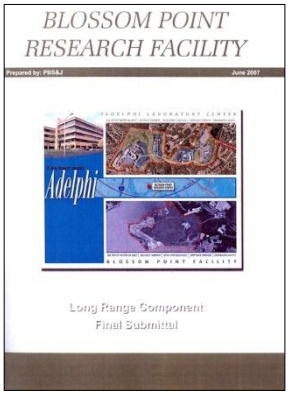
- Reduce shoreline erosion.
- Continue periodic shoreline sweeps and develop a shoreline protection plan to reduce any potential adverse visual impacts on recreational users of the Potomac River and Nanjemoy Creek.
- Preserve existing cultural resources, protect and manage these resources according to requirements found in the Integrated Cultural Resources Management Plan.
- Exhibit exceptional Natural Resources stewardship and manage the resources according to the requirement of the Integrated Natural Resources Management Plan.
- Cooperate with the State of Maryland and Federal agencies involved in wildlife management activities.
- Preserve and protect endangered species and their habitat.
- Preserve existing wetland areas and protect them, to the greatest extent possible, from encroachment.
- Manage storm water to avoid erosion and impacts on wetlands.
- Support state, local, and other governmental involvement in real property activities.
- Actively support the ongoing Military Munitions Response Program (MMRP) Remedial Investigation (RI) and Feasibility Study (FS) for Munitions and Explosives of Concern (MEC) and Munitions Constituents (MC) for the Nanjemoy Creek Munitions Response Site (MRS), to the Potomac River South MRS and Water Range Fan MRS.

1.4.6 Existing Plans and Reports

During the course of this study, several prior studies were reviewed to obtain a historical perspective of planning already completed for this facility. The U.S. Army has gone to great lengths to study this facility and its effects on the environment, including the neighboring community. These studies included:

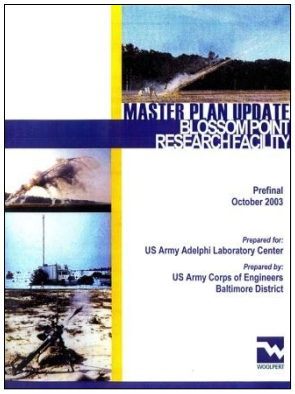
- Blossom Point Research Facility Long Range Component, 2007
- Master Plan Update, Blossom Point Research Facility, 2003
- Environmental Assessment of the Blossom Point Field Test Facility, 1990

1.4.6.1 Long Range Component



The Long Range Component (LRC) was completed in June of 2007 and documents existing conditions and planned activities at BPRF that are important to future development of the installation. The study analyzes the "quality, character, and extent of existing resources, facilities, and their capability to accommodate the assigned mission." The study also analyzes the impact of the community on the installation and the impact the installation has on the community. The study provides a plan for the required long-range development over a 20-year period to support the missions of the installation.

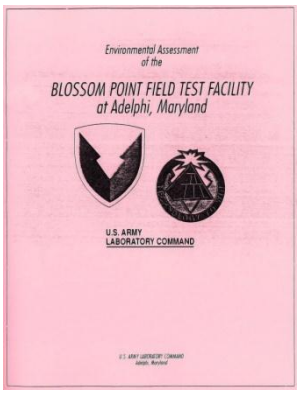
1.4.6.2 Master Plan Update



The Master Plan Update (draft) was completed in 2003 to "document existing conditions and planned activities at BPRF that are considered significant in future development of the installation." Existing conditions within BPRF and surrounding communities were reviewed in order to identify "issues, constraints, and opportunities" for future development at BPRF. The document provides several recommendations for improvements internal to the site. Recommendations relevant to this JLUS include:

- Install shoreline erosion control measures to stop current shoreline erosion.
- Install fencing enhancements at the front gate.

1.4.6.3 Environmental Assessment



An Environmental Assessment (EA) was completed in December of 1990 as an update of the 1983 EA. The purpose of this study was to "document the environmental impacts of the continuing operations and determine whether or not these impacts are significant enough to require a full Environmental Impact Statement (EIS)." The study reviewed several environmental areas, including public health and safety, socioeconomics and land use, cultural resources, visual and aesthetic quality, noise, water resources, air quality and climate, and ecological resources.

The EA concluded:

"Appropriate mitigation measures in the form of test plan safety procedures, SOP's and land management and resource protection programs are currently being implemented at BPRF that serve to avoid or minimize potential significant impacts associated with ongoing operations. The site is relatively isolated from residences and farmlands in the immediate vicinity, and the forested buffer along the northern property boundary further serves to reduce potential impacts. The periodic review of SOP's and resource management programs will be necessary to determine their continued effectiveness to mitigate the impacts of continuing operations."

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Compatibility

2.0 Specific Compatibility Issues

Several key factors influence the degree to which community and military activities and functions are compatible or conflict. The following compatibility issues were determined by the Policy Committee to be an issue requiring study specific to BPRF:

- Noise;
- Vibration;
- Radio Frequency Interference;
- Vertical Obstructions;
- Land Use; and
- Public Trespassing.

These issues can create a hindrance to BPRF's ability to meet their mission and can adversely affect neighboring property owner's ability to reasonably enjoy the use of their properties. Buffering, screening, and appropriate land use controls can be used to address these issues.

Through the course of this land use study process, the public was given the opportunity to provide feedback about BPRF. In general feedback was positive, with a general sense of support for our military and their need to conduct research and train their personnel. Specific concerns voiced included:

- Occasional noise from BPRF can be heard at nearby properties; and
- Occasional vibrations from BPRF can be felt at nearby properties.

2.1 Noise

Definition: Noise is defined by the American Speech-Language-Hearing Association as "unwanted sound." Noise can be categorized as a pollutant and can be hazardous to physical, psychological, and social health. Effects of noise can depend on the amount of noise and the duration of exposure to noise. Noise is measured in decibels (dB) with higher numbers referring to higher levels of noise. Frequency and pitch of noise are also factors important when measuring the effects of noise.

The Charles County Zoning Regulations, section 297-32, addresses noise, although specific regulations are not provided for the Rural Conservation (RC) and Agricultural Conservation (AC) zoning districts, which account for most of the BPRF study area.

Table 2-1, from the American Speech-Language-Hearing Association, illustrates various types of noise and their associated decibel levels.

Table 2-1: Noise Levels

Painful	
Rock music – peak	150 dB
Firearms, air raid, jet engine	140 dB
Jackhammer	130 dB
Jet plane taking-off, car stereo	120 dB
Extremely Loud	
Rock music, model airplane	110 dB
Timpani and bass drum rolls	106 dB
Snowmobile, chain saw, pneumatic drill	100 dB
Lawnmower, shop tools, truck traffic	90 dB
Very Loud	
Alarm clock	80 dB
Busy traffic, vacuum cleaner	70 dB
Conversation, dishwasher	60 dB
Moderate	
Moderate rainfall	50 dB
Quiet room	40 dB
Faint	
Whisper, quiet library	30 dB

Source: American Speech-Language-Hearing Association

Table 2-2, from the Occupational Safety and Health Agency (OSHA), identifies the maximum noise levels permitted without the use of protective equipment.

Table 2-2: Maximum Noise Levels Permitted Without Use of Personal Protective Equipment

Duration, hours per day	dBa
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25 or less	115

Source: OSHA

2.1.1.a Noise at BPRF (Explosives Testing)

BPRF tests various products for the military and military contractors. Much of the research and testing involves explosives. The explosives are voluntarily limited to 15 pounds per explosion. Despite this limitation, there can be noticeable noise associated with the explosions. Most of the testing at BPRF is conducted within the most southern portion of the peninsula, which greatly decreases the noise heard at neighboring properties. However, environmental factors such as wind and weather can significantly impact the distance noise can travel. While neighboring property owners have noticed noise from this facility, the actual decibel level of the noise they hear is below levels of concern.

The 1990 Environmental Assessment of the Blossom Point Field Test Facility studied noise created by testing at the facility. Measurements were made at four residential locations within noise-sensitive areas around BPRF. Tests included the firing of various sized munitions, as well as tests of explosive ordnance disposal (EOD) operations. Table 2-3 shows the results of this study.

Table 2-3: Results of April 12, 1990 Noise Testing at BPRF - in decibels (dB)			
Location (see Figure 2-1)	**60mm**	**81mm**	**EOD**
1	84-94	88-103	87-105
2	95-114	98-108	107-112
3	93-99	94-103	100-110
4	104-113	105-124	110-125
60mm = Howitzer artillery with a 60 mm barrel diameter			
81mm = Howitzer artillery with a 81 mm barrel diameter			
EOD = Explosive Ordnance Disposal operations			
* The study notes that high winds caused peak impulses of up to 119 decibels.			

Source: 1990 Environmental Assessment: Blossom Point Field Test Facility

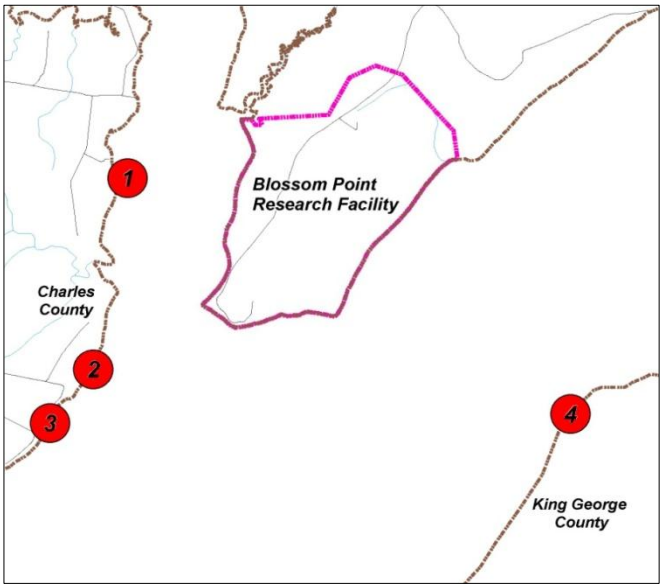


Figure 2-1: Locations for Noise testing on April 12, 1990

The linear peak sound level criteria used by military weapons test facilities are as follows:

Peak Decibel Level	Effect/Reaction
Less than 115 dB	Low risk of complaints
115-130	Moderate risk of complaints
130-140	High risk of complaints and possible damage claims

As the test explosions usually result in short bursts of noise, it is difficult to compare the noise to a noise created or sustained over a longer period of time. In addition, the validity of this study was questioned due to high wind noise the day of the testing. Nonetheless, testing at BPRF creates noise and can be of concern to neighbors. While the occurrence of these tests had been as seldom as 20 days per year in 1990, it is now averaging nearly 20 days per month due to the increased use of the facility in recent years.

The nearest noise-sensitive receptors are isolated individual farm residences located along the shoreline of Cedar Point Neck, at distances over 1.5 miles.[8] The 1990 Environmental Assessment created noise contours for detonation activities. Noise levels identified as "unacceptable," or "Zone III," are confined to the BPRF site. Only a small portion of the levels identified as "normally unacceptable," or "Zone II," extend outside the BPRF site boundary. All off-site noise-sensitive receptors are located in "Zone I," where noise levels from blast activities are considered acceptable. Map 3 shows these noise contours.

While the referenced Environmental Assessment study had been completed in 1990, BPRF leadership has indicated that they believe the conclusions of the study are still valid as the types of tests performed at BPRF are relatively the same today as they were in 1990. In summary, noise exists at BPRF from testing of explosives, however the effects of this noise on nearby properties appear acceptable, as documented by studies and by interviews with stakeholders and the general public.

2.1.1.b Noise from BPRF (Acoustic Testing)

In addition to explosive and fuze testing, BPRF has been used for acoustic testing. A trailer mounted acoustic source (MOAS) is present at BPRF. This device is a 56-foot long horn, eight feet in diameter at the outlet. The MOAS is capable of producing 20,000 acoustic watts of power which can be heard over 15 kilometers away. Due to environmental concerns, testing of acoustics at BPRF is now very limited in scope and duration and is not performed at power levels great enough to create unacceptable conditions for nearby properties.

[8] Blossom Point Long Range Component, June 2007

2.1.2 Noise within the Community

With respect to the Naval Research Laboratory component at BPRF, noise from the community is of concern to the operations of the facility. Common household devices and equipment, such as weed-eaters and lawnmowers, have the potential to interfere with operations at NRL. As indicated earlier, BPRF was originally selected by the NRL based primarily on its isolation from noise and electronic interference. Operations at BPRF could be negatively impacted by increased noise associated with nearby development.

2.2 Vibration

Definition: Vibration is defined as the "the oscillating, reciprocating, or other periodic motion of a rigid or elastic body or medium forced from a position or state of equilibrium.[9]" In the context of this study, vibration is the rapid motion of ground, buildings, and other objects.

2.2.1 Vibration at BPRF

Explosive testing at BPRF creates ground vibrations which can be felt off-site within the neighboring communities. Based on stakeholder meetings and the public forum, the frequency and duration of the vibrations are minimal and do not currently appear to be a problem for the community. The Naval Surface Warfare Center, Dahlgren Division, is located just across the Potomac River from BPRF. Vibrations from weapons testing at Dahlgren can also be felt in the area around BPRF, which often makes it difficult for neighboring property owners to know the actual source of disturbance.

2.2.2 Vibration within the Community

Vibrations from large trucks and construction activities have the potential to create interference for the activities at BPRF, specifically the NRL. At present, this does not appear to be a significant problem for BPRF. Operations at BPRF could be negatively impacted by increased truck traffic and construction activity associated with development within the area of influence.

[9] *Random House Dictionary, Inc., 2010*

2.3 Frequency Spectrum Impedance and Interference

Definition: Frequency spectrum impedance and interference refers to the interruption of electronic signals by a structure (impedance) or the inability to distribute / receive a particular frequency because of similar frequency competition (interference)[10].

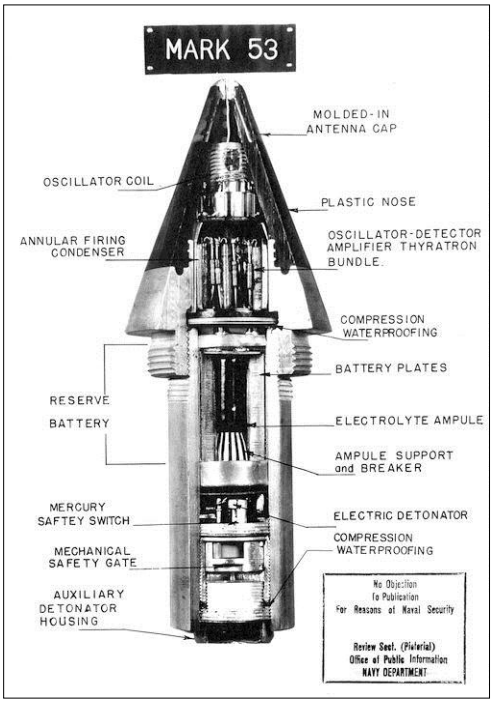
Radio frequency is defined as "the frequency of the transmitting wave of a given radio message or broadcast.[11]" Radios, televisions, wind mills, and wireless phones are often thought of when explaining radio frequencies, though almost all electronic devices emit some level of radio frequency. Radio frequency interference is related to other transmission sources.[12]
Interference can result from a number of factors, including:

- Using a new transmission frequency that is near an existing frequency;
- Reducing the distance between two antennas transmitting on the same frequency;
- Increasing the power of a similar transmission signal;
- Using poorly adjusted transmission devices that transmit outside their assigned frequency or produce an electromagnetic signal that interferes with a signal transmission; and
- Existing electronic sources and uses created by portable systems affecting entire communities utilizing Wi-Fi broadband systems and industrial sources that produce electronic noise by-product.

[10] Bay County JLUS, 2009
[11] Random House Dictionary, Inc., 2010
[12] *Bay County Joint Land Use Study*, November 2009

2.3.1 Radio Frequency Interference at BPRF

A significant portion of the testing at BPRF involves proximity fuzes. Proximity fuzes are devices which initiate the detonation of an explosive device at a set distance from a target. As part of this fuze testing, BPRF uses electronic equipment to determine electromagnetic radiation patterns of fuzes and measure fuze sensitivity.[13] The ability of a fuze to recognize a simulated target is measured using electronic technology. This method of testing emits low levels of power, as with the use of any radar.



In addition to fuze testing, the NRL operates a tracking and command facility at BPRF. The NRL facility uses band transmissions with effective radiation levels of several megawatts or more. A one-half mile diameter buffer zone around the antennae is required and provided within the existing BPRF boundary.

Radio frequency interference created from operations at BPRF does not appear to be creating any negative impacts on the community. However, research and testing at the facility has the potential to interfere with garage doors openers, wireless internet, cell phones, cordless phones, and many other common products used in residential and commercial settings.

2.3.2 Radio Frequency Interference within the Community

The military has relied on a frequency range that is specific for military operational activities. In 1993, however, the federal government began selling federal spectrum bands to development of new telecommunications technologies, products, and services within the private sector. The public and commercial use of these new frequencies, along with use of new wireless technologies (i.e. wireless phones, wireless computer networking, etc…) has resulted in encroachments on the military's use of the radio frequency spectrum.

With respect to BPRF, a large portion of the NRL's activities rely on the use of radio frequencies. Interference from the neighboring community has the potential to create serious effects on the Navy's use of this facility. Without appropriate control, military functions at this facility could be negatively affected. Map 4, Frequency Compatibility, identifies the areas most critical to the

[13] USAG Adelphi Laboratory Center at BPRF: Long Range Component 2007

NRL's utilization of the frequency spectrum. A 2.5 mile buffer has been drawn around the area, which has been identified as the area where frequency usage can have the most impact on military operations.

2.4 Vertical Obstructions

Definition: Vertical obstructions are created by buildings, structures, or other features that may encroach into areas used by military operations. These obstructions can create safety hazards or can affect mission effectiveness at the facility[14].

At BPRF, vertical obstructions can interfere with the ability of their tenants, including the NRL, to effectively conduct their research and testing. At many military facilities, vertical obstructions can create conflicts with aircraft operations. Radio, wireless phone, and other communication towers are among the many potential vertical obstructions. At BPRF, however, aircraft are not the source of concern, rather their use of radio frequencies which can be affected by a lack of a clear and unobstructed signal between the sending and receiving devices.

2.5 Land Use

Definition: Land use planning relates to the government's role in protecting the public's health, safety, and public welfare. A local jurisdiction's general plans and zoning ordinances can be the most effective tools for avoiding or resolving land use compatibility issues. These tools ensure the separation of land uses that differ significantly in character. Land use separation also applies to properties where the use of one property may impact the use of another. For instance, industrial uses are often separated from residential uses to avoid impacts related to noise, odors, lighting, and traffic[15].

Land use planning for property near military facilities is similar to the process used to plan for other types of land uses. Planners study potential uses and potential conflicts in an effort to either mitigate the conflicts or separate the uses. While potential conflicts may be obvious with the development of homes or factories, the conflicts associated with a military base are usually less obvious to developers. The factors causing the most incompatibility issues are those uses which pose a safety or security threat to the military facility or surrounding area or those uses which have an adverse affect on the military installations' ability to efficiently fulfill their mission.

[14] Bay County JLUS, 2009
[15] Bay County JLUS, 2009

As part of this study, potential conflicts between BPRF and nearby land uses were reviewed. At present, a majority of the land in closest proximity to BPRF is owned by the State of Maryland and managed as a Wildlife Management Area. Concerns were expressed during stakeholder meetings about potential conflicts between hunting activities on the State lands and the NRL facility located nearby. The Army and DNR have discussed a 300 foot buffer zone requirement for activities at the Wildlife Management Area in an effort to resolve this potential conflict.

At present, no other major land use conflicts have been identified. Meetings with BPRF leadership, stakeholders, and the general public have concluded that current land use appears compatible between BPRF and nearby properties. However, concern has been raised about future development and potential conflicts which may arise as a result.

The land immediately adjacent to BPRF was recently purchased by the State of Maryland and is now a wildlife management area under the ownership of the State of Maryland. This alleviates many potential conflicts that might be associated with a concentrated housing development. Much of the remaining land within the BPRF study area is protected from potential conflicts in other ways, including conservation easements, Critical Area buffers, and other similar programs as explained later in this document.

2.6 Public Trespassing

Definition: Trespassing is the intrusion, either purposeful or unintentional, in a physical or non-physical manner[16].

Public trespassing has not been a major problem at BPRF, but remains a concern for the facility with respect to both public safety and military security. During the course of this study, a fence was added to separate the northern portion of BPRF from the neighboring property. Given BPRF's long shoreline, however, public trespassing can still occur by water. BPRF has reported several incidents where curious members of the public have made their way onto BPRF property only to be asked to leave. Signs are clearly posted around the perimeter of BPRF advising the presence of a military facility and prohibiting trespassing.

With the recent acquisition by the state of the Wildlife Management Area to the north of this facility, an increase in public presence in the area provides additional potential for trespassing onto BPRF property.

[16] Random House Dictionary, Inc., 2010

2.7 Other Potential Areas of Community Concern

2.7.1 Explosives Transport/Storage

BPRF conducts explosives, pyrotechnics, and energetics testing at this site. All materials are stored, handled, and transported in strict compliance with applicable federal standards. Studies suggest that risks to the public outside of BPRF property are considered to be minimal.

2.7.2 Aircraft

No fixed-wing aircraft operations take place at BPRF. Unmanned aircraft, rockets, and parachutes are used at times for testing. On limited occasions, helicopters use the facility for night-time training. Risk to the public outside of BPRF property is considered to be minimal. There is currently no airspace restriction at BPRF; aircraft can fly as low as 500 ft over the site. Aircraft routinely fly over this facility en route to local airports, including nearby Maryland Airport, located in Pomonkey, Maryland. Testing at BPRF can occur at elevations up to 10,000 ft. in accordance with BPRF's Controlled Firing Area (CFA) agreement with the Federal Aviation Administration (FAA).

2.7.3 Contaminated Lands/Water Quality

Many decades of research and testing at BPRF has resulted in explosives contamination over a significant portion of BPRF's property. The most recent Environmental Assessment, performed in 1990, indicates that the cost to clear unexploded ordnance (UXO) at BPRF was $31 million at that time. Cleanup at BPRF is an ongoing operation, as funding becomes available. Many tests for contamination have been conducted to identify the areas with the highest levels of contamination. The greatest safety risk at BPRF is the UXO that is buried at depths up to 20 feet but may surface from time to time due to erosion and frost heave. While testing of explosive devices and projectiles over adjacent waterways is no longer conducted, UXO contamination within waterways remains from prior years of weapons testing. As UXO contamination is confined to underground areas within the boundaries of BPRF as well as underwater areas of the adjacent waterways, currently there is very little risk to the public.

2.8 Summary of Compatibility Concerns

Table 2-4: Summary of Compatibility Concerns		
Compatibility Concern	**From Sources External to BPRF**	**From Within BPRF**
Noise	✓	✓
Vibration		✓
Radio Frequency Interference	✓	✓
Vertical Obstructions	✓	
Land Use	✓	
Explosives Transport & Storage		✓
Public Trespassing	✓	
Aircraft	✓	
Contaminated Lands / Water Quality		✓

DATA & ANALYSIS

3.0 General

The BPRF study area is rural in nature with population and density relatively low compared to other areas of Charles County. Zoning districts in the study area are amongst the most restrictive in the County, geared mainly towards agricultural and related services as well as low-density housing. A large percentage of the BPRF study area is currently protected through easements, land use restrictions, and natural resource programs. There are still portions of the study area that are not protected and could see significant development in the future. This potential for development creates potential encroachment concerns for BPRF.

3.1 Demographics

Data used for this study includes 2010 Census demographic data supplemented by Nielson-Claritas data and projections. Nielson-Claritas is a private company which provides analysis and projections for demographic data in narrowly defined geographic areas. For this study, Nielson-Claritas data has been used as a supplement where Census data or projections are unavailable. 2009 American Community Survey data was used in instances where 2010 Census data was not yet available.

For purposes of this study, "BPRF surrounding area" refers to the Census Block Groups which are within the study area. The data is being used for comparative purposes only, as only portions of each of these Census Block groups are located within the study area and thus the data do not completely reflect the study area. The "Study Area" is based on 2009 estimates and projections created by Nielson-Claritas for the actual study area used in this study. The BPRF surrounding area is shown on Map 5, Census Geography.

Charles County's population grew 21.5% from 2000 to 2010.[17] Population within the BPRF study area increased by 11.7% from 2000 to 2010. Table 3.1 shows population changes for the BPRF study area, the BPRF surrounding area, and Charles County.

[17] U.S. Census Bureau

3.1.1 Population

Table 3-1: Population Change					
County or Study Area	**1990**	**2000**	**% Change (90-00)**	**2010***	**% Change (00-10)**
Blossom Point Study Area	696	696	0.0%	778	11.7%
Blossom Point Surrounding Area	6,285	6,693	6.5%	7,182	7.3%
Charles County	101,154	120,546	19.2%	146,551	21.5%

Source: U.S. Census Bureau SF1-P1 2000; Claritas Inc. 2010; Census Bureau DP-1 2010
** Study Area 2010 data from Claritas Inc. Report 2009 Estimate.*

Table 3-2 shows that the population of the BPRF study area has remained approximately 0.5% of the population of Charles County.

Table 3-2: Percent of County Population Totals			
County or Study Area	**1990**	**2000**	**2010***
Blossom Point Study Area	0.6%	0.6%	0.5%
Blossom Point Surrounding Area	6.2%	5.5%	4.9%

*Source: U.S. Census Bureau SF1-P1 2000; Claritas Inc. 2010; Census Bureau DP-1 2010; U.S. Census Bureau Estimates Program 2009; * Study Area 2010 data from Claritas Inc. Report 2009 Estimate.*

Table 3-3 shows that the population density of the BPRF study area was 17.7 persons per square mile in 2000 and estimated at 19.8 persons per square mile in 2010. This is significantly lower than the population density of Charles County, which was 262.0 persons per square mile in 2000 and was 318.5 persons per square mile in 2010.

Table 3-3: Population Characteristics											
County or Study Area	**Square Miles**	**Acres**	**1990**	**Persons per Square Mile**	**Persons per Acre**	**2000**	**Persons per Square Mile**	**Persons per Acre**	**2010***	**Persons per Square Mile**	**Persons per Acre**
Blossom Point Study Area	*39.3*	*25,150*	**696**	17.7	0.03	**696**	17.7	0.03	**778**	19.8	0.03
Blossom Point Surrounding Area	*104.9*	*67,116*	**6,285**	59.9	0.09	**6,693**	63.8	0.10	**7,182**	68.5	0.11
Charles County	*460.1*	*294,448*	**101,154**	219.9	0.34	**120,546**	262.0	0.41	**146,551**	318.5	0.50

Source: U.S. Census Bureau SF1-P1 2000; Claritas Inc. 2010; U.S. Census Bureau DP-1 2010.
** Study Area 2010 data from Claritas Inc. Report 2009 Estimate.*

Table 3-4 shows a breakdown of population by age within the BPRF study area as compared with Charles County and Maryland. The median age within the study area is 40.7, higher than the comparison areas but lower than the Surrounding Area.

Table 3-4: Population by Age Group 2010*

Age Group	Blossom Point Study Area*		Blossom Point Surrounding Area		Charles County		Maryland	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 5 years	37	4.8%	400	5.6%	9,438	6.4%	364,488	6.3%
5 to 9 years	39	5.0%	416	5.8%	10,233	7.0%	366,868	6.4%
10 to 14 years	44	5.7%	477	6.6%	11,668	8.0%	379,029	6.6%
15 to 24 years	106	13.6%	921	12.8%	20,264	13.8%	799,939	13.9%
25 to 34 years	105	13.5%	639	8.9%	17,175	11.7%	762,042	13.2%
35 to 44 years	102	13.1%	924	12.9%	23,218	15.8%	795,572	13.8%
45 to 54 years	129	16.6%	1,380	19.2%	24,797	16.9%	902,204	15.6%
55 to 59 years	66	8.5%	592	8.2%	8,775	6.0%	377,989	6.5%
60 to 64 years	49	6.3%	492	6.9%	7,131	4.9%	317,779	5.5%
65 to 74 years	62	8.0%	591	8.2%	8,558	5.8%	386,357	6.7%
75 to 84 years	31	4.0%	275	3.8%	3,877	2.6%	223,159	3.9%
85 years and over	8	1.0%	75	1.0%	1,417	1.0%	98,126	1.7%
Median Age (years)	**40.7**	**(X)**	**43.2**	**(X)**	**37.4**	**(X)**	**38.0**	**(X)**

Source: Claritas Inc. 2010; U.S. Census Bureau DP01 2010.
** Study Area 2010 data from Claritas Inc. Report 2009 Estimate.*

3.1.2 Income

Income within the BPRF study area is higher than for Charles County and for Maryland, as shown in Tables 3-5 and 3-6.

Table 3-5: Household Income 2010*

County or Study Area	Less than $15,000	$15,000 to $24,999	$25,000 to $34,999	$35,000 to $49,999	$50,000 and above
Blossom Point Study Area*	3.1%	2.4%	5.2%	6.9%	82.4%
Blossom Point Surrounding Area	Not Available				
Charles County	4.8%	4.7%	3.7%	11.8%	75.0%
Maryland	9.0%	7.3%	7.9%	11.5%	64.4%

Source: Claritas Inc. 2010; U.S. Census Bureau DP03 2010
** Study Area 2010 data from Claritas Inc. Report 2009 Estimate.*

Table 3-6: Economic Facts 2010		
County or Study Area	**Median Household Income**	**% of Families Living Below Poverty Level**
Blossom Point Study Area*	$108,424	1.7%
Blossom Point Surrounding Area	Not Available	
Charles County	$87,007	3.4%
Maryland	$68,854	6.6%

Source: Claritas Inc. 2010; U.S. Census Bureau DP03 2010
** Study Area 2010 data from Claritas Inc. Report 2009 Estimate.*

3.1.3 Housing

Table 3-7 shows there were 291 housing units within the BPRF study area in 2010, a 15.5% increase from 2000. This is compared with a housing unit increase of 25.2% for Charles County as a whole.

Table 3-7: Housing Units					
County or Study Area	**1990**	**2000**	**Percent Change (1990-2000)**	**2010**	**Percent Change (2000-2010)**
Blossom Point Study Area	224	252	12.5%	291	15.5%
Blossom Point Surrounding Area	2,222	2,555	15.0%	2,592	1.4%
Charles County	34,487	43,903	27.3%	54,963	25.2%

Source: U.S. Census Bureau SF3-H1 2000; Claritas Inc. 2010; Census Bureau QT-P11 2010; Census Bureau DP04 2010
** Study Area 2010 data from Claritas Inc. Report 2009 Estimate.*

Table 3-8 shows the housing value within the BPRF study area is 15.2% more than the median value of housing in Charles County.

Table 3-8: Housing Value 2010						
Subject	Blossom Point Study Area		Blossom Point Surrounding Area		Charles County	
	Number	Percent	Number	Percent	Number	Percent
VALUE						
Less than $50,000	4	1.5%	Not Available		1,218	3.1%
$50,000 to $99,999	1	0.4%	Not Available		292	0.7%
$100,000 to $149,999	5	1.9%	Not Available		500	1.3%
$150,000 to $199,999	14	5.4%	Not Available		2,551	6.5%
$200,000 to $299,999	52	20.0%	Not Available		13,423	34.1%
$300,000 to $499,999	128	49.2%	Not Available		15,885	40.4%
$500,000 to $999,999	51	19.6%	Not Available		4,912	12.5%
$1,000,000 or more	3	1.2%	Not Available		531	1.4%
Median (dollars)	**$364,458**	**(X)**	Not Available		**$316,400**	**(X)**

Source: Claritas Inc. 2010; U.S. Census Bureau DP04 2010
Note: Blossom Point Study Area calculations are derived from 2009 Claritas Inc Estimates.

Table 3-9 shows subdivisions located within or intersecting the BPRF study area.

Table 3-9: Subdivisions	
Subdivision Name	**Acreage**
Brentland	13.4
Cedar Grove	129.4
Dyer	32.9
Gunston Estates	80.7
Henson Landing Farms	103.8
Malnati Estates	18.6
Melany Acres	73.9
Moore, J.A.	145.5
Nanjemoy Waterfront Farms	68.0
Taylor Neck	118.9
The Napping	104.2
Welcome Acres	247.9
Total Subdivisions within or intersecting Blossom Point Study Area	***1,137.1***

Source: Charles County GIS Datasets.

3.2 Existing Land Use

According to the Maryland Department of Planning (MDP), existing land use within the BPRF study area is Very Low Density Rural (1 unit per 5+ acres), Low Density Residential (1 to 2 units per 5 acres), Agricultural, and Forest.[18]

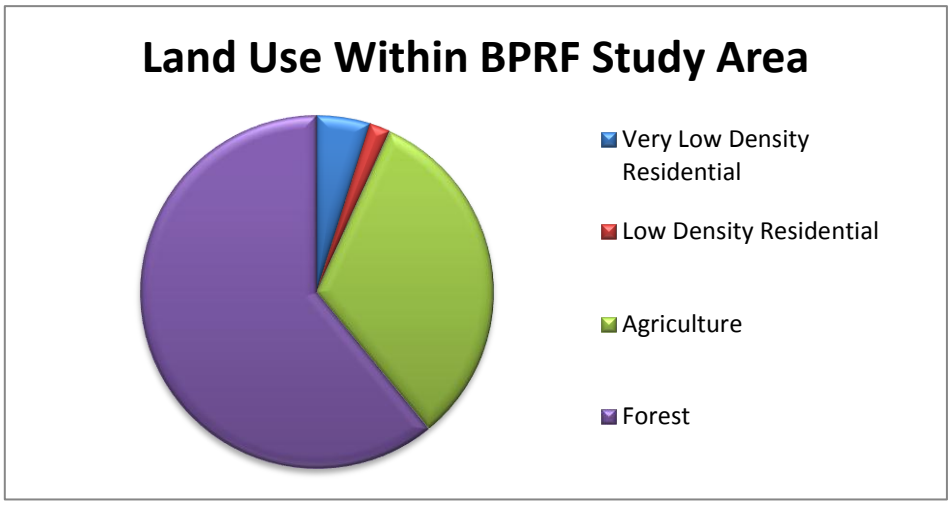


Figure 3-1

The area surrounding BPRF is used primarily for farming with a few scattered residential properties along Blossom Point Road. The area immediately north of BPRF is a state wildlife management area (Cedar Point WMA) which provides public recreational opportunities. In general, new residential development within the study area is limited to one dwelling unit per 3 acres, with density bonuses allowed if moderately priced housing is provided.

The shoreline along most of Charles County, including BPRF and neighboring properties, is designated as a Resource Conservation Zone as part of the states' Chesapeake Bay Critical Area law and Critical Area provisions in the Charles County Zoning Ordinance. Within this area, residential density is decreased to one dwelling unit per 20 acres. The critical area boundary extends 1,000 feet in from the water's edge or boundary of any tidal wetland.

Table 3-10 shows a breakdown of land use within the BPRF study area as compared to Charles County. Map 6 depicts land use and land cover within the study area and adjacent areas of Charles County.

[18] Maryland Department of Planning, 2007. Land Use Definitions are as defined by MDP.

Table 3-10: General Land Use									
General Land Use	Blossom Point Research Facility			Blossom Point Study Area			Charles County		
	Number of Properties	Acres	Percent of Total Acres	Number of Properties	Acres	Percent of Total Acres	Number of Properties	Acres	Percent of Total Acres
Very Low Density Rural (1 unit per 5+ acres)	0	0.0	0.0%	57	493.1	2.5%	1,098	19,624.7	6.8%
Low Density Residential (1 to 2 units per 5 acres)	0	0.0	0.0%	57	193.7	1.0%	4,998	33,268.3	11.3%
Medium Density Residential (2 to 8 units per acre)	0	0.0	0.0%	0	0.0	0.0%	1,078	7,706.0	2.6%
High Density Residential (8+ units per acre)	0	0.0	0.0%	0	0.0	0.0%	863	2,179.1	0.7%
Commercial	0	0.0	0.0%	2	40.7	0.2%	440	3,145.4	1.1%
Industrial	0	0.0	0.0%	0	0.0	0.0%	27	1,651.6	0.5%
Institutional	1	38.9	2.5%	1	53.4	0.3%	113	4,454.9	1.5%
Surface Mining	0	0.0	0.0%	0	0.0	0.0%	6	1,092.4	0.4%
Private Recreation	0	0.0	0.0%	0	0.0	0.0%	6	1,063.6	0.3%
Agriculture	0	336.1	21.7%	35	3258.2	16.5%	812	47,944.4	16.3%
Forest	0	932.8	60.3%	63	6148.7	31.1%	2,371	163,127.7	55.4%
Water	0	0.7	0.1%	0	8341.7	42.3%	84	374.1	0.1%
Wetlands	0	238.2	15.4%	8	1199.9	6.1%	40	6,714.7	2.3%
Transportation	0	0.0	0.0%	0	0.0	0.0%	1	590.2	0.2%
Under Development	0	0.0	0.0%	0	0.0	0.0%	175	1,388.8	0.5%
Total	**1**	**1,546.7**	**100.0%**	**223**	**19729.3**	**100.0%**	**12,112**	**294,325.9**	**100.0%**
Square Miles	-	*2.4*	-	-	*30.8*	-	-	*459.9*	-

Source: Charles County GIS Datasets.

3.2.1 Existing Land Use – Residential and Rural

Existing land use in proximity to BPRF is predominately agricultural and residential, with low density and well dispersed dwellings and agricultural buildings. There are few modern subdivision developments in the study area at this time.

3.2.2 Existing Land Uses – Non-Residential

3.2.2.1 Goose Bay Marina

Goose Bay Marina[19] is located just to the northeast of BPRF. It is a privately owned marina and campground with 250 boat slips, 3 boat ramps, and 90 campsites. Boat slips and campsites are equipped with electric and water hookups. A swimming pool, shower and bath facilities, small store and other amenities are also provided.

[19] http://goosebaymarina.com/index.htm

3.2.3 Parks and Public Land

3.2.3.1 Cedar Point Wildlife Management Area

The Maryland State Department of Natural Resources acquired a 1,926 acre site just north of BPRF in April of 2009 with funding from Maryland's "Program Open Space (POS)" which is a fund established through a 0.5% real estate transfer tax. This site is now known as the Cedar Point Wildlife Management Area and consists of a mix of forested and upland habitats as well as tidal marsh, non-tidal ponds, wetlands, and agricultural fields.[20] A Wildlife Management Area Planning Process is currently underway by the Department of Natural Resources to determine the future of this site. At present it is anticipated that this site will remain much as it currently is – a natural environment for wildlife preservation and enhancement with no intensive recreational uses and no boat ramp, except for a possible small scale ramp for waterfowl hunting. Visitors are welcome to explore the site and enjoy the wide variety of wildlife present, including bald eagles, osprey, hawks, turtles, and herons. A myriad of other wildlife is also present throughout the year.

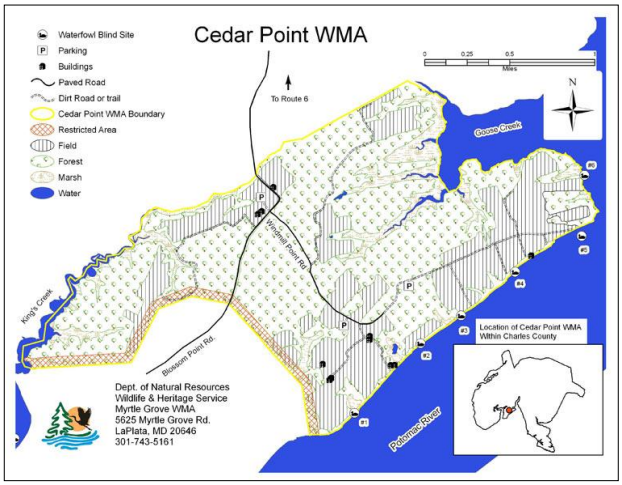


Figure 3-2

Hunting is allowed at the site during normal Maryland hunting seasons. The facility's size would accommodate approximately 72 hunters, based on a normal hunting density of 1 person per 25 acres. A 300-foot restricted area has been established by agreement between the Maryland Department of Natural Resources and the U.S. Army along the southern boundary of the Cedar Point site where it abuts the BPRF property. Within the restricted area cameras and hunting are not permitted. Signs have been placed in this area to inform the public of these restrictions. Portions of this buffer area are within 800 feet of the NRL facility at BPRF.

Two parking areas are currently in place, with a total capacity of 22 vehicles. A third parking area with an additional 10 vehicle capacity is being considered. All vehicles are required to park within the designated areas, which are remote from one another in order to disperse hunters and visitors. ATVs are not permitted on-site, other than for official use. "Hunt from Vehicle" permits are available to those in need of accessibility related reasonable accommodations.

[20] http://www.dnr.maryland.gov/publiclands/southern/cedarpoint.asp

The Department of Natural Resources has not seen any impact on wildlife from the activities at BPRF nor have they expressed concern about any future impact from BPRF. BPRF officials have expressed concern about the close proximity of hunting at Cedar Point but have agreed to monitor the situation and continue close communication with DNR.

3.2.3.2 Chapel Point State Park

Chapel Point State Park is a 600 acre facility located along the eastern shore of the Port Tobacco River, a tributary of the Potomac River. The park is located to the northeast of BPRF, just across the water from Brentland. The park is owned and maintained by the Maryland Department of Natural Resources as an "undeveloped multi-use park."[21]

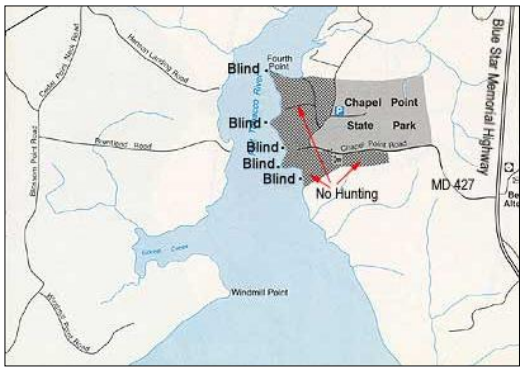


Figure 3-3

This park contains natural habitats for such wildlife as quail, squirrels, doves, white-tailed deer, wild turkey, and waterfowl. Hunting and fishing are permitted at this facility with appropriate licenses. Four permanent waterfowl blinds are available to hunters. A paddle-in campsite is also available.

3.2.4 Future Development Potential

While a large portion of the BPRF study area is comprised of protected or preserved lands or lands otherwise extremely restricted from development, approximately 2,610 acres of land remain available within the study area for development with little or no protection other than zoning. Based on zoning densities permitted in the Charles County zoning regulations, approximately 352 new dwelling units could potentially be developed within the study area. The future development potential depicted in Table 3-11 and Map 7 assumes that all available land is developed into dwelling units, as opposed to other permitted uses. The density bonus for moderately priced housing has not been taken into account – having done so would have increased the potential number of new units. This table only illustrates residential development. As other uses are permitted within the study area, either by right or by special exception, other build-out scenarios are possible.

[21] http://www.dnr.state.md.us/publiclands/southern/chapelpoint.html

Table 3-11(a) depicts land with development potential within the BPRF study area. This area contains approximately 11,555 acres located within three zoning districts. The Critical Area overlay winds through nearly one half of the study area. Based on zoning densities within each district and the Critical Area overlay, a maximum number of residential units has been determined. From this, the number of existing residential units in each district has been deducted. As a result, it has been determined that approximately 352 new residential units could be built within the BPRF study area. Within the Critical Area overlay, there currently exist more units than would be permitted if developed at this point in time. Thus, no new units could be built under the current Critical Area overlay zoning. See Appendix D for more detail on methodology and land area breakdowns.

Table 3-11(a): Land with Development Potential

Zoning District / Density	Within Study Area				
	Total Land (Acres)	Land with Development Potential (Acres)	Maximum Permitted Development (Units)	Existing Development (Units)	Potential New Development (Units)
AC - Agricultural Conservation / 1 unit per 3 acres	5,834.7	1,490.1	496	153	343
RC - Rural Conservation / 1 unit per 3 acres	242.1	30.6	10	1	9
CN - Neighborhood Commercial / 1 unit per .5 acres	2.6	0.1	0	0	0
Critical Areas / 1 unit per 20 acres	5,475.5	1,089.6	52	69	0*
TOTALS	***11,554.9***	***2,610.4***	***558***	***223***	***352***

*Highlighted items are shown as zero as the actual number would be negative (number existing exceeds number allowed under current regulations).

Table 3-11(b) depicts land with development potential within the identified Impact Area, as shown on Map 9. The Impact Area is the area within the Study Area which has been identified by the military as the area of most concern to BPRF with respect to frequency interference from the neighboring community, which is not identified as land with very limited development potential on Map 7. This area contains approximately 6,633 acres located within three zoning districts. The Critical Area overlay winds through over one half of the Impact Area. Based on zoning densities within each district and the Critical Area overlay, a maximum number of residential units has been determined. From this, the number of existing residential units in each district has been deducted. As a result, it has been determined that approximately 78 new residential units could be built within the Impact Area. Within the Critical Area overlay, there currently exist more units than would be permitted if developed at this point in time. Thus, no new units could be built under the current Critical Area overlay zoning. See Appendix D for more detail on methodology and land area breakdowns.

Table 3-11(b): Land with Development Potential					
Zoning District / Density	Within Impact Area				
	Total Land (Acres)	Land with Development Potential (Acres)	Maximum Permitted Development (Units)	Existing Development (Units)	Potential New Development (Units)
AC - Agricultural Conservation / 1 unit per 3 acres	2,699.3	282.9	94	16	78
RC - Rural Conservation / 1 unit per 3 acres	0.0	0.0	0	0	0
CN - Neighborhood Commercial / 1 unit per .5 acres	2.6	0.1	0	0	0
Critical Areas / 1 unit per 20 acres	3,931.4	744.5	35	48	0*
TOTALS	***6,633.3***	***1,027.5***	***130***	***64***	***78***

*Highlighted items are shown as zero as the actual number would be negative (number existing exceeds number allowed under current regulations).

Source: Charles County GIS Datasets.

Land within the Impact Area which has Non-Percable, or "poorly drained" soils has been excluded from consideration as "land with development potential". These land areas would most likely not be approved for a conventional or alternative on-site disposal systems (OSDS). Land within areas identified as "Non-Percable Soils" are considered non-buildable for the purposes of this report. A review of this study may be required at some point in the future if Best Available Technology (BAT) allows for an OSDS on lands containing non-percable soils.

Based on discussions with property owners within the study area, the full development of all available land appears to be a remote possibility at this time. Many of the properties in this area have been held in single ownership for many years. There generally is not a strong desire at this time to sell large tracts of land in this area for new development. However, several property owners have indicated that as they look to the future, they could not rule out the possibility of eventually selling their land.

3.2.5 Future Land Use Impact

The development of 352 new residential units could make it difficult for the military to fulfill their mission at BPRF. Noise and frequency use from day to day residential and neighborhood activities as well as increased noise from vehicle traffic, could create direct disruptions to BPRF activities. Development of non-residential uses could have similar impact on BPRF's operations.

3.3 Community Services

Existing community service providers in the area are not located within the BPRF study area.

Medical: The nearest emergency medical center is the Civista Medical Center in La Plata, Maryland, approximately 12 miles from BPRF.


Nanjemoy Volunteer Fire Department

EMS: Emergency ambulance service is provided by the Ironsides Volunteer Rescue Squad located approximately 10 miles from BPRF.

Education: The College of Southern Maryland has two campuses located within Charles County, one in La Plata and the other in Waldorf.

Fire Protection: The Nanjemoy Volunteer Fire Department is the primary responder for BPRF. The fire station is located approximately 14.6 miles from BPRF.

Police: The Charles County Sheriff's Department provides law enforcement protection to the area. Maryland State Police and the La Plata Police also provide service in the area. La Plata's police station is approximately 10 miles from BPRF.

3.4 Proposed Improvements in Study Area

3.4.1 Infrastructure

No new infrastructure is planned within the BPRF study area.

Sewer: Sanitary sewer within the study area is provided through the use of on-lot sewage disposal systems. The 2006 Charles County Comprehensive Plan does not contemplate the extension of public sewer into the study area.

Water: Potable water within the study area is provided through the use of individual private wells. The 2006 Charles County Comprehensive Plan does not contemplate the extension of public water in to the study area.

Transportation: With the exception of a very small portion of Port Tobacco Road (MD 6) near Welcome, Maryland, all roads in the BPRF study area are minor

collector or local. Port Tobacco Road is a Major Collector Road running from La Plata, Maryland west, then south to Riverside just south of BPRF on the west side of where the Nanjemoy Creek meets the Potomac River.

3.4.2 Community Facilities

No new community facilities are proposed within the BPRF study area.

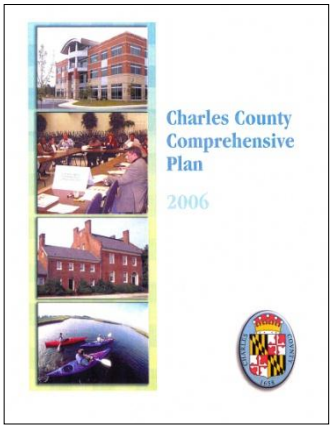
3.5 On-Post Improvements

No new on-post improvements are contemplated for BPRF at this time. Management of the facility has indicated that over the next several years they would like to see improvements to their access points, buildings, and facilities, but none of these improvements are anticipated to change or increase the scope or mission of the facility.

Future partnerships with other federal agencies at BPRF are anticipated to be consistent with current facility missions and should have no additional impact on the facility or neighboring community.

3.6 Relationship to the Comprehensive Plan

The current 2006 Charles County Comprehensive Plan is an update to the 1997 Comprehensive Plan. This plan directs and manages the future development of Charles County. As stated in the plan, the document addresses eight primary land use visions:



1. Development is concentrated in suitable areas;
2. Sensitive areas are protected;
3. In rural areas, growth is directed to existing population centers and resource areas are protected;
4. Stewardship of the Chesapeake Bay and the land is a universal ethic;
5. Conservation of resources, including a reduction in resource consumption, is practiced;
6. To assure the achievement of the above, economic growth is encouraged and regulatory mechanisms are streamlined;
7. Adequate public facilities and infrastructure under control of the county or municipal corporation are available or planned in areas where growth is to occur; and

8. Funding mechanisms are addressed to achieve these visions.

At the time of this report, Charles County was in the process of updating the County's Comprehensive Plan. It is anticipated that this JLUS will be incorporated by reference into the 2012 update of the Comprehensive Plan.

3.7 Ordinances and Regulations

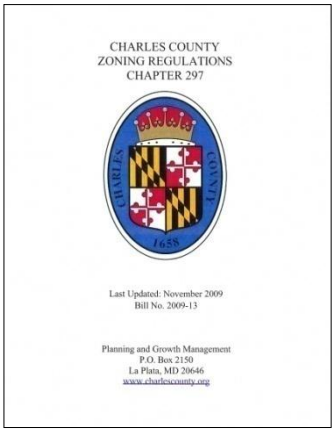
A majority of the land area around BPRF is zoned Agricultural Conservation (AC) and Rural Conservation (RC). There are a few small pockets of non-residentially zoned areas, including Neighborhood Commercial (CN) and Village Commercial (VC) within the study area.

Table 3-12 and Map 8 show the zoning of lands within the BPRF study area.

Table 3-12: Zoning Districts

Zoning District	Total Acres	Total Square Miles	Percent of Total
Blossom Point Research Facility			
AC - Agricultural Conservation	1,546.6	2.41	100.0%
Blossom Point Study Area			
RC - Rural Conservation	627.4	0.98	5.5%
AC - Agricultural Conservation	10,745.1	16.79	94.3%
CN - Neighborhood Commercial	23.7	0.04	0.2%
Blossom Point Study Area (Area within 3 Mile Radius of Blossom Point Study Area)			
RC - Rural Conservation	13,847.2	21.64	23.9%
AC - Agricultural Conservation	43,491.6	67.95	75.0%
RM - Medium Density Suburban Residential	10.1	0.02	0.0%
RV - Village Residential	296.1	0.46	0.5%
CN - Neighborhood Commercial	23.7	0.04	0.0%
CC - Community Commercial	32.9	0.05	0.1%
CV - Village Commercial	286.9	0.44	0.5%
IG - Light Industrial	11.0	0.02	0.0%

Source: Charles County GIS Datasets.


CHARLES COUNTY
ZONING REGULATIONS
CHAPTER 297

Last Updated: November 2009
Bill No. 2009-13

Planning and Growth Management
P.O. Box 2150
La Plata, MD 20646
www.charlescounty.org

§ 297-87. AC - The Agricultural Conservation Zone provides a full range of agricultural and farming activities, protects these established uses from encroaching development which might adversely affect the agricultural economy of the county and encourages the right to farm in the county without undue burden on the landowner. The zone is to prevent premature urbanization in areas where public utilities, roads and other public facilities are planned to meet exclusively rural needs and where present public programs do not propose public facility improvements suitable for development at higher densities. This zone provides for certain agriculture-related commercial and industrial uses with special conditions. Such uses are to accommodate flexibility in the use of lands by those persons or organizations that pursue agriculture activities and/or earn their income from agriculture when these uses are not in conflict with the protection of farmland and support protection of the farm economy. The zone protects existing natural resources and scenic values and provides limitations on residential development and encroachment in these areas dominated by agricultural uses. In addition, the zone assists in the implementation of the county's Transferable Development Rights (TDR) Program by providing an appropriate zone to be designated as a sending area.

Uses permitted within the AC zoning district are shown in Appendix A of this document.

§ 297-88. RC – The Rural Conservation zone is intended to maintain rural character in many county areas consistent with the Comprehensive Plan. This zone maintains low-density residential development, preserves the rural environment and natural features and established character of the area. It also maintains existing agricultural and aquacultural activities and the land base necessary to support these activities.

Within the RC zoning district, the following provisions for the protection of agricultural uses shall apply:

1) Any agricultural use of land is permitted
2) Operation, at any time, of machinery used in farm production or the primary processing of agricultural products is permitted.
3) Normal agricultural activities and operations in accordance with good husbandry practices, which do not cause bodily injury or directly endanger human health, are permitted and preferred activities, including activities which may produce normal agriculturally related noise and odors.
4) The sale of farm products produced on the farm where the sales are made is permitted.

5) The Planning Commission may, upon findings of fact, require the establishment of buffer zones where necessary to protect abutting agricultural or rural countryside conservation zone areas from the impact of the subdivisions hereafter approved.

§ 297-108 PEP – Planned Employment / Industrial Park zone is a floating zone established for planned developments of light and medium industrial uses along with related commercial uses.

Along the shoreline areas there is a Critical Area Overlay Zone.

§ 297-126. The purpose of the Critical Area Overlay Zone is to establish special regulatory protection for the land and water resources located within the Chesapeake Bay Critical Area in Charles County. Land use development standards and requirements established herein are intended to foster more sensitive development activity for shoreline areas and to minimize the adverse impacts of development activities on water quality and natural habitats. This chapter implements the Charles County Critical Area Program and the requirements of the Maryland Critical Area Law and the Critical Area criteria and is adopted pursuant to the Natural Resources Article, Title 8, Subtitle 18, of the Annotated Code of Maryland, and COMAR 14.15, the Critical Area Criteria.

Within the BPRF study area, there are two designations of the Critical Area Zone:

- Limited Development Zone (LDZ): The density of development and minimum lot sizes permitted within a LDZ shall be governed by prescriptive densities within the applicable underlying base zone districts. However, in underlying base zones that permit residential use, density may not exceed four units per acre.
- Resource Conservation Zone (RCZ): Residential densities in the RCZ shall be limited to no more than one dwelling unit per 20 acres, except as provided for elsewhere in the ordinance.

ALTERNATIVES

The Joint Land Use Study (JLUS) process examines many potential alternatives for insuring long-term compatibility between a military installation and the neighboring community. Not all alternatives are appropriate for all communities. This chapter provides a general discussion of the various tools and alternatives that have been used by other jurisdictions. The next chapter, Chapter 5, will discuss specific recommendations and strategies for Charles County and BPRF based on the specific compatibility concerns identified in the previous chapters.

4.1 Implementation and Changes to the Comprehensive Plan

The current Charles County Comprehensive Plan is scheduled to be updated in 2012. At present, the Comprehensive Plan makes several references to military facilities within Charles County, but does not address these facilities in any detail. With the presence of BPRF, Indian Head, Pomonkey, and Stump Neck, as well as major military installations in neighboring St. Mary's and Prince George's counties, the military's presence has a significant impact on the County, with respect to economic development, transportation, housing, and community facilities. Military facility planning may be an appropriate component of a comprehensive plan, and issues evaluated might include:

- The future growth potential of the military installations, within a county and surrounding counties;
- The potential effects of continued area development to the mission of military installations within a county;
- The appropriateness of permitted uses, development densities, and design criteria (i.e. building size, height, and floor area ratios) in areas near military installations; and
- The consideration of additional TDR sending areas near military installations.

4.2 Zoning Ordinance Tools

Upon completion of new or updated comprehensive plans, counties may consider an evaluation of the Zoning Ordinance to ensure consistency with the new Comprehensive Plan. At that time, zoning issues involving military installations, may be examined. Zoning ordinance tools can include zoning ordinance text and/or zoning map changes.

4.2.1 Zoning Ordinance Text Changes

Zoning Ordinance text changes might include any or all of the following alternatives:

- **The creation of a Military Influence Area Overlay District (MIOD)**. A MIOD can provide counties with opportunities to create specific requirements pertaining to lands in proximity to County military installations.

- **A decrease in the types of uses permitted by right.** Either as a change to existing zoning district language, or as part of a new MIOD, the number and type of uses permitted by right might be decreased to ensure compatibility between neighborhoods and military facilities.

- **An increase in the types of uses permitted by special exception.** To offset a reduction in the number and types of uses permitted by right, the counties may wish to make some uses currently permitted by right allowable by special exception, thus giving counties additional opportunity to review the specific nature of proposed development and uses, and to apply additional requirements for approval in order to protect the interests of a county, including the mission of the military facilities.

- **Additional special exception requirements.** Additional special exception requirements for uses in a new MIOD, or in districts in proximity to military installations, might include additional restrictions on height, radio frequency usage, traffic, and density.

- **Specific restrictions near military installations.** Specific restrictions might be considered to address specific direct effects on the mission of the military facilities, including such uses as:
    - Electrical substations;
    - Cell towers;
    - Ham radio antennas; and
    - Dense residential development; and
    - Electrical generation wind mills

4.2.2 Zoning Map Changes

Along with changes to the Zoning Ordinance text, counties may wish to consider Zoning Map changes. These changes might include:

- A new Military Influence Overlay District (MIOD);
- Changes to the boundaries of existing zoning districts to better ensure compatibility of uses between military facilities and surrounding lands; and
- The creation of Open Space zoning districts, which would include parks and recreation, such as Wildlife Management Areas.

4.2.3 Performance Standards

Performance standards that might be considered for inclusion in Zoning Ordinances include:

- Height limitations in proximity to military facilities;
- Building area in proximity to military facilities;
- Floor area ratios (FAR) in proximity to military facilities; and
- Minimum spacing between buildings in proximity to military facilities (to prevent dense concentrations of buildings which create the greatest potential interference with the mission of military facilities).

4.3 Land Preservation Programs

Land preservation programs provide opportunity for land to be preserved with little or no development. Preservation can help prevent encroachments to nearby military facilities, while also maintaining the rural and agricultural character of areas in proximity to military facilities. There are many different preservation programs available to property owners and a county, each with their own specific program eligibility requirements. As a tool to prevent encroachment to military facilities, it is important that preservation programs used are permanent in order to provide a level of assurance that future land use in the area does not suddenly change as could occur upon the expiration of an easement. The Army supports the current 2006 Charles County Comprehensive Plan's goal of having 50% open space within the county. The following sections of this study discuss the specific preservation programs and tools available to property owners.

4.3.1 Conservation Easements

Conservation easement programs are an opportunity for property owners to donate or sell development rights to a trust or conservancy. By doing so, the property can be permanently protected in its current state. Depending on the specific program, some minor development, such as a single dwelling unit or accessory buildings may be permitted, but subdivisions, new

developments, and major construction would be limited. This can provide many advantages to the community and to military facilities.

Table 4-1 Advantages of Conservation Easements	
Community	**Military**
Protection of rural character of community	Reduced risk of encroachment from new development
Protection of property values	Protection of "quiet" rural setting
Protection from sprawl and new development	Ability to remain isolated
Tax deduction opportunities	Ability to continue to meet military mission

4.3.1.1 Donated Easements

Within the State of Maryland there are numerous programs available for the donation and/or purchase of conservation easements. Donated easements account for approximately 110,000 acres, or 25% of all permanently protected lands in the State of Maryland.

Donated easements involve a property owner donating an interest in their property to a trust or conservatory. Each easement is designed to be unique to the needs of the property owner and acquiring organization and usually include restrictions on future building construction, subdivision, and land development. In return for the donation, property owners are usually eligible for income tax deductions. Properties with donated easements usually remain on the tax rolls for property tax, but often at a reduced assessment value. With income tax deductions and reduced property taxes, the donation of easements can provide a significant economic incentive to property owners.

The Conservancy for Charles County[22] is the only non-profit land trust dedicated exclusively to the preservation of land in Charles County. The Conservancy was established as a 501(c)(3) charitable tax-exempt organization in 1996 and is affiliated with the National Land Trust Alliance. The Conservancy currently holds easements on over 1,400 acres on Charles County.

According to the Conservancy, a conservation easement has the following characteristics:

- It is perpetual.
- It runs with the deed to the land.
- It applies to all successor owners of the land.

[22] www.conservecharles.org

Each deed of conservation easement reflects the property's individual character and the long-term aims of its current owner. It must also meet defined conservation standards conforming to IRS requirements if the donor wishes to seek a charitable tax benefit. To fit that definition, the easement needs to satisfy one or more of the following criteria:

- It preserves an important natural habitat or ecosystem.
- It maintains a historically important land area or building.
- It results in a significant public benefit by preserving open space (including farmland and forested land) for the scenic enjoyment of the general public or pursuant to a clear governmental policy.
- The land will be used for public outdoor recreation or education.

The process of drawing up an easement document involves taking into account the uses of the land, its natural and/or historical character, and the aspirations of the owner. The Conservancy can furnish useful resource materials to prospective donors, including information about federal and state tax benefits. The Conservancy works closely with landowners to prepare a clearly written and legally sound deed. Once completed to everyone's satisfaction and signed and dated, it is recorded in the county land records office.

Conservancy for Charles County
Standards for the Evaluation of Potential Easements

Scenic Values

- Open space creating or contributing to scenic qualities enjoyed by the public.
- Adjacency or proximity to a recognized scenic byway, landscape, river, or stream.
- An integral element in the protection of a significant viewshed.

Natural Values

- A natural area possessing characteristics such as strong scientific and/or educational value, for example, containing a rich variety of animal and plant life, providing a significant habitat for wildlife, supporting old-growth forest, or providing a home for forest interior-dwelling birds; home to endangered and/or threatened species.
- Capacity to protect water quality, for example, containing a stream valley and/or steep slopes.
- Location within the Chesapeake Bay Critical Area.
- Agricultural and Rural Values
- Farmland in productive use.
- Significant presence of prime productive soils.
- Integral part of a rural setting typical of the traditional rural character of the region.
- Adjacency or proximity to an agricultural preservation district or itself within an agricultural preservation district, either wholly or partly.
- A link to or an integral element in a greenway.

Historic Values

- Listed on the National Register of Historic Places.
- Listed as significant in state and/or local historic inventories.
- Strong potential for historic designation.
- Actual or potential archeological significance.

Relationship to Other Sites

- Adjacency or proximity to land already under protection for its natural assets through conservation easements or other measures.
- Adjacency or proximity to property already under protection for its historic value.
- Adjacency or proximity to agricultural land already under protection.
- Adjacency or proximity to public lands.

Threat of Development

- A strong likelihood of permanent alteration or significant damage or actual destruction through development.
- Location within one of the following threatened watersheds: Mattawoman Creek; Nanjemoy Creek; Port Tobacco; Zekiah-Wicomico.
- Location along the Potomac River shoreline.

The Maryland Environmental Trust (MET)[23] is similar to the Conservancy for Charles County, except that it is a statewide land trust governed by a citizen Board of Trustees, rather than a non-profit Board of Directors. The MET was created by an act of the Maryland General Assembly in 1967 with the goal of "preserving open land, such as farmland, forest land, and significant natural resources." In 1988, the MET developed the Local Land Trust Assistance Program to provide for local land trusts, such as the Conservancy for Charles County.

Another organization involved in the acquisition of donated easements is the Maryland Historical Trust. The Maryland Historical Trust (Trust)[24] is a state agency dedicated to preserving and interpreting the legacy of Maryland's past. Through research, conservation and education, the Trust assists the people of Maryland in understanding their historical and cultural heritage. The Trust is an agency of the Maryland Department of Planning and serves as Maryland's State Historic Preservation Office (SHPO) pursuant to the National Historic Preservation Act of 1966. The MHT acquires easements on properties listed on, or eligible for, the National Register of Historic Places or in locally certified historic districts.

4.3.1.2 Purchased Easements

Purchased easements, otherwise known as the purchase of development rights (PDR) are similar to donated easements except that the acquiring organization pays the property owners some amount of money for the easement. There may still be a property tax deduction if the consideration for the transaction is less than fair market value. Property taxes may also be based on a lower assessed value once the easement is in place.

The following are a few of the many organizations that purchase property easements:

- The Maryland Agricultural Land Preservation Foundation (MALPF) has been in existence since 1977. Its primary purpose is "to preserve sufficient agricultural land to maintain a viable local base of food and fiber production for the present and future citizens of Maryland."[25]
- The Maryland Rural Legacy program "provides the focus and funding necessary to protect large, contiguous tracts of land and other strategic areas from sprawl development and to enhance natural resource, agricultural, forestry, and environmental protection through cooperative efforts among state and local governments and land

[23] http://www.dnr.state.md.us/met/
[24] www.mht.maryland.gov/easement.html
[25] www.malpf.info/facts.html

trusts."[26] At this time, Charles County has directed approved program funding to the Zekiah Swamp Watershed north of Rt. 5. However, at some point in the future this program may be able to provide benefit to other areas of the County.

- The Maryland Conservation Reserve Enhancement Program (CREP) helps landowners plant streamside buffers, establish wetlands, protect highly erodible land, and create wildlife habitat by providing an annual land rental income. The annual payments helps property landowners retain the economic viability of their open space and agricultural areas.
- The Greenprint Program[27] is designed to buy land and conservation easements on lands "considered critical to the long-term ecological health of the State." Critical lands have been identified and mapped by the Maryland Department of Natural Resources. With this program, state and local officials nominate properties for consideration, rather than accepting applications from landowners.
- The Forest Legacy Program is a Maryland Department of Natural Resources program designed to "identify and protect environmentally important forest lands that are threatened by present or future conversion to non-forest use."[28]
- The USDA Farm and Ranch Land Protection Program provides matching funds, in partnership with state and local governments, to purchase development rights to keep productive farm and ranchland in agricultural uses.
- Program Open Space (POS) is a Maryland Department of Natural Resources program designed to acquire outdoor recreation and open space for public use. Although most of the acquisitions are through the purchase of recreational and environmentally sensitive lands, the program does, on occasion, purchase land easements.
- Maryland Scenic Byways is a Maryland State Highway program which works with the National Scenic Byways Program to recognize certain roads based on their intrinsic qualities. In 2006, St. Mary's and Charles Counties received a grant from the Federal Highway Administration (FHWA) in the amount of $150,400 to develop a Byway Management Plan (BMP) for the Religious Freedom Byway.[29] Two of the Religious Freedom Byway roads are within the BPRF study area:
    - Route 6 along north side of the BPRF study area
    - Chapel Point Road, through Chapel Point State Park, on the northeast side of the BPRF study area.

[26] www.dnr.state.md.us/land/rurallegacy/index.asp
[27] www.greenprint.maryland.gov
[28] http://www.dnr.state.md.us/forests/programapps/legacy2.html
[29] http://www.sha.state.md.us/ExploreMD/oed/scenicByways/rfb_finalplan_101508x.pdf

4.3.1.3 Summary of Easement Opportunities in Maryland

There are many other easement and land trust programs available throughout the region. The Maryland Land Conservation Center[30] is a good starting point to research available preservation and conservation opportunities within Maryland. The following is a summary of the easement programs mentioned within this study:

Table 4-2: Conservation Easement Programs in Maryland

Donated Easements	Maryland Environmental Trust	www.dnr.md.us/met
	Maryland Historical Trust	www.mht.maryland.gov/easement.html
	Charles County Conservatory	www.conservecharles.org
Purchased Easements	Maryland Agricultural Preservation Foundation (MALPF)	www.malpf.info
	Rural Legacy Program	www.dnr.state.md.us/land/rurallegacy
	Conservation Reserve Enhancement Program (CREP)	http://www.mda.state.md.us/pdf/crepbrochure09.pdf
	Greenprint Program	www.greenprint.maryland.gov
	Forest Legacy Program	http://www.dnr.state.md.us/forests/programapps/legacy2.html
	USDA Farm and Ranch Land Protection Program (FPP)	http://www.nrcs.usda.gov/programs/frpp/
	Program Open Space (POS)	http://www.dnr.state.md.us/land/pos/index.asp
	Scenic Easements - MDOT	http://www.sha.maryland.gov/OPPEN/tep_chap4.pdf

[30] www.conservemd.org

4.3.2 Transfer of Development Rights

Transfer of Development Rights (TDR) involves the sale, or transfer, of one's development rights in a particular property to another property owner for use on a different property.

A TDR program allows local government the ability to direct density and growth away from sensitive landscapes and rural resource areas. Charles County has had a TDR program since 1992. Development rights can be transferred from sending areas to receiving areas at a rate of one development right per three acres[31]. Sending areas are all properties in the Maryland Agricultural Land Preservation Program and have been recorded in the Charles County Land Records. Receiving areas are properties located in the RL, RM, MX, TOD, PRD, CER, CRR, and CMR zones in the County's Development District.

4.3.3 Other Preservation Tools

There are many tools available for the preservation of land or of specific features on land. These tools can be used individually or together to protect natural resources. Although not as direct of a method as conservation easements, these tools can make the protection of rural lands more viable and prevent unwanted dense development from occurring in areas not suited for such development. As a result, the military, and the community as a whole, can have additional assurances about the protection of their rural community.

[31] Charles County Zoning Regulations, Chapter 297, Article XVII. November 2009

Table 4-3: Other Land Preservation Tools			
Key Tools/Techniques	**Key Advantages**	**Implementation**	**Key Disadvantages**
Preserve and Repair Riparian Buffers	• Reduction of peak storm flow. • Filtering pollutants. • Reduction of nutrients in waterways. • Streambank stabilization. • Stream temperature control.	• Establish buffers, greenways, open space and recreational areas through comprehensive planning. • Support local watershed groups. • Riparian Corridor Conservation District – zoning overlay district. • Consistency between zoning, subdivision/ development and stormwater management ordinances. • Best Management Practices should be implemented by landowners in natural and rural landscapes.	• Establishments of buffers must be clearly tied to health, safety and welfare issues and environmental protection. • A strong buffer awareness program may be required to educate development community and property owners.
Stormwater Management Best Management Practices (BMPs)	• Refer to Section 10.3 for examples of BMPs and other relevant information.	• Part of subdivision/development plans and required by stormwater management ordinances. • Construct stormwater facilities on lands previously developed without such facilities. • Conversion of dry ponds for stormwater management to extended detention or retention facilities which are more effective at nutrient removal. • Requirements of various County and State permits.	• Lack of education/understanding of importance by the public. • Initial cost of some practices may exceed traditional methods to address SWM.
Agricultural Best Management Practices	• ***Animal waste management systems*** are designed to properly handle, store and use waste generated by confined animal facilities. • ***Cover crops*** reduce nitrate leaching losses during the winter and also reduces erosion. • ***Nutrient management plan implementation*** reduces impacts of nutrients due to management practices. • ***Runoff control*** reduces nutrient impacts on waterways.	• ***Animal waste management systems*** include ponds, lagoons and tanks for liquid waste, and sheds or pits for solid waste. • ***Cover crops*** are small grains planted in September or early October on land otherwise fallow with no fertilizer applied. • ***Nutrient management plan implementation*** comprehensive plan to manage the amount, placement, timing and application of animal waste, fertilizer, sludge or other plant nutrients. • ***Runoff control systems*** include ponds, lagoons and tanks for liquid waste and sheds or pits for solid waste.	• Cost associated with use of new equipment and procedures.

	• ***Retirement of highly erodible land*** reduces potential for soil loss. • ***Stream protection*** discourages animals from entering streams. • ***Conservation tillage*** minimal soil disturbance.	• ***Retirement of erodible lands*** • ***Stream protection*** provides troughs or other watering devices in remote locations away from streams to discourage animals from entering the stream and use of fencing adjacent to stream crossing to limit access points. • ***Conservation tillage*** is a process that uses tillage equipment to seed the crop directly into the vegetative cover or crop residue on the surface.	
Wellhead Protection Areas	• Protects existing water supply and maintains safe sources of drinking water. • Preserves longevity of sources of water supply and reduces the need and cost to develop new sources. • Reduces the need for increased treatment technologies to purify water. • Places restrictions on development in identified areas that contribute water directly to wells. • Reduces or eliminates potential well contaminant sources.	• Delineation should be done by a professional hydro-geologist or engineer. • Applicable to landscapes consisting of wellhead protection areas.	• Assessments can be costly. • Owners and operators of small water systems must be evaluated.
Conservation Easements	• Land is preserved as open space for public and private access. • Inexpensive method for protecting natural resources and/or establishing greenways. • Landowner retains all other property rights, land remains on tax rolls.	• Decision by private property owner. • May or may not allow public access to support establishment of greenways	• Public access may be restricted. • Easement must be monitored and enforced. • Easement may lower resale value.
Locating On-lot Sewage Systems in Open Space	• Provide flexibility to create variable lots sizes and layouts to achieve preservation goals. • Best match between land use needs and specific site characteristics. • Reserves the best soils suitable for subsurface disposal.	• Adopt a sewage facilities management program. • Require installation of new systems or retrofitting of existing systems with technology to remove nitrogen from individual systems (septic de-nitrification). • Applicable to development occurring in rural, rural residential and town/village landscapes.	• Implementation requires government involvement in sewage facilities planning and management.

	• Allow for a subdivision design where some lots are served by on-lot systems and other by off-lot systems.	• Pumping individual septic systems once every three years, the average routine maintenance of these systems.*	
Public or Community Water & Sewer Systems	• May provide alternative to conventional development patterns and can allow for preservation/conservation. • Fewer environmental impacts. • Fewer health impacts. • Potential reduction in infrastructure costs. • Enhances Cluster Development opportunities if designed properly. • The connection of failing septic systems to sewer system.*	• Amendment of zoning ordinance and subdivision development ordinance (requiring tie in to existing or future services). • Applicable to village landscapes and planned residential developments in rural residential landscapes in proximity to existing public systems or establishment of a community system.	• Implementation may require government involvement in sewage facilities planning and management. • Motivating owners and operators of existing small water/sewer systems to participate may be difficult. • Motivating existing owners to tie-in may be difficult. • Cost associated with system installation and maintenance.
Conservation Subdivision or Cluster Development Standards	• Alternative to conventional development patterns that allow for preservation/conservation. • Fewer environmental impacts. • Potential reduction in infrastructure costs. • Ability to create walkable neighborhoods and sense of community. • On-lot systems can be used if designed and maintained properly.	• Amendment of zoning ordinance and subdivision/ development ordinance. • Sketch plan process. • Use of Map of Potential Conservation. • Can be applied to all landscapes.	• May result in the need for community sewer systems. • Continued use of agricultural uses in open spaces of cluster development creates conflict. • Transportation and air quality impacts are the same as conventional development. • Poor design can result in greater visual impacts than conventional design. • May require more site inspections.
Natural Features Conservation Standards or Conservation Zoning	• Protection of floodplains, forests and vegetation. • Preserve the Upper Delaware National Scenic and Recreational River Corridor. • Protect groundwater and maintain groundwater recharge areas. • Protect wellheads, riparian buffers, and steep slopes and manage stormwater.	• Delineation of water resource features should be done by a professional hydro-geologist or engineer. • Coordination with update of Natural Areas Inventory. • Use of Map of Potential Conservation. • Can be applied to all landscapes.	• Assessments can be costly.

	• Protect and maintain water supply and reduce erosion and sedimentation. • Protection of environmentally sensitive areas.		
Floodplain Regulations	• Protection of floodplain and water quality. • Protection from flood damage. • Creates riparian buffers to support wildlife habitats, greenways and access for recreation. • Allowable and unallowable uses are defined in the ordinance.	• Map and ordinance regulations. • Implemented as part of zoning ordinance. • Land Development Plans subject to requirements and floodways, floodplain, flood areas and/or riparian buffers must be shown on plans.	• Cost associated with development of floodplain map and ordinance. • Requires establishment of ordinance. • Limitations on allowable uses may be too restrictive.
Tree Planting	• Reduces runoff.	• Includes any tree planting on any site except those along rivers and streams.	• Cost to private property owners.
Urban Nutrient Management	• Reduction of excess lawn fertilizer use.	• Education program targeted at suburban residents and businesses.	• Voluntary compliance through education.
Resource Management Plan	• Protection of natural environment. • Preservation of open space. • Ability to create greenways or connections. • Provides proper context for environmental regulations, pre-emptive statutes and forest management techniques.	• MDE Funding available to prepare plan. • Plan can build upon Comprehensive Plan and Land Preservation, Parks and Recreation Plan (LPPRP). • Utilizes map of Potential Conservation.	• Cost associated with development of the plan. • Cost associated with implementation (management of resources) of the plan. • May result in development of additional local land use regulations and environmental regulations. • Forest succession may not be attractive to all residents.
Resource Management Practices*	• ***Forest harvesting*** with appropriate controls in management zones will reduce erosion and impacts of runoff. • ***Marine pump-outs*** will improve water quality. • ***Structural shore erosion controls*** will stabilize eroding shorelines. • ***Nonstructural shore erosion controls*** will stabilize eroding shorelines. Contributes to creating wetland habitats.	• ***Forest harvesting*** is the application of regulatory and voluntary best management practices applied to timber harvesting including erosion and sediment control and streamside management zones. • ***Marine pump-outs*** are facilities sited at marinas for pumping sewage from boat holding tanks to dockside storage facility. Regulatory requirements are contained in ordinances. • ***Structural shore erosion controls*** is a practice of stabilizing eroding shorelines using stone riprap or	• Costs to property owners.

	.	timber bulkheads. Suitable for sites with high wave energy. • ***Nonstructural shore erosion controls*** a practice for stabilizing eroding shorelines by establishing marsh grasses. Suitable for sites with lower wave energy.	
Use of Nitrate Levels to Restrict Development (Develop a Nitrates Map)	• Guides development supported by on-lot systems to appropriate areas. • Contributes to public health, safety and welfare. • Identifies areas for expansion of public water and sewer systems or restriction of development.	• Development of a Nitrates Map. • Identification of appropriate site analysis and testing. • Part of plan review and permitting.	• Cost associated with development of a nitrates map. • Additional cost to developer/property owner.
Priority Preservation Areas (PPAs) and other Land Preservation Programs	• Targeted to natural or other environmentally sensitive resources such as wetlands, buffers along waterways, or forested areas that provide habitat for flora and fauna and wildlife habitats. • Assist with maintaining functioning soil resources. • If areas selected properly can contribute to wellhead protection and protection of other water resources. • Funding may be associated with designations to assist with preservation and growth management.	• Designation of PPA as part of the comprehensive planning process. • Designation of areas based upon specific programs.	• Potential for program to change or program to be augmented with a set of unknown regulations at the time of designation.
Planned Residential Development	• Development standards are specified prior to development approval and applicable to all phases of development through agreement. • Allows for provision of adequate public facilities as part of development.	• Adequate planning and implementation of public facilities is part of the development. • Applicable to rural residential landscapes.	• All phases of development are defined by a legal instrument and must develop in that manner regardless of change in economic market and/or changes in desired land use patterns. • Legal agreements and extensive Solicitor involvement.

4.4 Real Estate Disclosure

Maryland State law requires real estate contracts to contain a notice to homebuyers about military operations which may occur in close proximity to their property. This requirement is found in Article "Real Property," Section 14-117(k) of the Annotated Code of Maryland[32] and became effective on October 1, 2006, in accordance with House Bill 298 and Senate Bill 253.

This code states:

(k) Notice of potential high noise levels from proximity to military installations:

(1) This subsection does not apply in Alleghany, Carroll, Fredrick, Garrett, Howard, Montgomery, and Washington Counties.

(2) A contract for the sale of residential real property shall contain the following statement:

"Buyer is advised that the property may be located near a military installation that conducts flight operations, munitions testing, or military operations that may result in high noise levels."

(3) All local laws requiring a statement or notice substantially similar to the statement required under paragraph (2) of this subsection prevail over the requirements of this subsection.

The Maryland Association of Realtors[33] standard Residential Contract of Sale contains this notice on page nine of eleven, under item number forty-nine of fifty-five in the contract.

In addition, Charles County Code, section 265-4, states:

"Prior to the sale of residential real property in Charles County, the seller or transferor shall provide the buyer or transferee with the following statement:

'Buyer is advised that the property is located near a military installation that conducts flight operations, munitions testing, and military operations that may result in high noise levels.'"

For Charles County, the Maryland Association of Realtors also uses the "Charles County General Addendum to All Contracts of Sale for Improved Properties." This addendum states under section 3B "Disclosures Required by Charles County" the following:

[32] http://www.dsd.state.md.us/comar/
[33] www.mdrealtor.org

"Military Aircraft Operations: The Property may be located within or near several military operation centers located in Calvert County, Charles County, Prince George's County, or St. Mary's County. Properties within or near such military aircraft operation centers may be impacted by varying degrees of noise levels and potential military aircraft accidents as well as noise from gunfire or explosive testing. The following is a description of such military aircraft operation centers; however, the following list is not all-inclusive:"

The list of military aircraft operation centers includes:

Naval Air Station, Patuxent River, Maryland;
Naval Surface Warfare Center, Dahlgren Division, Dahlgren, Virginia;
Naval Surface Warfare Center, Indian Head Division, Indian Head, Maryland;
Naval Explosive Ordnance Disposal Technology Division, Indian Head, Maryland; and
Andrews Air Force Base, Prince Georges County, Maryland

The last sentence of this section states:

"*Buyer acknowledges that Buyer, prior to the submission of a written offer to purchase the Property, is solely responsible to contact the military aircraft operation centers, as identified above, which may impact upon the Property in order to ascertain the potential noise levels and accident probabilities in relation to the location of the Property within or near one or more of the above military aircraft centers."*

None of the State, County, or Realtor documents reference Blossom Point. All general references to military operations are well within the "small print" of the document. Unless a buyer is very familiar with the area they would most likely be unaware of the presence of BPRF.

In other jurisdictions, such as Escambia County, Florida, a notice is provided in all advertising materials and/or brochures concerning the sale or lease of property. This notice must be provided no later than the signing of a contract for sale or lease. The notice must be signed by the seller and buyer with a copy submitted to the Naval Air Station - Pensacola, Naval Air Station – Whiting Field, or Pensacola Regional Airport, whichever is appropriate given the location of the property involved.

The City of Virginia Beach, Virginia, requires disclosure notes to be placed on site plans and subdivision plats.

4.5 Military Influence Overlay District

Military installations often engage in activities which can pose safety and/or inconvenience issues for neighboring uses. Noise and vibration can create concern for neighbors of military facilities, although history has suggested that these concerns at BPRF are minimal. Noise, vibration, and radio frequency interference from the neighboring community, however, can have severe consequences for the research and testing conducted at BPRF.

The creation of a Military Influence Overlay District (MIOD) within the zoning ordinance may be considered as a tool to insure long-term compatibility between the military and its neighboring uses.

4.6 Development Review Process

Several communities around the country work closely with local military leadership to review proposed developments near military facilities. In Virginia Beach, Virginia, for example, the City entered into a Memorandum of Understanding (MOU) with the Naval Air Station Oceana in 2008 to involve the Navy in the review of development applications requiring City Council Action, i.e. rezoning and conditional use requests.[34]

A tool may be to create a formal review process, including a MOU with the following responsibilities:

Military:

1. Evaluate proposals for development and redevelopment of land covered by a local Overlay Ordinance according to the applicable compatible land use criteria, the current local Comprehensive Plan, and the municipal zoning ordinance;
2. Consider redevelopment to the same or lower density or intensity;
3. Evaluate incompatible development in a manner consistent with the military's priorities and concerns;
4. Attend Commissioners' meeting annually to provide a report/summary of their status;
5. Keep the County appraised of any development or changes proposed or implemented at the facility;
6. Understand that the military's role in these matters is purely advisory. The military does not have the authority to limit a local government's discretion to grant or approve discretionary development applications.

[34] Memorandum of Understanding Between Naval Air Station Oceana and City of Virginia Beach, October 28, 2008.

County:

1. Implement and adhere to the recommendations of this Joint Land Use Study (JLUS);
2. If applicable, apply the Military Influence Overlay District in a consistent manner;
3. Provide copies of development applications within the Military Review Area (MRA). The MRA includes properties within the BPRF JLUS Study Area as shown on Map 9;
4. Consider alternative uses for properties which may be more compatible with military facilities;
5. Meet with military representatives at least 30 days prior to a Planning Commission meeting to discuss and review the application.

Representatives from the military may also be invited to attend Planning Commission meetings related to plans in close proximity to military facilities.

4.7 Other Alternatives

4.7.1 Fee Simple Acquisition

This type of acquisition simply involves the purchase of property directly from a willing seller. Acquisitions can involve direct purchase acquisitions by any civilian or military entity or can be facilitated by a third party. One such example of a third party organization is the Nature Conservancy.

The Nature Conservancy is a leading conservation organization which works around the world "to protect ecologically important lands and waters for nature and people."[35] The Nature Conservancy has protected more than 119 million acres of land in all 50 states and in 30 countries. Locally, in Charles County, the Nature Conservancy had initiated the process for the State of Maryland to purchase the Cedar Point Wildlife Management Area, directly adjacent to BPRF. They have also worked closely with the military to purchase properties and easements throughout southern Maryland in order to preserve land and assist the military by creating open areas around such facilities as the Patuxent River Naval Air Station in St. Mary's County. The Nature Conservancy currently holds fee simple title to over 10,000 acres of land in Maryland with 2,800 acres in Charles County.

[35] www.nature.org

4.7. 2 Fee Simple / Leaseback

This type of acquisition involves the purchase of property by a government agency which then leases the property back to the previous owner with land use restrictions imposed.

4.7. 3 Lease

Leasing of property by a government agency allows control over the use of the property when fee simple acquisition is not possible or practical. Land leases may be for long periods of time, often as much as 100 years.

4.7. 4 Management Agreement

A specific and short-term plan under which the property owner will manage land.

4.7. 5 Eminent Domain

The acquisition of private property by governmental agencies for public use, in exchange for fair compensation, through the condemnation process.

4.8 Summary of Alternatives

Table 4-4 Summary of Alternatives				
#	Description	Incentive Based	Regulatory	Capital Costs
4.1	Changes to the Comprehensive Plan		X	
4.2	Zoning Ordinance and/or Zoning Map Changes		X	
4.3	Conservation Easements	X		
4.4	Real Estate Disclosure		X	
4.5	Military Influence Overlay District (MIOD)		X	
4.6	Development Review Process		X	
4.7	Acquisitions			X

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RECOMMENDATIONS & CONCLUSIONS

5.1 Recommendations

This Study recommends policies which are designed to ensure that development in proximity to BPRF is planned in a manner which allows the facility, and its tenants, to meet their operational requirements into the foreseeable future. The following factors were taken into consideration when developing policies for this Study:

- Review and analysis of existing and potential encroachment and compatibility issues;
- Review and analysis of existing land use strategies;
- Input from neighboring property owners, stakeholders, and the public-at-large; and
- Input based on the consultant's land use and planning experience.

Throughout this JLUS process, the Policy Committee reviewed several potential alternatives, as identified in Chapter Four. The specific compatibility issues identified for BPRF as most significant include frequency interference, noise, vibration, vertical obstructions, and trespassing. As such, the Committee identified six primary policy recommendations, including changes to the Charles County Comprehensive Plan; an updated Special Exception review process to include BPRF involvement when appropriate; an updated Charles County Real Estate Disclosure to address potential issues related to BPRF; the acquisition of target properties within the Study Area; a review of the Zoning Ordinance to ensure that zoning regulations adequately address concerns with development encroachment at BPRF; and periodic reviews of the study and monitoring of any changes in BPRF's activities and development activities in the Study Area.

The policy recommendations provided in this study are based on the current mission of the facility as well as current development patterns within the Study Area. With recent changes in military planning, including activities of the Base Closure and Realignment Commission (BRAC), changes to the mission of a facility, including BPRF, are not out of the question. With this in mind, Charles County should monitor and update this study based on any changes in the mission and activities at BPRF and development activities within the Study Area.

5.2 Goals, Objectives, and Policies

The policies identified for this JLUS encompass a variety of actions Charles County, the U.S. Army, and other agencies and stakeholders can take to promote compatible land use planning at BPRF. The overall goal of these recommendations is to reduce or eliminate potential compatibility issues.

The following goal, objectives, and policies have been identified by the Policy Committee:

Goal:
Maintain compatibility of land uses between community and BPRF.

Objectives:
1. Achieve compatibility with the community regarding noise impacts.
2. Achieve compatibility with the community regarding frequency impacts.

Policies:
These policies are implementation measures recommended by the Study to achieve compatibility between BPRF and the community. There are six main policies as follows:

1. ***Changes to the Comprehensive Plan***
   - Incorporate the BPRF Joint Land Use Study by reference into the Comprehensive Plan.
   - Establish a Military Review Area (MRA) on the Comprehensive Plan land use concept map. This MRA should be based on noise and frequency impacts.
   - Include Charles County Military Planning in the upcoming Comprehensive Plan update.

2. ***Review of Special Exception Applications***
   - Develop a process for County staff and BPRF to review and comment on Special Exception applications within the MRA.
   - Review uses permitted within the MRA to ensure Special Exception criteria adequately address potential encroachment issues.

3. ***Real Estate Disclosures***
   - Update Charles County real estate disclosures so that potential buyers are made aware of potential issues related to BPRF.
   - Expand on the current Charles County disclosure to include vibration, frequency and other impacts besides noise.
   - Educate real estate agents in Charles County about BPRF.

4. ***Acquisition of Target Properties***
   - Target priority properties for acquisition and/or protection. Acquisition efforts are anticipated to be initiated by Federal programs and partnerships. The priority properties are areas within the Impact Area which are not otherwise protected by easement, or restrictive zoning, such as Critical Area. The following are different methods that could be considered:
     - Fee Simple purchase
     - Fee Simple purchase/leaseback
     - Lease
     - Management Agreement
   - Encourage property owners to participate in Conservation Easement programs
   - Include these target properties as part of the TDR program.
   - Inform property owners of the benefits and availability of the REPI process[36]

5. ***Review Zoning Ordinance***
   - Review Zoning Ordinance to ensure that county zoning regulations adequately address concerns with development encroachment of BPRF.
   - Change the Zoning Ordinance as may be necessary to ensure continued compatibility between BPRF and the other properties within the MRA.

6. ***Conduct periodic reviews of this Study***
   - Review this study annually to assess progress with implementation strategies. Make adjustments to the implementation plan as necessary in order to carry out the strategies in an efficient and effective manner.
   - Monitor and update JLUS Study based on any new changes in mission and activities at BPRF and development activities within the Study Area.

[36] The Department of Defense (DoD) Readiness and Environmental Protection Initiative (REPI) provides funding to the Military Services to enter into agreements with private conservation organizations, and with State and local governments. Such agreements allow partners to use DoD and other public and private sector funds to acquire property, or property interest such as conservation easements, from willing sellers that preserve critical buffers and habitat areas near installations and ranges where the military operates, tests and trains. REPI has allowed DoD to work collaboratively with stakeholders and landowners outside installation and range boundaries to both preserve habitat and limit incompatible development. These efforts not only help prevent encroachment, but preserve current land use, particularly agriculture, forestry, recreation, and the rural character of the area. Once a willing landowner is compensated for conservation easements or development rights, they often also receive tax benefits, and in many cases, continue to own and live on their land.

5.3 Implementation Plan

The overall goal of this plan is to achieve a balance between the needs of BPRF and the needs of the neighboring community. In working towards this balance, several guidelines were followed, including:

- The Implementation Plan was developed with the understanding that the recommended strategies should not have a detrimental effect on affected properties.
- Strategies are recommended only for specific geographic areas in proximity to BPRF to resolve compatibility and encroachment issues, in order to minimize the number and effect of new regulations.

As a result of this planning process, the JLUS recommendations are outlined in the following Implementation Plan.

The Implementation Plan is presented in a matrix format comprised of five components. These plan components include:

- Policy Reference Number
    - References a specific strategy

- Policy
    - Contains a description of the strategy

- Responsible Party
    - The party primarily responsible for implementing the strategy and the parties responsible for partnering to enhance its successful development
        1. Primary ■
        2. Partner ○

- Priority/Timing
    - Identifies when the strategy is proposed to be completed. The strategies are identified to be completed within one or more of the four time periods identified below:
        1. Short term (2011-2015)
        2. Mid-term (2012-2020)
        3. Long-term (2013-2030)
        4. On-Going
- Strategy Cost
    - The table identifies a Rough Order of Magnitude (ROM) cost for implementing each strategy. These costs are organized into four cost ranges, which include:
        1. $ < $250,000
        2. $$= $250,000 to $750,000
        3. $$$=$750,000 to $1,500,000
        4. $$$$ > $1,500,000

Table 5-1: Land Planning Policies										
Policy #	Blossom Point Implementation Plan Policies	Responsible Party			Timeframe				Policy Cost
		Charles County	Military	Other	Short Term	Mid-Term	Long Term	On-Going	
Changes to the Comprehensive Plan									
1-1	Incorporate the BPRF Study by reference into the Comprehensive Plan.	■			■				$
1-2	Establish a Military Review Area (MRA) on the Comprehensive Plan land use concept map.	■				■			$
1-3	Include a section on Military Planning in Charles County in the upcoming Comprehensive Plan update.	■				■			$
Special Exception Process									
2-1	Develop a process for County staff and BPRF to review and comment on Special Exception applications within the MRA.	■	○		■				$
2-2	Review uses permitted within the MRA to ensure Special Exception criteria adequately address potential encroachment issues.	■	○			■			$
Real Estate Disclosures									
3-1	Update Charles County real estate disclosures so that potential buyers are made aware of potential issues related to BPRF.	■	○			■			$
3-2	Expand upon the current Charles County disclosure to include vibration, frequency and other impacts in addition to noise.	■	○			■			$
3-3	Obtain legislative approval for the updated real estate disclosures.	■	○	○		■			$
3-4	Educate realtors in Charles County about BPRF.	■	○	○		■		■	$

Table 5-1: Land Planning Policies Continued									
Policy #	Blossom Point Implementation Plan Policies	Responsible Party			Timeframe				Policy Cost
		Charles County	Military	Other	Short Term	Mid-Term	Long Term	On-Going	
Acquisition of Targeted Properties									
4-1	Identify priority properties for acquisition and/or protection. These priority properties are located in the Impact Area shown in yellow on Map 9.	○	■			■			$
4-2	Acquire targeted properties through fee simple purchase, leaseback, lease, and/or management agreement.		■	■		■	■	■	$$ $$
4-3	Encourage property owners to participate in Conservation Easement Programs.	■	○	■	■			■	$
4-4	Obtain Conservation Easements from property owners.	○	○	■					$
4-5	Include targeted properties as part of the TDR program.	■		○		■			$
4-6	Inform property owners of the benefits and availability of the REPI process.		■						$
Review Zoning Ordinance									
5.1	Review Zoning Ordinance to ensure that county zoning regulations adequately address concerns with development encroachment of BPRF.	■				■			$
5.2	Change the Zoning Ordinance as may be necessary to ensure continued compatibility between BPRF and the other properties within the Military Review Area.	■				■			$
Conduct periodic reviews of this Study									
6.1	Review this study annually to assess progress with implementation strategies. Make adjustments to the implementation plan as necessary in order to carry out the strategies in an efficient and effective manner.	■	○					■	$
6.2	Monitor and update JLUS Study based on any new changes in mission and activities at BPRF and development activities within the Study Area.	■	○					■	$

5.4 Conclusions and Future Recommendations

The Blossom Point Research Facility is an important asset to Charles County. The continued existence of this facility is important to the County, as well as the country as a whole, as the research and testing performed at BPRF provides protection to our troops and civilians on a global scale. In order to maintain BPRF as a viable entity at this location, efforts should be taken to ensure compatibility between BPRF and the neighboring community.

Proper planning and implementation of compatibility policies will better position the County to retain BPRF at this site into the foreseeable future. Prior studies have suggested that the redevelopment of BPRF for residential use would be financially impractical due to federal and state requirements for the survey and removal of all land and waterway contamination. Nonetheless, the policies recommended by this JLUS should be implemented to ensure that operations at BPRF can continue for the foreseeable future.

This Joint Land Use Study identified several areas of concern related to compatibility issues and encroachment. Through the analysis of mapping, ordinances, stakeholder meetings, and a public meeting with neighboring property owners and other members of the public, the Policy Committee has recommended several policies for consideration and implementation.

As shown on Map 9, very few areas within the Study Area are able to be developed to a significant extent. As these few areas exist within Agricultural Conservation and Rural Conservation zoning districts, the extent to which future development could occur is already restricted. While several non-residential uses are permitted in this area, they are generally permitted by Special Exception, thus allowing a thorough review of any potential encroachment on BPRF. See Appendix B for uses that are permitted by Special Exception in the Agricultural Conservation and Rural Conservation zoning districts.

Charles County and BPRF should closely monitor future development and demographic changes within the Study Area and modify this Study as necessary. In the future the County may wish to consider a military overlay district for all military facilities in the County. This recommendation should be considered further during the upcoming Comprehensive Plan update or during a future Joint Land Use Study for other military facilities within the County.

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Appendix B: Zoning Ordinance Regulations

Agricultural Conservation Zoning District - AC

Table B-1 Permitted Uses with the Agricultural Conservation Zoning District					
Use	**Minimum Lot Area**	**Minimum Lot Width**	**Minimum Lot Depth**	**Minimum Lot Frontage**	**Maximum Height**
Agriculture	3 acres	150	200	120	40
Grain Dryers	20 acres	600	600		
Commercial Stables	20 acres	350	350	300	40
Park-and-ride facilities	1 acre	100	150	75	
Sawmill	20 acres	800	800	650	40
All other permitted uses	3 acres	150	200	120	40
*Residential Lots less than 2 acres created before 12-31-1974 have a 20,000 sq.ft. minimum lot area.					

In addition to the general uses shown in Table B-1, the specific uses shown in Table B-2 are permitted by right (P), with conditions (PC), or by Special Exception (SE) within the AC zoning district:

Table B-2 Permitted Uses with the Agricultural Conservation Zoning District			
Use	**P**	**PC**	**SE**
Agricultural			
Excluding livestock – horticultural, hydroponic, chemical, or general farming, truck gardens, cultivation of field crops, orchards, groves, or nurseries for growing or propagation of plants, trees, and shrubs.	X		
Including Livestock on a parcel greater than 5 acres – dairy farming, keeping or raising for sale large or small animals, reptiles, fish, birds, poultry, or aquaculture		X	
Horses, livestock maintained as pets, and 4-H or school projects		X	
Cattle, swine, goats and sheep, rabbits, poultry or fowl raised for sale			X
Grain dryers	X		
Fertilizer storage in bags or bulk storage of liquid or dry fertilizer in tanks or in a completely enclosed building	X		

Table B-2 Permitted Uses with the Agricultural Conservation Zoning District			
Use	**P**	**PC**	**SE**
Agricultural Continued			
Commercial assembly and repair or all equipment normally used in agriculture	X		
Accessory petroleum storage, not to exceed 20,000 gallons and subject to applicable safety codes, ordinances, and statutes	X		
Poultry Houses, hog operations with 6 or more hogs		X	
Slaughterhouses			X
Processing and selling products raised on-site	X		
Commercial stables	X		
Farrier services	X		
Use of heavy cultivating machinery, spray planes, or irrigating machinery	X		
Forestry	X		
Open air product markets		X	
Horticultural sales with outdoor display			X
Livestock markets			X
Hunting and fishing cabins		X	
Commercial greenhouse operation	X		
Commercial Kennel		X	
Cat boarding facility		X	
Marine			
Seafood processing and seafood operations with products raised on premises		X	
Commercial fishing	X		
Residential			
Single family detached	X		
Class A manufactured home	X		
Class B manufactured home	X		
Tenant house		X	
Primary residence with accessory apartment		X	
Group homes, not more than 8 people		X	
Group homes, between 9 and 16 people			X
Day care home (fewer than 9 recipients)	X		
Day care center (between 9 and 30 recipients)			X
Halfway house			X
Elderly care homes (1-8 people)	X		
Elderly care homes (9-16 people)			X
Rooming house, boarding house rented by month		X	
Bed and breakfast, tourist homes		X	
Hotels, motels, convention centers, conference centers			X

Table B-2 Permitted Uses with the Agricultural Conservation Zoning District			
Use	**P**	**PC**	**SE**
Residential Continued			
Country Inn			X
Permanent shelters			X
Migrant workers housing		X	
Institutional/Utilities/Recreation			
Private elementary and secondary schools			X
Private colleges, universities, including dormitories			X
Churches, synagogues, and other such religious institutions, including associated cemeteries, residential structures, and religious classes	X		
Private libraries, museums, art centers			X
Social, fraternal clubs and lodges, union halls, meeting halls			X
Privately owned outdoor recreational facilities			X
Privately owned outdoor recreational facilities constructed as part of a residential development	X		
RV parks			X
Campgrounds and camps			X
Auto and motorcycle racing tracks			X
Drive-in movie theaters, open air theaters, amphitheaters			X
Golf-driving ranges not accessory to golf courses, mini-golf, skateboard parks, water slides, batting cages			X
Rifle and pistol ranges, war games, archery, or other recreational activities using weapons			X
Hospital			X
Nursing care			X
Fire Stations	X		
Rescue squads, ambulance services	X		
Local post office			X
Private use airport			X
Heliports			X
Helistops			X
Neighborhood essential service (utilities)	X		
Electric power, gas, telecommunications structures (not towers)			X
Towers more than 50 ft tall			X
Towers and antennas 50 ft tall or less	X		
Wireless communication antennae		X	
Earth stations			X
Satellite dishes		X	
Family burial sites		X	
Cemeteries			X
Crematoriums			X

Table B-2 Permitted Uses with the Agricultural Conservation Zoning District			
Use	**P**	**PC**	**SE**
Institutional/Utilities/Recreation Continued			
Park and ride facilities	X		
Service Oriented Commercial			
Funeral homes			X
Veterinarians and veterinary hospitals	X		
Nursery schools and day care centers with more than 30 children			X
Commercial			
Antique shops, art galleries			X
Motor vehicle repair for more than two buses, bus dispatching, and storage			X
Industrial			
Blacksmith shops, welding shops, ornamental iron works, machine shops			X
Sawmills	X		
Winery		X	
Fertilizer mixing plants			X
Asphalt and concrete mixing plants			X
Wood/stump grinding		X	
Parking of one vehicle over 15,000 pounds GVW		X	
Parking of more than one vehicle over 15,000 pounds GVW			X
Research facilities and laboratories without processing of materials			X
Mineral extraction			X
Pozzolan management facility			X

Rural Conservation Zoning District – RC

Table B-3 Permitted uses with the Rural Conservation Zoning District					
Use	**Minimum Lot Area**	**Minimum Lot Width**	**Minimum Lot Depth**	**Minimum Lot Frontage**	**Maximum Height**
Agriculture	3 acres	150	200	120	40
Grain Dryers	20 acres	600	600		40
Residential	3 acres	120	200	100	36
Institutional, utilities, recreation	3 acres	120	200	100	36
Park-and-ride facilities	1 acre	100	150	75	
Sawmill	20 acres	800	800	650	36
*Residential Lots less than 2 acres created before 12-31-1974 have a 20,000 sq.ft. minimum lot area.					

In addition to the general uses shown in Table B-3 the following specific uses are permitted by right (P), with conditions (PC), or by Special Exception (SE) within the RC zoning district:

Table B-4 Permitted Uses within the Rural Conservation Zoning District			
Use	**P**	**PC**	**SE**
Agricultural			
Excluding livestock – horticultural, hydroponic, chemical, or general farming, truck gardens, cultivation of field crops, orchards, groves, or nurseries for growing or propagation of plants, trees, and shrubs.	X		
Including Livestock on a parcel greater than 5 acres – dairy farming, keeping or raising for sale large or small animals, reptiles, fish, birds, poultry, or aquaculture		X	
Horses, livestock maintained as pets, and 4-H or school projects		X	
Cattle, swine, goats and sheep, rabbits, poultry or fowl raised for sale			X
Grain dryers	X		
Fertilizer storage in bags or bulk storage of liquid or dry fertilizer in tanks or in a completely enclosed building	X		
Commercial assembly and repair or all equipment normally used in agriculture	X		
Accessory petroleum storage, not to exceed 20,000 gallons and subject to applicable safety codes, ordinances, and statutes	X		
Poultry Houses, hog operations with 6 or more hogs			X
Slaughterhouses			X
Processing and selling products raised on-site	X		
Commercial stables	X		
Farrier services	X		
Use of heavy cultivating machinery, spray planes, or irrigating machinery	X		
Forestry	X		
Open air product markets		X	
Horticultural sales with outdoor display			X
Livestock markets			X
Commercial greenhouse operation, no on-premises sales	X		
Commercial greenhouse operation, on-premises sales			X
Commercial Kennel			X
Cat boarding facility		X	
Marine			
Seafood processing and seafood operations with products raised on premises		X	
Commercial fishing	X		
Residential			
Single family detached	X		
Class A manufactured home	X		
Class B manufactured home	X		
Tenant house		X	

Table B-4 Continued Permitted Uses within the Rural Conservation Zoning District			
Use	**P**	**PC**	**SE**
Residential Continued			
Primary residence with accessory apartment		X	
Group homes, not more than 8 people		X	
Group homes, between 9 and 16 people			X
Day care home (fewer than 9 recipients)	X		
Day care center (between 9 and 30 recipients)			X
Halfway house			X
Elderly care homes (1-8 people)	X		
Elderly care homes (9-16 people)			X
Rooming house, boarding house rented by month		X	
Bed and breakfast, tourist homes		X	
Hotels, motels, convention centers, conference centers			X
Country Inn			X
Permanent shelters			X
Migrant workers housing		X	
Institutional/Utilities/Recreation			
Private elementary and secondary schools			X
Private colleges, universities, including dormitories			X
Churches, synagogues, and other such religious institutions, including associated cemeteries, residential structures, and religious classes	X		
Private libraries, museums, art centers			X
Social, fraternal clubs and lodges, union halls, meeting halls			X
Privately owned outdoor recreational facilities			X
Privately owned outdoor recreational facilities constructed as part of a residential development	X		
RV parks			X
Campgrounds and camps			X
Auto and motorcycle racing tracks			X
Drive-in movie theaters, open air theaters, amphitheaters			X
Golf-driving ranges not accessory to golf courses, mini-golf, skateboard parks, water slides, batting cages			X
Rifle and pistol ranges, war games, archery, or other recreational activities using weapons			X
Hospital			X
Nursing care			X
Fire Stations	X		
Rescue squads, ambulance services	X		
Local post office			X
Private use airport			X
Heliports			X

Table B-4 Continued Permitted Uses within the Rural Conservation Zoning District			
Use	**P**	**PC**	**SE**
Institutional/Utilities/Recreation Continued			
Helistops			X
Neighborhood essential service (utilities)	X		
Electric power, gas, telecommunications structures (not towers)			X
Towers more than 50 ft tall			X
Towers and antennas 50 ft tall or less	X		
Wireless communication antennae		X	
Earth stations			X
Satellite dishes		X	
Family burial sites		X	
Cemeteries			X
Crematoriums			X
Park and ride facilities	X		
Service Oriented Commercial			
Funeral homes			X
Veterinarians and veterinary hospitals	X		
Nursery schools and day care centers with more than 30 children			X
Commercial			
Antique shops, art galleries			X
Industrial			
Sawmills	X		
Winery		X	
Asphalt and concrete mixing plants			X
Wood/stump grinding		X	
Parking of one vehicle over 15,000 pounds GVW		X	
Parking of more than one vehicle over 15,000 pounds GVW			X
Research facilities and laboratories without processing of materials			X
Mineral extraction			X
Pozzolan management facility			X

Appendix C: Public Notice

A public forum regarding the Joint Land Use Study for the Blossom Point Research Facility on Thursday, December 10, 2009, at the Charles County Government Building, 200 Baltimore Street , La Plata, Maryland. Public notice for the public forum was given via a press release from the Charles County Commissioners, as well as letters sent to identified stakeholders by the Charles County Office of Planning and Growth Management.

The following is a copy of the press release:

News Release

CHARLES COUNTY MARYLAND Where Eagles Fly

From the Office of the:

CHARLES COUNTY COMMISSIONERS

For Immediate Release
CONTACT:

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Communications Office
(301) 885-1342 office
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Samuel N. Graves, Jr.

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P.O. Box 2150,
La Plata, Maryland 20646

301-645-0550/
DC 301-870-3000

Equal Opportunity County

Say No to Drugs

CCG Web site:
www.charlescounty.org

Department of Planning and Growth Management Set to Hold Public Forum

The Charles County Department of Planning and Growth Management will hold a public forum regarding the Joint Land Use Study for the United States Army's Blossom Point Research Facility in Welcome, Maryland. Charles County is completing the Study to ensure that future land use and development near the Blossom Point Facility is compatible with the military's mission as well as the needs of the community.

The Public Forum will be held Thursday, December 10th from 7:00 p.m. until 8:30 p.m. in the County Commissioner's Meeting Room located in the Charles County Government Building (200 Baltimore Street in La Plata).

For more information, please contact Amy Blessinger in the Department of Planning and Growth Management at 301-645-0650.

-30-

December 2, 2009

Agenda

The following is a copy of the agenda for the public forum:

Charles County
Blossom Point Joint Land Use Study

Public Forum
December 10, 2009 7:00 p.m.
Agenda

7:00 – 7:15	Sign-in and View of Displays
7:15 – 7:20	Introductions
7:20 – 7:35	Project Presentation
7:35 – 8:15	Public Input
8:15 – 8:20	Next Steps
8:20 – 8:45	Additional Time to Review Displays

Attendees

Members of the project team present at the public forum included:

Name	Role	Organization
Amy Blessinger	Planner	Charles County Planning
April Showers	Planner / Project Manager	Johnson, Mirmiran & Thompson (JMT)
Andrew Stern	Planner	Johnson, Mirmiran & Thompson (JMT)
Jack Kaiser	Garrison Manager	Blossom Point Research Facility
Tom Moorehead	Manager	Naval Research Laboratory
Annette Evans	Deputy installation Manager	Adelphi Laboratory Center
Ken Noppenberger	Public Works Director	Adelphi Laboratory Center
Willie Miller	Installation Safety Officer	Adelphi Laboratory Center
Pattie Essig	Realty Specialist	Adelphi Laboratory Center
Tom Evans	Military & Federal Affairs	State of Maryland, Department of Business and Economic Development

There were twenty-two persons listed on the sign-in sheet at this meeting. There were several other persons present who did not sign-in, including one member of the local media.

Forum

Upon arrival to the public forum attendees were given the opportunity to review several displays and review an informational brochure about the Joint Land Use Study and the mission of the Blossom Point Research Facility. Staff from the Blossom Point Research Facility, as well as the Adelphi Laboratory Center, were present to answer questions.

Presentation

Mr. Stern presented a power point explaining the purpose of the Joint Land Use Study for the Blossom Point Research Facility (a copy is attached within the Appendix of this document). Mr. Kaiser assisted with an explanation of the mission of the facility.

An aerial map "fly over" was also presented to show an aerial perspective of Blossom Point and the surrounding areas.

Mr. Stern pointed out that there were representatives from the Charles County Conservancy present at the meeting with an information table and brochures. Attendees were welcome to visit their table to learn more about their organization. The purpose for their attendance is that conservation easement would be discussed during the presentation and the presenters wanted to make sure the public had contacts to obtain further information if interested. At this point in the study no conclusions or recommendations have been made regarding land use measures and tools, however conservation easements are always encouraged and can benefit the property owner, the Blossom Point Research Facility, and the community as a whole.

Power Point Presentation

Blossom Point Research Facility Joint Land Use Study

Public Forum

December 10, 2009

To identify land use measures needed to ensure that future public and private civilian development adjacent to military installation are compatible with the mission of the installation.

BLOSSOM POINT RESEARCH FACILITY JOINT LAND USE STUDY

STUDY OBJECTIVE

- A Joint Land Use Study, or JLUS, is produced by and for the local jurisdiction – in this case Charles County, Maryland.
- It is intended to benefit both the local community and the military installation as a basic planning process designed to identify issues confronting both the civilian community and the military installation
- It is also intended to recommend strategies to address the issues in the context of local comprehensive and general planning programs.

BLOSSOM POINT RESEARCH FACILITY JOINT LAND USE STUDY

STUDY OBJECTIVE

The JLUS is conducted in a collaborative manner involving all stakeholders, including the local elected officials, planning commissioners, local military base command staff, community business leaders, chambers of commerce, homebuilders, real estate interests, landowners, and neighboring residents.

BLOSSOM POINT RESEARCH FACILITY JOINT LAND USE STUDY

STUDY OBJECTIVE

- The JLUS planning area is defined as the properties that surround or are in the immediate vicinity of the current Blossom Point Research Facility or the adjacent waterways of Nanjomoy Creek, Port Tobacco River, and the Potomac River.
- This may extend as far as Chapel Point Road, Popes Creek Road, and US 301 to the east, MD 6 to the north, Durham Church Road, MD 425, and MD 6 to the west.

BLOSSOM POINT RESEARCH FACILITY JOINT LAND USE STUDY

STUDY OBJECTIVE

The JLUS objectives are twofold:

- To seek ways to reduce the operational impacts on adjacent land; and
- To encourage cooperative land use planning between military installations and the surrounding communities so that future civilian growth and development are compatible with the training or operational missions of the installation.

BLOSSOM POINT RESEARCH FACILITY JOINT LAND USE STUDY

STUDY OBJECTIVE

The Blossom Point Research Facility occupies about 1,600 acres in Charles County, Maryland. It was first leased to the Federal Government in 1943 and later purchased by the Department of the Army in 1980. About 41 acres are leased by the Department of the Navy.

BLOSSOM POINT RESEARCH FACILITY JOINT LAND USE STUDY

FACILITY HISTORY

Blossom Point serves several important roles for the Department of the Army and the Department of Navy.

BLOSSOM POINT RESEARCH FACILITY JOINT LAND USE STUDY

FACILITY MISSION

- Military facilities, such as Blossom Point, generally have positive fiscal impacts to local jurisdictions.
- Blossom Point currently has approximately 55 employees.

BLOSSOM POINT RESEARCH FACILITY JOINT LAND USE STUDY

FACILITY MISSION

Facility Concerns:

- Safety of the public.
- Comfort of the public – i.e. noise and vibration
- Unintended interference with research at the facility.
- Unintended access onto the property.

BLOSSOM POINT RESEARCH FACILITY JOINT LAND USE STUDY

FACILITY MISSION

Step 1: Initiate Project with Client & Partners

Step 2: Analysis & Mapping of Existing and Historical Conditions

Step 3: Identification of Land Use and Conflict Analysis
- Stakeholder Meetings
- Public Forum

Step 4: Future Development Potential Analysis & Conflict Assessment

Step 5: Land Use Policy & Regulation Recommendations

Step 6: Implementation Plan, Action Steps and Ongoing Monitoring

Step 7: Final Report Process

Project is anticipated to be complete in August of 2010

BLOSSOM POINT RESEARCH FACILITY JOINT LAND USE STUDY

PROJECT SCOPE

The purpose of tonight's Public Forum is to educate the public about this process and to solicit feedback from the community.

BLOSSOM POINT RESEARCH FACILITY JOINT LAND USE STUDY

PROJECT OVERVIEW

There are several maps here this evening for you to look at.
These maps show:

- The existing land use in most of the area around Blossom Point is agricultural.
- The zoning in most of the area around Blossom Point is AC, Agricultural Conservation zoning, which allows agriculture and low-density residential
- Access to Blossom Point, by vehicle, is limited to one main route in and out – Blossom Point Road.

BLOSSOM POINT RESEARCH FACILITY JOINT LAND USE STUDY

PROJECT OVERVIEW

We will be looking at several factors while assessing land use compatibility in and around the Blossom Point Facility:

- Current land use and density in the vicinity of Blossom Point.
- Current activities in the vicinity of Blossom Point.
  - Farming
  - Housing
  - Commercial
  - Recreational (Hunting, boating, parks, etc.)
- Future potential for new development or greater density in the vicinity of Blossom Point.
- Current compatibility issues with uses and activities in the vicinity of Blossom Point.
- Future use and activities at Blossom Point.

BLOSSOM POINT RESEARCH FACILITY JOINT LAND USE STUDY

PROJECT OVERVIEW

Questions?

BLOSSOM POINT RESEARCH FACILITY JOINT LAND USE STUDY

QUESTIONS

Public Comment

The following questions and comments were received during the meeting:

1) Blossom Point is a good neighbor and I never had any problems with them. The size of the study area concerns me as it suggests that future impacts will be greater than current.

   Mr. Kaiser explained that Blossom Point is not planning to expand, however we wanted to make sure that everyone who could possibly be affected by the activities at Blossom Point be included in this process.

2) Brentland Road area experiences significant shaking and noise from explosions.

   Mr. Kaiser explained that Blossom Point has a self-imposed limitation of 15 pounds for all explosives tests.

3) The vibration and noise appear to have increased in recent years.

   Mr. Kaiser explained that as the United States is currently involved in two wars the frequency of testing is higher than in the past. This testing is designed to increase the safety of our troops in conflict.

4) Is the military seeking to change the zoning around Blossom Point?

   Mr. Kaiser answered that the military is not specifically seeking to change the zoning. Mr. Stern explained that zoning changes are one of several possibilities that will be reviewed through this joint land use study. The area around Blossom Point already has fairly restrictive zoning in place, so if changes were to be made they might be adjustments to existing zoning regulations rather than a complete rezoning. There will also be an emphasis on land conservation in response to the military's concern about future growth and development.

5) Will the use of the military base change?

   Mr. Kaiser does not anticipate any changes at this time.

6) What is a "stakeholder"?

Ms. Blessinger explained that property owners in the Blossom Point study area with over 100 acres of land, as well as community organizations and developers were invited to smaller stakeholder meetings to discuss issues more specific to their interests. All of the information presented to them is the same as the information being presented at this public forum.

7) How was the public notified about tonight's public forum?

Ms. Blessinger explained that newspaper and radio announcements were used. Property owners near Blossom Point were also sent notices. The newspaper printed an article about the Public Forum on December 9, 2009.

8) What future military operations and technologies might increase Blossom Point's impact on the community?

Mr. Kaiser answered that he is not aware of anything on the horizon for Blossom Point. As new technology is created it will need to be tested somewhere. There are no plans for Blossom Point to introduce any new technologies that would increase their impact on the community.

9) What does the Naval Research Laboratory do at Blossom Point?

Mr. Moorehead explained that their operations are "very quiet". Noise frequencies in the community are of concern to them as they may affect the work done at Blossom Point. Experiments and projects at this site are conducted for the federal government and military contractors. Expansion of their facility may increase in future years but no specific plans are yet in place.

10) Is everyone aware of the Friendship Farm/Friendship Landing project proposal?

Ms. Blessinger answered that the County is aware of this proposal and it will be taken into consideration during this study.

11) Does the State of Maryland have any plans for the land they now own north of Blossom Point?

Mr. Stern explained that the land was purchased using federal funding. As such, there are restrictions imposed on the use and development of the land. The State is going through their own planning process at this time to finalize their plans for the property, but it is anticipated that the land will be maintained in its natural state with few amenities or buildings.

12) Where exactly are explosive detonations being conducted at Blossom Point?

Mr. Kaiser pointed on the large aerial photo display to the area of explosives testing near the peak of the Blossom Point peninsula.

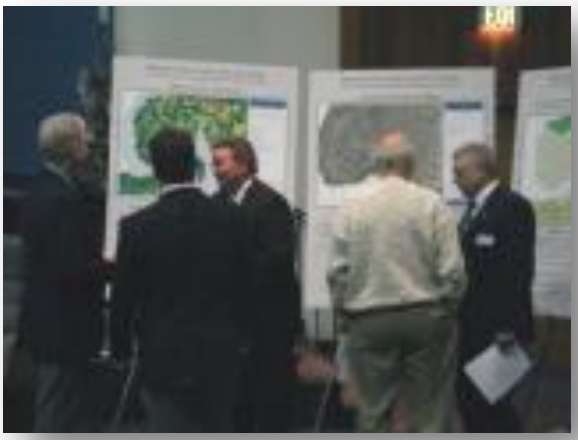
13) Are there restrictions on the water?

Mr. Kaiser explained that the mean tide point is the boundary for Blossom Point. Only authorized persons are to journey beyond that point by water.

14) Will the study identify specific properties that may be appropriate for conservation easements?

Mr. Stern answered that conservation easements are one of several options that will be reviewed during this study and specific recommendations may be included in the final report.

In addition to the public comment session, attendees were given comment cards to write comments or questions in a more anonymous manner. To date, no comment cards or emails with comments have been received by the project team.



Informational Brochure

Next Steps:

Project Schedule

Task	Timeline
Public Forum #1	December 10, 2009
Review Feedback From Public Forum #1	December 2009 - February 2010
Analyze Potential Impacts of BPRF	December 2009 - February 2010
Analyze Development Potential	December 2009 - February 2010
Draft Final Report	March 2010
Presentations: • Planning Commission • County Commissioners	April 2010 – July 2010
Review Feedback From Presentations	July 2010
Final Report	July 2010

Anticipated Completion Date:

August 2010

What does this mean for me?

Stakeholder interviews, public forums, and research will be completed before any recommendations or decisions are made. A few of the possible outcomes from this study include:

- Determining that existing land use policies are sufficient and do not need to be changed.
- Creating appropriate development regulations in close proximity to the facility.
- Encouraging the preservation of land in the community through preservation and conservancy programs.
- Educating the public about how development activities in the community may affect the operations of the facility.
- Creating better communication between the facility and the community.
- Exploring various alternatives to land preservation, conservation, and growth management, such as buffering, conservation easements, transfer of development rights, and other land management tools.

For More Information:

Joint Land use Studies:

Office of Economic Adjustment
www.OEA.gov

Charles County Planning:

www.CharlesCounty.org/pgm/planning
Amy Blessinger, 301-645-0650

Blossom Point Research Facility:

U.S. Army Garrison
Adelphi Laboratory Center
Jack Kaiser, 301-394-1534

To send feedback to JMT (Project Consultants):
09-0470-001@projectcenter.jmt.com

Blossom Point Research Facility Joint Land Use Study

Charles County, Maryland

Charles County Maryland
Where Eagles Fly

Public Forum
December 10, 2009

Study Objectives:

A Joint Land Use Study, or JLUS, is produced by the local jurisdiction, in this case Charles County, Maryland. It is intended to benefit both the local community and the military installation as a basic planning process designed to identify issues confronting both the civilian community and the military installation and to recommend strategies to address the issues in the context of local comprehensive and general planning programs.

The JLUS is conducted in a collaborative manner involving all stakeholders, including the local elected officials, planning commissioners, local military base command staff, community business leaders, chambers of commerce, homebuilders, real estate interests, landowners, and neighboring residents.

The JLUS planning area is being defined by Charles County in consultation with the military, and the State of Maryland., with public input.

The JLUS objectives are twofold:

- To seek ways to reduce the operational impacts on adjacent land; and
- To encourage cooperative land use planning between military installations and the surrounding communities so that future civilian growth and development are compatible with the training or operational missions of the installation.

U.S. Army Garrison, Blossom Point Research Facility

Project Background:
Mission Statement: U.S. Army Garrison, Blossom Point Research Facility

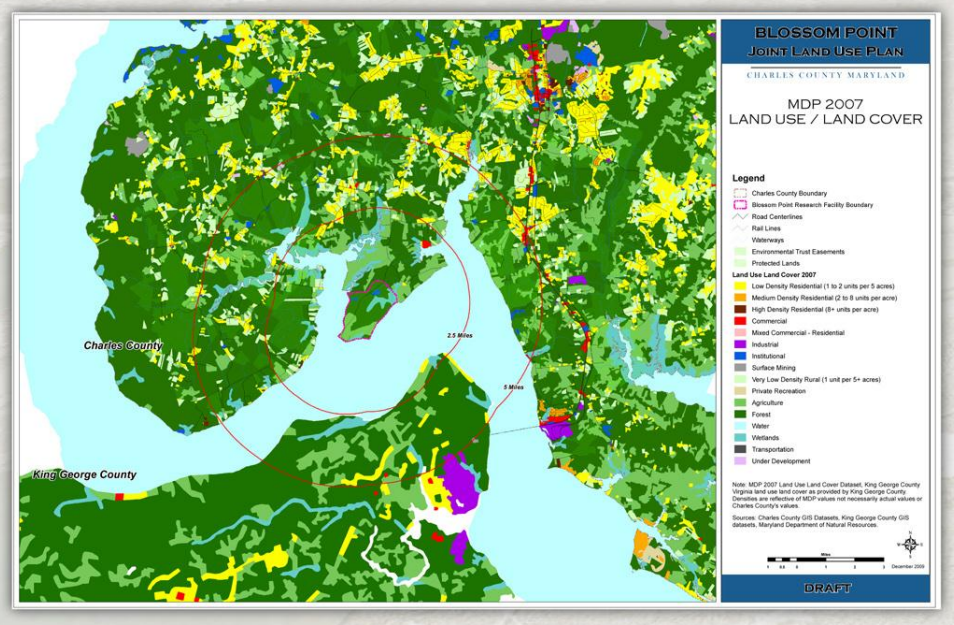
- Operate and maintain an ordnance and electronics research facility in Welcome, Maryland as a sub-installation to the U.S. Army, Garrison Adelphi Laboratory Center. Support the Acoustic/Electro-Optic Propagation Research Site (AEOPRS) operated by the US Army Research Laboratory (ARL).
- Provide reimbursable, customer supported explosives, pyrotechnic, electronic telemetry, laser facility operations for the Army and other Department of Defense, Federal, and Private Agencies.
- Operate and manage the loading facility at BPRF. Provide the best support possible to accommodate the needs and requirements of the US Army and other organizations in their field research programs. Respond to these requests in a timely, professional and cost effective manner. Stay abreast of, and move effectively forward on the associated technology. Maintain liaison between our counterparts throughout the research and development community.
- Maintain and repair the roads, grounds, equipment and structures for the use before, during and after the programs are completed. Perform as good land stewards and maintain the property for the wildlife, protected and endangered species on the installation.
- Maintain own fleet of heavy equipment, farm tractors, bull dozers, forklift, 30 ton mobile crane, etc and GSA vehicles for over the road activities. BPRF maintains own bulk fuel storage capabilities for on-site requirements.
- Maintain and repair the power grid for BPRF and their customers, uploading facility for the researchers, and RF shielded room for working inside away from radio frequencies, onsite range control and radio safety communications, buildings, roads and grounds maintenance, painting, carpentry, plumbing, welding, fire fighting, technical support for testing, physical security, wildlife conservation, shipping and receiving and administration of the workforce.

Displays

Blossom Point Joint Land Use Study

U.S. Army Garrison, Blossom Point Research Facility

2007 Land Use / Land Cover



What is a Joint Land Use Compatibility Study (JLUS)?

A Joint Land Use Study, or JLUS, is prepared by and for the local jurisdiction.

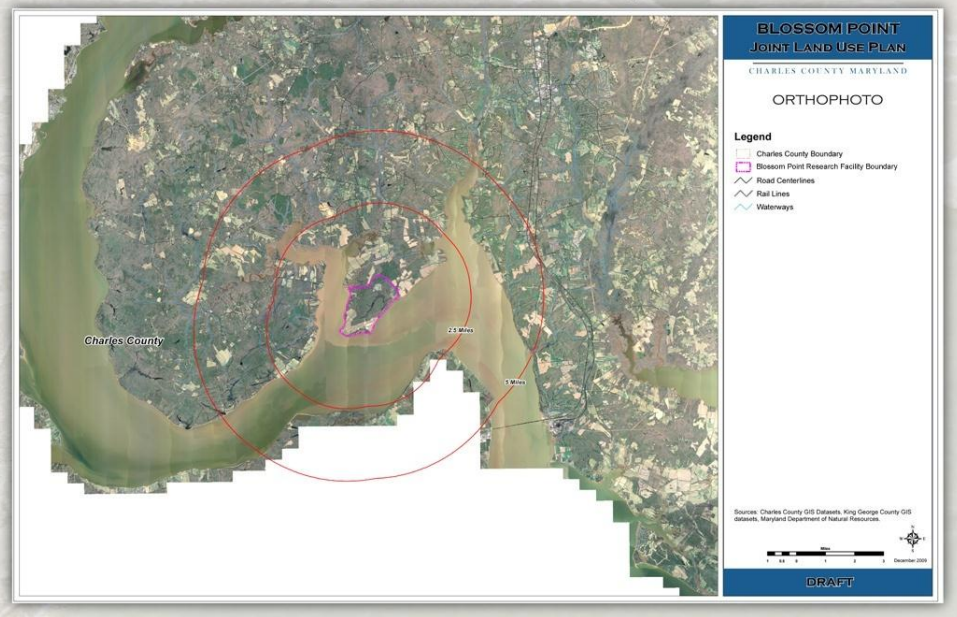
- The Study is a collaboration between Charles County, Blossom Point Research Facility, State Agencies and the community.
- The planning process is designed to jointly identify issues confronting both the community and the military installation and to recommend strategies to address the issues.
- This Study will be coordinated with other local and countywide plans and planning efforts.

The JLUS is conducted in a collaborative manner involving all stakeholders, including the local elected officials, planning commissioners, local military base command staff, community business leaders, chambers of commerce, homebuilders, real estate interests, landowners, and neighboring residents.

Blossom Point Joint Land Use Study

U.S. Army Garrison, Blossom Point Research Facility

Study Area & Areas of Impact



What are the objectives of this study?

- To encourage cooperative land use planning between military installations and the surrounding communities so that future civilian growth and development are compatible with the training or operational missions of the installation; and

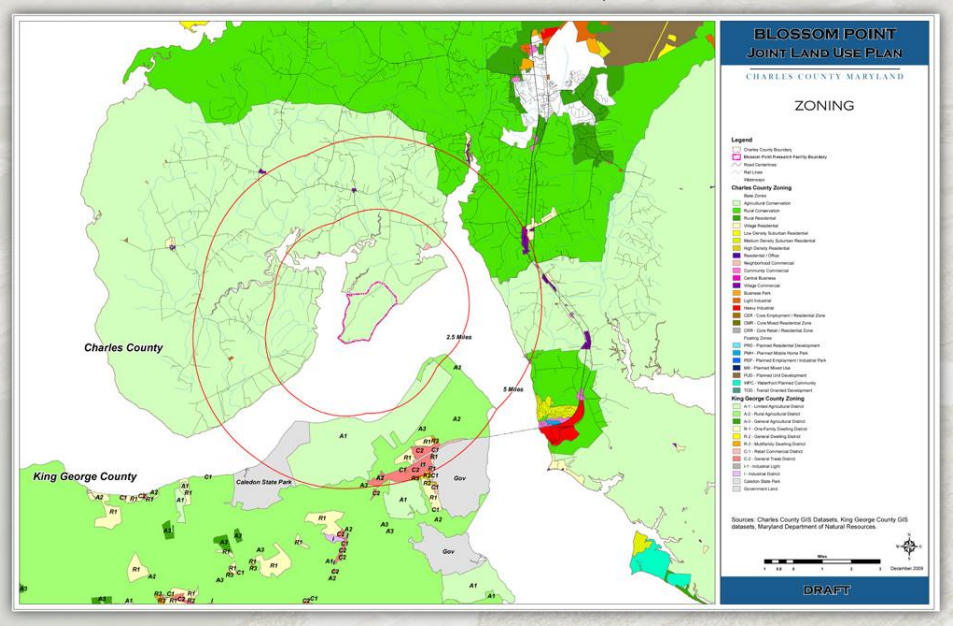
- To seek ways to reduce the operational impacts on adjacent land.

Blossom Point Joint Land Use Study

U.S. Army Garrison, Blossom Point Research Facility

Zoning

Zoning is the government regulation of land and building use by type and density of development for particular districts of areas such as residential, commercial, institutional, industrial and mixed-use districts to control the character of a place.



What does this project mean for me?

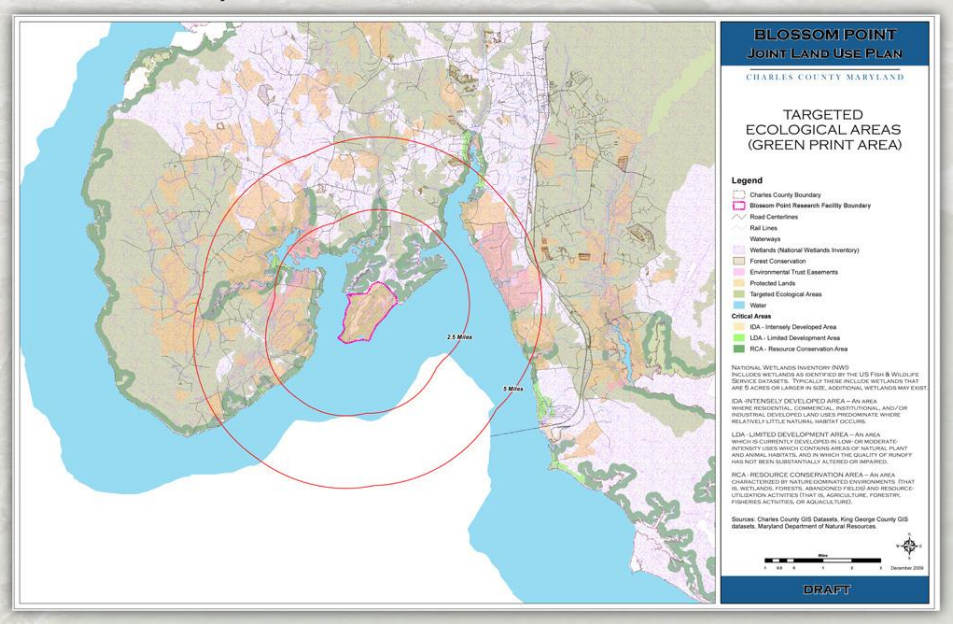
Stakeholder interviews, public forums, and research will be completed before any recommendations or decisions are made. A few of the possible outcomes from this study include:

- Determining that existing land use policies are sufficient and do not need to be changed.
- Creating appropriate development regulations in close proximity to the facility.
- Encouraging the preservation of land in the community through preservation and conservancy programs.
- Educating the public about how development activities in the community may affect the operations of the facility.
- Creating better communication between the facility and the community.
- Exploring various alternatives to land preservation, conservation, and growth management, such as buffering, conservation easements, transfer of development rights, and other land management tools.

Blossom Point Joint Land Use Study

U.S. Army Garrison, Blossom Point Research Facility

Environmentally Sensitive Areas and Preserved / Conserved Land



The JLUS will study and evaluate various impacts of current and future land use patterns with respect to the community and Blossom Point Research Facility considering the following:

Impacts on the Environment with respect to land use types and densities

Critical Area Regulations:

Resource Conservation Areas (RCA) - An area characterized by nature-dominated environments (wetlands, forests and wildlife habitats) and resource - utilization activities (agriculture, forestry, fisheries or aquaculture).

Limited Development Areas (LDA) - An area which is currently developed in low- or moderate-intensity uses which contains areas of natural plant and animal habitats, and in which the quality of runoff has not been substantially altered or impaired.

Intensely Developed Areas (IDA) - An area where residential, commercial, institutional, and/or industrial developed land uses predominate where relatively little natural habitat occurs.

Other Applicable Land Use Type Regulations:

Residential Uses, Agricultural Uses, Commercial and Industrial Uses
Use of Private and Publicly Preserved/Conserved Land

Land Use Impacts/Compatibility:

Noise, traffic, air quality, vibration, light/glare and other aspects of community health, safety and welfare.

Impacts on the Environmentally Sensitive Lands such as:

Wetlands
Wildlife Habitats
Forests
Waterways

Appendix D: Build-Out Analysis Methodology

Table 3-11(a): BPRF Study Area

Table 3-11(a) depicts land with development potential within the BPRF study area.

The methodology for this table involved the following steps:

1. The zoning districts within the study area were identified. Although Critical Area is an overlay, we treated it as a separate district for purposes of this analysis so that the land would not be "double-counted."
2. The land area within each zoning district was calculated using GIS data supplied by Charles County.
3. "Land with Development Potential" was calculated by subtracting from each district's land area all lands which were deemed to have very limited potential for development. These areas are shown in Table D-1. It should be noted that many parcels of land are protected in more than one way, thus the acres shown in Table D-1 are not cumulative. (i.e. a parcel of land may be protected due to a state easement, a steep slope, and wetlands.)
4. Based on the net "Land with Development Potential," the number of units which could be developed based on zoning regulations was determined. The resulting number has been identified as the "Maximum Permitted Development (Units)."
5. The number of existing units within the area was determined and is identified as the "Existing Development (Units)."
6. The "Potential New Development (Units)" was determined by subtracting the number of "Existing Development Units" from the "Maximum Permitted Development Units." Within the Critical Area overlay, the number of existing units is more than the number of permitted units due to pre-existing nonconformities. As such, a 'zero' was used since no new units could be built under the current Critical Area overlay zoning.

Table D-1: BPRF Study Area	
Type	**Acres**
Protected Lands	**5,593.2**
Federal Properties	*1,556.1*
State Owned Resource Land	*2,127.2*
State Easement	*317.3*
Maryland Agricultural Land Preservation Easement (MALPF)	*152.8*
Maryland Environmental Trust (MET)	*924.4*
Maryland Agricultural Land Preservation District (5 Years)	*112.6*
Transferable Development Rights (TDR)	*128.0*
The Nature Conservancy	*236.6*
Joint MET / CCC	*38.2*
Critical Areas	**5,475.5**
Steep Slopes >15%	**1,450.0**
Non-Percable Soils	**5,519.3**
Resource Protection Zone	**1,256.2**
DNR Wetlands with 25ft Buffer	**160.2**

Acreage is not intended to be cumulative, as individual parcels may be protected in more than one way.

Source: Charles County GIS Datasets; Maryland Department of Natural Resources. Protected Lands are as depicted on 2011 Charles County Protected Lands map.

Table 3-11(b): Impact Area

Table 3-11(b) depicts land with development potential within the Impact Area.

The methodology for this table involved the following steps:

1. The zoning districts within the Impact Area were identified. Although Critical Area is an overlay, we treated it as a separate district for purposes of this analysis so that the land would not be "double-counted."
2. The land area within each zoning district was calculated using GIS data supplied by Charles County.
3. "Land with Development Potential" was calculated by subtracting from each district's land area all lands which were deemed to have very limited potential for development. These areas are shown in Table D-2. It should be noted that many parcels of land are protected in more than one way, thus the acres shown in Table D-1 are not cumulative. (i.e. a parcel of land may be protected due to a state easement, a steep slope, and wetlands.)
4. Based on the net "Land with Development Potential," the number of units which could be developed based on zoning regulations was determined. The resulting number has been identified as the "Maximum Permitted Development (Units)."
5. The number of existing units within the area was determined and is identified as the "Existing Development (Units)."
6. The "Potential New Development (Units)" was determined by subtracting the number of "Existing Development Units" from the "Maximum Permitted Development Units." Within the Critical Area overlay, the number of existing units is more than the number of permitted units due to pre-existing nonconformities. As such, a 'zero' was used since no new units could be built under the current Critical Area overlay zoning.

Table D-2: BPRF Impact Area	
Type	**Acres**
Protected Lands	**3,978.1**
Federal Properties	*1,555.8*
State Owned Resource Land	*1,974.5*
State Easement	*21.3*
Maryland Environmental Trust (MET)	*276.3*
Maryland Agricultural Land Preservation District (5 Years)	*71.3*
Transferable Development Rights (TDR)	*54.4*
Joint MET / CCC	*24.5*
Critical Areas	**3,931.4**
Steep Slopes >15%	**239.4**
Non-Percable Soils	**4,141.8**
Resource Protection Zone	**858.5**
DNR Wetlands with 25ft Buffer	**87.6**

Acreage is not intended to be cumulative, as individual parcels may be protected in more than one way.

Source: Charles County GIS Datasets; Maryland Department of Natural Resources. Protected Lands are as depicted on 2011 Charles County Protected Lands map.

Blossom Point Research Facility
Charles County, Maryland
Joint Land Use Study
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