

Naval Support Facility Indian Head Joint Land Use Study

Charles County

Town of Indian Head

NSF Indian Head



CHARLES COUNTY COMMISSIONERS



Equal Opportunity County

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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. We support and encourage efforts to grow a diverse workplace.

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

Acknowledgements

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Executive Summary

Overview

The Naval Support Facility (NSF) Indian Head Joint Land Use Study (JLUS) is the result of a collaborative land use planning process with a broad array of stakeholders representing Charles County, the Town of Indian Head, NSF Indian Head, and various community groups.

The goals of the Indian Head JLUS are:

- To protect and preserve the mission at NSF Indian Head while supporting continued community economic development, and
- To protect the health, safety, and welfare of the surrounding community.

The intent of the study is to develop a blueprint of best practices to guide military and community policy actions to protect the military mission while sustaining local growth.

The project was sponsored by Charles County in collaboration with NSF Indian Head and the Town of Indian Head through a grant from the Department of Defense Office of Economic Adjustment and steered by a Policy Committee and Technical Advisory Group comprised of subject matter experts and local leaders.

Compatibility Tools

The JLUS is one tool used by the Navy to promote land use compatibility and minimize operational impacts on surrounding communities. Because land use planning requires coordination across federal, state, regional, and local boundaries, a wide range

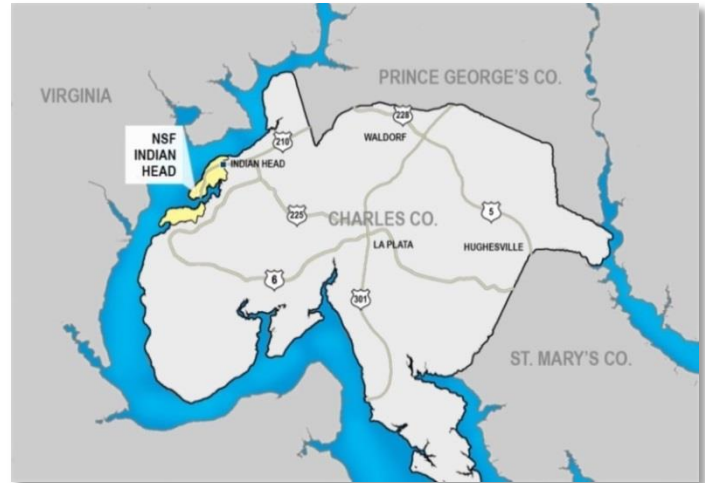


Figure ES- 1: Located along the Potomac River in Charles County, MD, the Navy’s mission at NSF Indian Head is to research, develop, test, evaluate, and produce energetics and energetic systems for U.S. fighting forces.

of plans and programs were considered in the study. For example, the Comprehensive Plans and zoning regulations of both Charles County and the Town of Indian Head were reviewed.

Additional existing Navy plans and studies included an Encroachment Action Plan (EAP), a Master Plan, and an Operational Noise Consultation.

The Navy-led Community Relations (COMREL) Council is also used to maintain communication between NSF Indian Head and community leaders. In addition, the State of Maryland requires a notification for real estate purchases near military installations.

Finally, land preservation tools, such as conservation easements, transfer of development rights, and land acquisitions can be used to preserve sensitive areas and ensure compatible growth.

Compatibility Assessment

Compatibility is the balance between community and military needs and interests where both can thrive without conflict. Compatibility issues related to the community, operations, safety, and environment were identified and assessed by reviewing existing studies and reports, interviewing subject matter experts and stakeholders, and obtaining feedback from community members.

The research and analysis conducted by the project consulting team and the Policy Committee and the Technical Advisory Group identified the following key findings:

- Operations at NSF Indian Head have the potential to produce noise that can disturb surrounding communities. Future residential growth, especially around Stump Neck Annex, may put pressure on NSF Indian Head to curtail operations due to noise impacts.
- The rural character and presence of numerous parks and protected areas in the county ensure lands remain compatible with the military mission and help to sustain the ecological integrity of the region.
- A strong, vibrant Town is compatible with installation operations; however, revitalization efforts should be carefully considered in light of existing operations.
- To ensure public safety, access to waterways may be restricted when explosives are detonated on the installation. Increased boat traffic and use of the surrounding waterways could

create delays or impact the timing of explosive operations.

- Groundwater use is limited due to aquifer drawdown, impacting both the Town of Indian Head and NSF Indian Head. Increased demand and development in the aquifer could influence water availability in the future and put more pressure on the Navy to find alternative solutions.

Towards the end of the study process, the county adopted the 2016 Comprehensive Plan, which changed land use designations near NSF Indian Head that will have the effect of limiting development densities in the area near the installation. It is anticipated that this will significantly limit the amount of development in the areas near Stump Neck Annex, and also alleviate pressure on the water supply.

Recommendations

After identification and analysis of potential conflicts, a series of recommendations were endorsed by the Indian Head JLUS stakeholders to address the current and future land use challenges facing the Town of Indian Head, Charles County, and the Navy. The JLUS is the beginning of an ongoing collaborative effort, and representatives of each stakeholder will work to implement these recommendations, summarized below.

1. Improve Interagency Coordination

It is recommended that a working group be established to facilitate the implementation of the JLUS. Integration of NSF Indian Head in county and Town planning processes is important, and representatives should meet

regularly to discuss encroachment mitigation and prevention.

2. Increase Awareness of the Military Mission

To ensure the local community has sufficient information on potential impacts resulting from military operations, it is suggested that real estate disclosures be updated and expanded, noise notifications or advisories be distributed, and information be provided to boaters and recreational users.

The JLUS also encourages NSF Indian Head to develop a communication plan outlining methods to share information with the public.

3. Coordinate Land Use Planning

As part of the JLUS, a Military Awareness Area, shown in Figure ES - 2, for joint planning was proposed, where enhanced coordination between the Navy, Town, and county would be beneficial. Developing a process for Navy review of development

projects in this area, incorporating noise contours into planning documents, and other cooperative planning efforts are recommended to improve land use planning coordination. These measures have been included within the Charles County 2016 Comprehensive Plan.

4. Partner for Land Preservation

It is recommended that partnerships be pursued to help identify and preserve land that protects the military mission using federal, state, and county programs. It is also suggested that the county establish a landowner education program to increase awareness of land preservation opportunities.

5. Develop Business & Economic Opportunities

Because of the importance of NSF Indian Head to the business community, it is suggested that the Charles County Chamber of Commerce continue to promote its new Military Alliance Council. The formation of a Town redevelopment group and economic marketing strategy are also supported, and it is important to ensure that development activities do not have a detrimental effect on the Navy mission

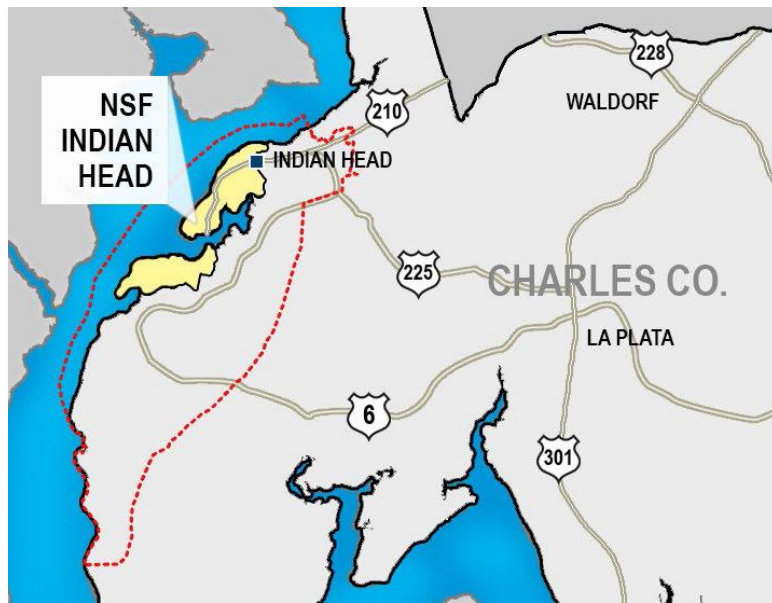


Figure ES - 2: The Indian Head JLUS Military Awareness Area would be an area of increased cooperation and coordination. A more detailed map is shown in Figure 35.

Chapter 1: Introduction

Military installations can contribute to the local economy by providing jobs and funneling defense dollars into local and regional businesses. However, military operations can cause compatibility issues with the local community, which in turn may affect the military mission. As a result, the Department of Defense (DoD) has implemented programs, such as the Joint Land Use Study (JLUS), to be good neighbors to surrounding communities.

What is a Joint Land Use Study?

In 1985, the DoD Office of Economic Adjustment (OEA) initiated the JLUS program to create a participatory, community-based framework for addressing land use issues around military installations.

The focus of the JLUS is much more on collaboration than the final document. It emphasizes a public dialogue to address the wide-ranging issues of land use, economics and population growth, infrastructure, environmental sustainability, and changing military missions. The intent of the study is to highlight common interests—attractive development, healthier environments, more efficient infrastructure, economic prosperity, and better quality of life—and to protect the military mission while sustaining local growth. The resulting report is not a binding document, but a dynamic blueprint of best practices and ideas to guide military and community policy actions in the years ahead.

The JLUS Focus Area

The study area for the JLUS, shown in Figure 1, includes Charles County, the Town of

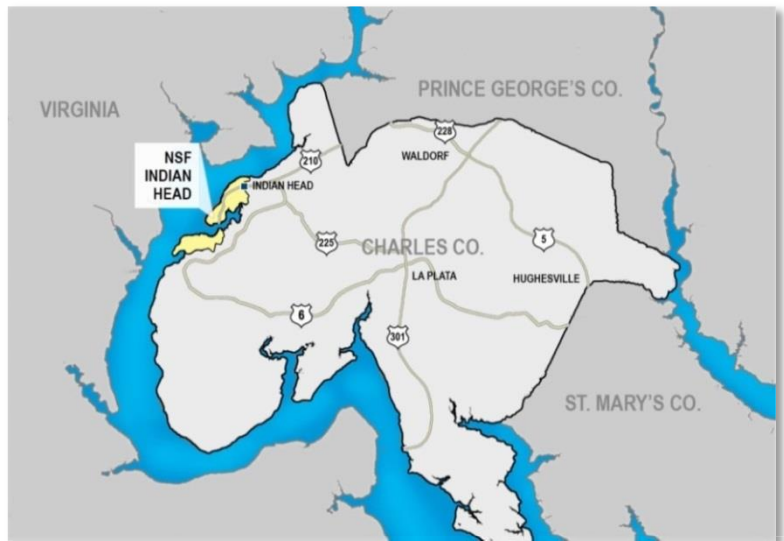


Figure 1: Indian Head JLUS Study Area

Indian Head, MD, and Naval Support Facility (NSF) Indian Head, which includes Cornwallis Neck (also known as Mainside), Stump Neck Annex, Bullit's Neck, Marsh Island, and Thoroughfare Island.

Study Goals and Objectives

The goals of the Indian Head JLUS are:

- To protect and preserve the mission at NSF Indian Head while supporting continued community economic development, and
- To protect the health, safety, and welfare of the surrounding community.

The objectives of the JLUS are two-fold:

- 1. Encourage cooperative land use planning between military installations and the surrounding communities**
- 2. Seek ways to reduce the operational impacts of military installations on adjacent land**

The JLUS Process

While encroachment¹ is currently not severe around NSF Indian Head, changing market conditions, population growth, and increasing commercial activity have the potential to quickly reshape development patterns near critical mission areas. The JLUS is most effective as a proactive process for identifying and minimizing these foreseeable threats to military readiness, public safety, and regional quality of life.

Acting as the JLUS project sponsor, Charles County established a JLUS Policy Committee (PC) with voting representatives from Charles County and the Town of Indian Head, located adjacent to the installation. The PC also includes one representative from NSF Indian Head, one member representing the state of Maryland, and one representative from the

¹ Encroachment is defined by the Navy as any action planned or executed in the vicinity of a naval activity or operational area which inhibits, curtails, or possesses the potential to impede the performance of the mission of the naval activity.

Tri-County Council for Southern Maryland. The DOD OEA assigned a project manager to provide technical assistance to the participating jurisdictions and the military installation.

As shown in Figure 2, the role of the PC is to help manage the study and work to implement recommendations. A Technical Advisory Group (TAG), consisting of a variety of government and installation employees with technical knowledge in military and/or land use planning, was also appointed. These groups met throughout the study to review information and offer input. All PC and TAG meetings are open to the public; however, both committees may choose to hold closed meetings, as needed.

Study Sponsor	<ul style="list-style-type: none"> • Coordination • Accountability • Grant Management
Policy Committee	<ul style="list-style-type: none"> • Policy Direction • Study Design and Oversight • Monitoring • Report Acceptance
Technical Advisory Group	<ul style="list-style-type: none"> • Technical Issues • Alternatives • Report Development • Recommendations

Figure 2: Roles and Responsibilities of JLUS Stakeholders

As part of the JLUS grant application, Charles County was required to coordinate with State of Maryland agencies to ensure that the study would be consistent with state plans, programs, and objectives. County staff conducted the required coordination through the Maryland State Clearinghouse process.

Public Outreach

Community involvement is an essential part of the JLUS, not only to inform the public but also to gather input and ensure a transparent process. Community concerns and recommendations were gathered through stakeholder interviews, public forums, and an online survey.

Public concerns and inputs are summarized in Appendix B.

Stakeholder Interviews

Stakeholders were identified early in the process and included county and Town officials, installation representatives, business groups, and local organizations. More than 30 stakeholder interviews were conducted (see Appendix C).

Public Forums

Two public forums were held to inform the community about the JLUS, address questions, and gather feedback from local residents for use in the study.

The first public forum was held on January 28, 2015 at the Village Green Pavilion in Indian Head, MD. Its purpose was to present information on the JLUS process and give area residents an opportunity to share their thoughts on Navy operations and surrounding land use.

A second public forum was held March 25, 2015 at the Village Green Pavilion in Indian Head, MD to review the preliminary findings and recommendations of the JLUS with the community and solicit their input.

Public Outreach Materials

A variety of public outreach materials were developed to inform the public about the JLUS, shown in Appendix D. In addition, the community was notified of JLUS meetings and updates through news releases, post cards, flyers, email announcements, website posts, and paid advertisements.

Project Website

A project website, www.IndianHeadJLUS.com, shown in Figure 3, was created to provide information and updates to the community regarding the JLUS. It includes an overview of the project and objectives, background and other relevant information, presentations and documents for public review, schedule of events, contact information, and tools for public comment (email, comment box, survey).

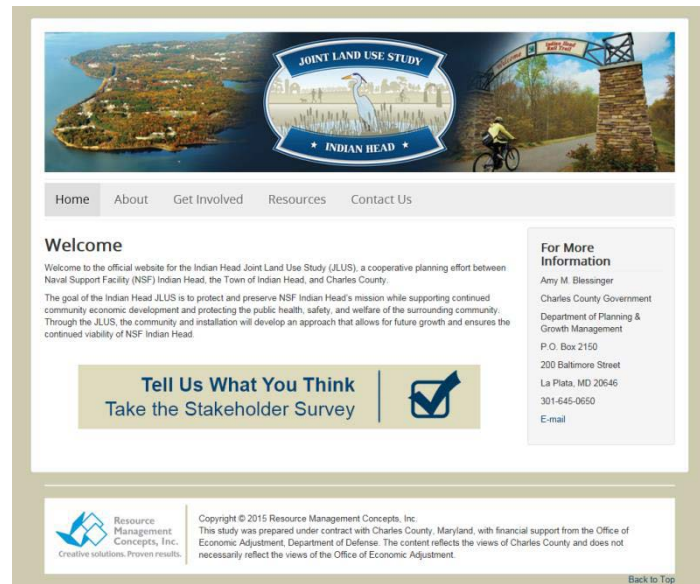


Figure 3: Indian Head JLUS website home page

Online Survey

An online survey was developed and posted to the project website. The purpose of this survey was to solicit input to assist the JLUS

Project Team with determining key issues, identifying areas of concern, and gathering general knowledge and viewpoints concerning the installation.

ILUS Brochure

An informational brochure, shown in Figure 4, was created and distributed at the first public forum. The brochure explains the purpose of the study, provides background information, and lists potential compatibility issues. The brochure was updated during the study to incorporate findings and recommendations.

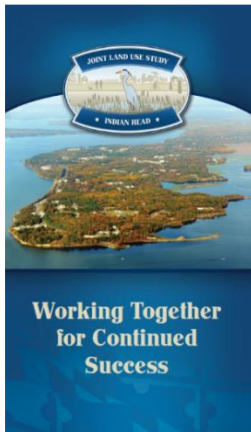


Figure 4: Brochure

Handouts

A one-page fact sheet was developed and distributed during stakeholder interviews, as well as at the first public forum. For the first public forum, a list of discussion questions was added to spark conversations about compatibility issues. During the second public forum, attendees were provided a copy of the preliminary compatibility review and recommendations.

Informational Posters

Four informational posters, shown in Figure 5, displaying NSF Indian Head operational areas, land use and land cover, protected areas, and noise compatibility, were developed for display at the public forums and were also posted to the project website.



Figure 5: Informational posters developed for the public forums

Overview of the JLUS Report

The JLUS is organized into sections as follows:

- Chapter 1: Introduction – Provides an overview of the study purpose and process.
- Chapter 2: Background – Includes a summary description of NSF Indian Head, as well as the economy of the region and demographic trends.
- Chapter 3: Compatibility Tools & Implementation Strategies – Provides a context for planning in the local community, including the county, Town and military planning.
- Chapter 4: Compatibility Assessment – Evaluates each compatibility factor and identifies issues and concerns to be addressed.
- Chapter 5: JLUS Strategy & Recommendations – Outlines tools and an implementation plan to address compatibility concerns.

Chapter 2: Background

NSF Indian Head has been manufacturing and testing ordnance and explosives since it was founded in 1890 as a Naval Proving Ground. Today, the military community on the installation represents a diverse and strategically important mix of research and development activities, alongside operational support programs.

Overview of NSF Indian Head

NSF Indian Head is divided into separate parcels, including Cornwallis Neck, Stump Neck Annex, Bullit's Neck, Marsh Island, and Thoroughfare Island, shown in Figure 6. The installation contains 16.5 miles of shoreline surrounded by the Potomac River, Mattawoman Creek, and Chicamuxen Creek.

Installation History

Founded in 1890 as the Indian Head Proving Ground, the installation was the Navy's first established presence in southern Maryland. By 1913, the installation gradually moved away from the proving of guns and armor to include standardization of shells and powder. In 1915, an ammonium picrate manufacturing plant was opened to expand the chemical research program, both routine and experimental. When the United States entered World War I in 1917, the installation was a major producer of smokeless powder for the Navy. After 1921, the installation shifted from a naval gun proving ground to a



Figure 6: NSF Indian Head

chemical factory, research laboratory, and explosives factory. NSF Indian Head was no longer designated as a Naval Proving Ground but became the Naval Powder Factory. In 1947, the Bureau of Ordnance agreed to establish a set of pilot plants at NSF Indian Head that would have the capacity to produce new, experimental propellants for naval research use: a nitroglycerin pilot plant, a plant to produce varied nitrogen-content nitrocellulose, a plant for mixing and rolling experimental lots of solvent and solventless propellant, and a fourth plant for

experimental production of cast propulsion units.

During the 1950s, the installation increased explosive and propellant production due to the Korean conflict. Building on work done at the installation during the 1940s, installation personnel began to produce missile fuel for the long-range Polaris missile and smaller rockets and, later, propellants for emergency ejection mechanisms.

To reflect its new mission and direction, the installation officially became the Naval Propellant Plant in 1958. In 1966, because of the diversification from propellants into related fields of chemistry, engineering, and production contract management, the installation changed its name, becoming the Naval Ordnance Station (NOS). The mid to late-1960s were characterized by the production of such products as the plastic explosive C-3 in 1965, an updated Zuni rocket in 1966, Polaris casting powder from 1961 through 1967, Poseidon casting powder (C-3) in 1967, and composite propellant and PBX explosive processing.

In 1989, Naval Sea Systems Command designated NOS as the Center of Excellence (COE) for six technologies: guns, rockets and missiles; energetic chemicals; ordnance devices, such as cartridge- and propellant-actuated devices (CAD/PAD); missile weapon simulators; explosive process development engineering; and explosive safety,

occupational safety and health, and environmental protection. This COE designation meant that the Navy would treat the installation as the primary expert in these particular areas.

In 2003, the management of the installation transferred to Commander Navy Installation Command (CNIC), the new Echelon II command charged with providing shore installation management services to all Navy activities. As part of CNIC, all naval installations within the National Capital Region aligned with Naval District Washington (NDW), and on November 3, 2005, the installation was renamed NSF Indian Head with the commissioning of Naval Support Activity South Potomac (NSASP) as the host command.

Supported Commands

Today, the military community on board the installation includes Navy and Joint tenant commands that represent a diverse and strategically important mix of research and development activities, alongside operational support programs that are protecting the U.S. from terrorist threats as well as serving U.S. Navy, Marine Corps, Air Force, and Army forces deployed worldwide on a daily basis. Some of these commands are described below.

The Navy's mission at NSF Indian Head is to research, develop, test, evaluate, and produce energetics and energetic systems for U.S. fighting forces.

Naval Surface Warfare Center, Indian Head Explosive Ordnance Disposal Technology Division (NSWC IHEODTD)

NSWC IHEODTD is the largest mission-oriented support command at NSF Indian Head and is the DoD Energetics Center serving as the DoD Explosive Ordnance Disposal Technology Program lead.

NSWC IHEODTD focuses on the research, development, test, and evaluation (RDT&E) and in-service support of energetics and energetic systems, working to provide military personnel worldwide with the information and technological solutions they need to detect, locate, access, identify, render safe, recover, and dispose of both conventional and unconventional explosive threats.

NSWC IHEODTD comprises the largest energetic materials research and development (R&D) activity in the DoD, as well as the highest concentration of explosives research personnel in the U. S.

NSWC IHEODTD provides energetic systems solutions and explosive ordnance disposal (EOD) expertise to the U.S. Navy, DoD agencies, and allied nations—supporting the warfighter of today and of tomorrow through discoveries that anticipate the future needs for the next generation.

Joint Service Explosive Ordnance Disposal (EOD) Technology Program

The mission of the Joint Service EOD Technology Program is to leverage technology and intelligence to develop and deliver EOD information, tools, equipment, and life cycle support to military personnel worldwide. It is the DoD center of knowledge

on all explosive threats. As part of the Joint Service EOD Technology Program, the Joint Explosive Ordnance Disposal Technical Support Center (JEODTSC) was established to better provide EOD technicians worldwide with real-time information essential to countering rapidly-evolving sophisticated explosive threats. The JEODTSC is staffed to provide EOD operators with operational decision support, EOD equipment and other related technical support information.

Marine Corps Chemical Biological Incident Response Force (CBIRF)

Activated in 1996 by the Marine Corps, CBIRF is a mission-oriented supported command based at NSF Indian Head. Under the command of the II Marine Expeditionary Force, CBIRF's mission is Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive (CBRNE) consequence management. The command specializes in casualty search and extraction, decontamination, medical stabilization, and consequence management for such incidents. The CBIRF Basic Course (CBC), located at Stump Neck Annex, is where marines learn to strategically move through collapsed structures, perform emergency medical care, extract mass casualties from a contaminated area, and many more skills.

Naval Sea Logistics (NAVSEALOG) Center Detachment Indian Head

NAVSEALOG Center Detachment Indian Head provides information technology products and services for NAVSEA by integrating Navy business practices with information technology and project management expertise. The end deliverables are

information technology products that strengthen fleet logistics. One such product is the Navy Data Environment, which integrates previously separate computer systems for ship alteration, fleet modernization, and budgeting into a single consolidated database. NAVSEALOG is endorsed by the ship maintenance community as the authoritative database for ship alterations.

Naval Ordnance Safety and Security Activity (NOSSA)

Established on October 1, 1999, NOSSA, a field activity of NAVSEA, is responsible for managing all aspects of the Navy's Explosives Safety Program. From its headquarters at NSF Indian Head, NOSSA acts as the technical authority for explosives safety. NOSSA supports the Fleet's operational readiness and combat capabilities through effective management of explosives risks encountered throughout the life cycle of ammunition and explosives.

Joint Interoperability Test Command (JITC)

JITC's mission centers on increased combat effectiveness through the integration of all information systems used by the armed services. The command also serves the Defense Information Systems Agency (DISA) as a special advisor, providing expertise in testing and evaluating the interoperability of these national security information systems. The command presence at NSF Indian Head primarily focuses on interoperability capabilities that enhance warfighter effectiveness.

Regional Setting

Located in Charles County, NSF Indian Head encompasses approximately 3,500 acres on the eastern bank of the Potomac River, approximately 20 miles south of Washington, D.C. Adjacent to the installation is the Town of Indian Head. The surrounding land use, shown in Figure 7 and Figure 8, is mostly residential, forested, and agricultural.

The Town of Indian Head developed outside of the main gate during the war years when there was a massive effort to produce powder and munitions. Accompanying housing and commercial development followed to serve the population, mostly Navy personnel. In the mid-1940s, Maryland Route 210 was initiated by the federal government to provide a vital and quick link to the naval installation from the Washington, D.C. area.

The region has a long history of settlement, and is home to two recognized native tribes. Approximately 9 percent of the Maryland American Indian population lives in the Southern Maryland region (Charles, Calvert, and St. Mary's Counties). In January 2012, the state of Maryland formally recognized the Piscataway Indian Nation and the Piscataway Conoy Tribe. The tribal community has elected individuals to the Piscataway Conoy Tribe (PCT) Tribal Council to represent the tribe to all entities.

Regional Development Overview

The area surrounding NSF Indian Head is a mix of agriculture, rural residential developments, and recreational and open space, including state parks and natural areas. Although not included in this study, the land across the Potomac River from NSF Indian

Head is comprised of residential areas and protected areas. Marine Corps Base Quantico is located within 10 miles of Stump Neck Annex.

Economy of the Region

Businesses in Charles County enjoy the benefits of strategic location, skilled workforce, a reverse commute, and quality office and industrial space. The close proximity to D.C. and northern Virginia is a key economic driver for the county.

In addition to its military value, NSF Indian Head makes a significant economic contribution to the local community by serving as one of Charles County's largest employers. NSF Indian Head employed over 3,000 military personnel, federal civilian employees, and support contractors at the start of 2014, with over 65 percent of these employees residing in Charles County². In addition to providing jobs, the total civilian payroll amounted to more than \$340 million, and local contracts added an additional \$240 million to the community's economy in fiscal year 2013.

Despite its close proximity to D.C., areas of the region remain rural, and agriculture is an integral part of the county's culture and economy. The traditional tobacco crop is no longer the focus, with the area's farmers transitioning into new crops, agritourism, and organic farming.

² 2014 Profile: Naval Support Facility Indian Head, Maryland

Other industry is under development in the county. For example, a state of the art 725-megawatt (MW) combined-cycle natural gas-fired power plant is under construction on land zoned for industrial use, previously permitted for a power plant. This plant is expected to become one of the largest taxpayers in Charles County.

In addition to the government and military employment centers, the county is also focused on the economic development of water-related tourism.

Infrastructure

Current infrastructure in place to support development includes roads, public water supply, and sewer lines, as shown in Figure 9 and Figure 10. The Charles County Adequate Public Facilities Ordinance, first adopted in 1992, ensures that land development coincides with sufficient infrastructure and services, including school capacity.

There are approximately 1,100 miles of highways within Charles County, of which approximately 700 miles are maintained by the county. Route 5 and Route 210 are important commuter routes into the Washington, D.C. metropolitan area.

The Charles County Comprehensive Plan guides the development and location of the provision of water and sewer services and facilities in the county. The County Water and Sewer Plan contributes to the overall framework for guiding growth into designated growth areas.

NSF Indian Head employs more than 3,000 people and generates more than \$500 million to the local economy.

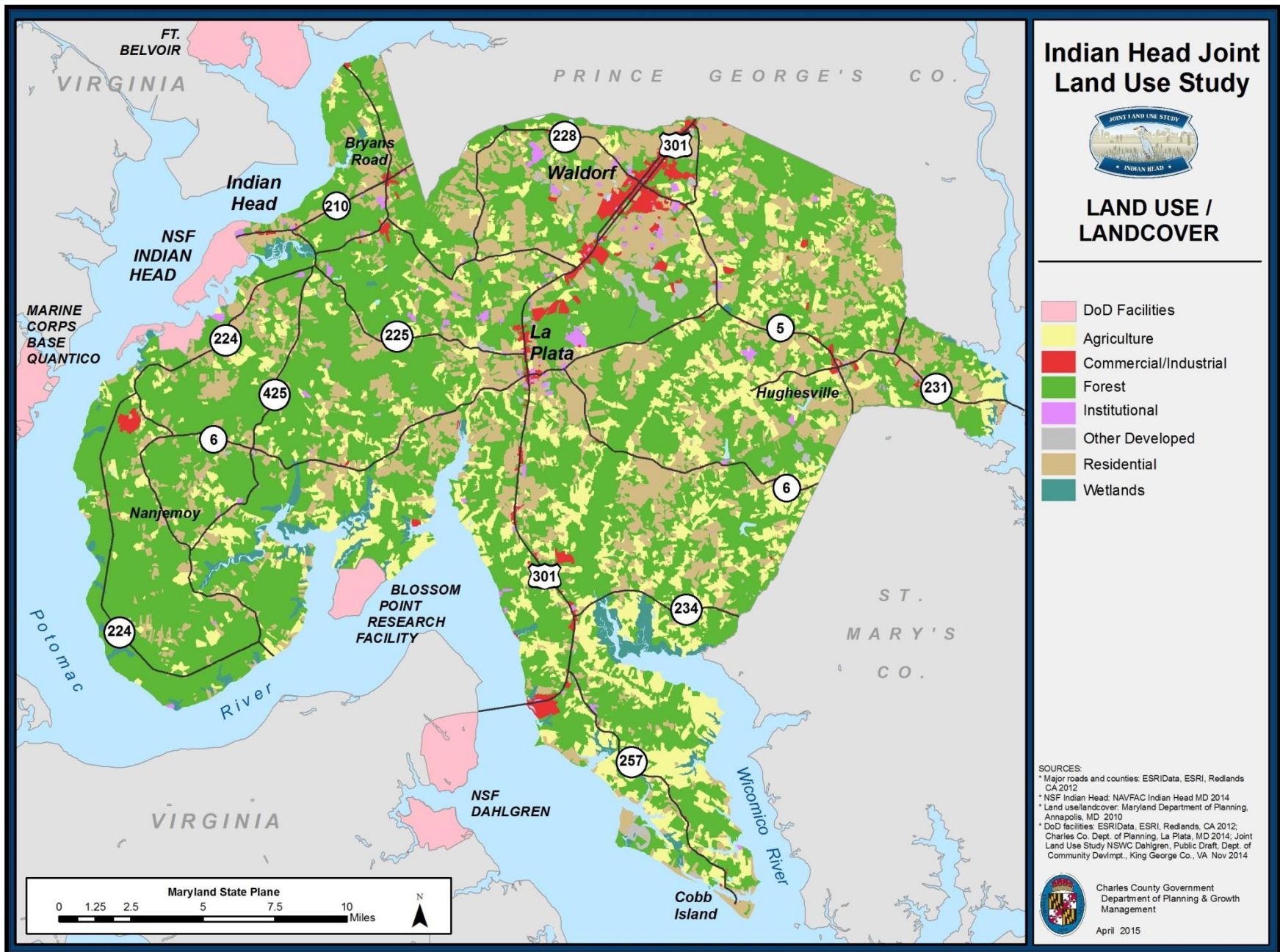


Figure 7: Land Use and Land Cover in Charles County

September 27, 2016

Draft Final for County Commissioner Adoption

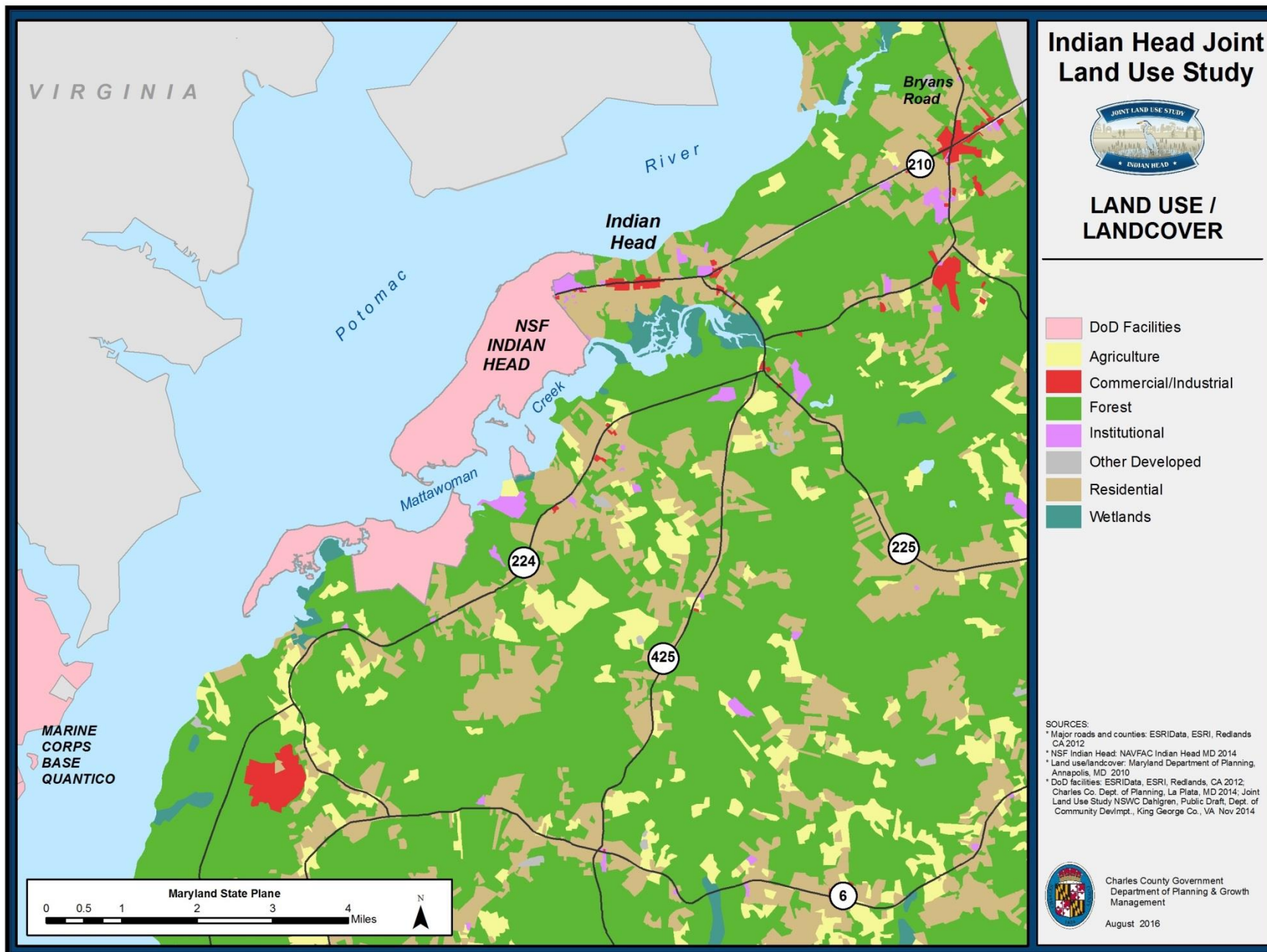


Figure 8: Land Use and Land Cover surrounding NSF Indian Head

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Charles County primarily obtains drinking water from drilled wells tapping deep-water aquifers, such as the Patuxent, Patapsco, and Magothy. The aquifers are recharged principally west of the Potomac River in Fairfax, Prince William, and Stafford Counties.

The Mattawoman Sewer Treatment Facility, located on Route 225, is the primary facility serving Charles County, with a rated capacity of 15 million gallons per day. In addition, the Town of Indian Head and NSF Indian Head own sewer treatment facilities.

Washington Gas serves over one million customers in the Washington, D.C. area, including northern Charles County. The natural gas line, constructed in 2014, extends from Bryans Road to Indian Head along Route 210.

Charles County emergency response is provided by 18 volunteer stations that provide fire suppression, emergency medical services, and dive rescue services. The Town of Indian Head and NSF Indian Head also provide fire support and EMS services from stations located nearby. There is a mutual aid agreement among all three municipalities.

Charles County Public Schools operates 21 elementary schools, 8 middle schools, 6 high schools, an alternative school, an adult services center, and an environmental education center. There are three elementary schools within a five-mile radius of NSF Indian Head: Indian Head Elementary School, Gale Bailey Elementary School, and JC Parks Elementary School. Two middle schools and a high school, Smallwood Middle School, Matthew Henson Middle School, and Lackey High School, are also nearby.

Charles County, the Town, and the Board of Education provide approximately 3,900 acres of recreational land, such as the Indian Head Village Green, adjacent to NSF Indian Head.

There are 13 publicly-owned boat ramps at 7 locations within Charles County. There are also privately operated ramps available to the public. Of particular interest to this project are the ramps at Smallwood State Park, managed by the state, and at Mattingly Park, managed by the Town of Indian Head.

The Indian Head Rail Trail is an abandoned railroad corridor converted into a 13-mile bike trail. Originally built as a supply route for the Navy, the elevated rail bed connects the Town of Indian Head to Route 301 in White Plains, passing through the Mattawoman Creek watershed.

Subdivision Development

Charles County is partially relying on planned communities to absorb expected growth in the county. As shown in Figure 11, subdivision development activity is focused in the development districts around Bryans Road and Waldorf.

Figure 12 shows the subdivision development on county lands surrounding NSF Indian Head. Most of the subdivision activity in this area, including developments with final plat and preliminary plan approval, has occurred in the Bryans Road area and along Route 6. A few developments with approved preliminary plans are located along Maryland Route 225.

It should be noted that the status of subdivision activity in the county could change due to implementation of the adopted 2016 Charles County Comprehensive Plan.

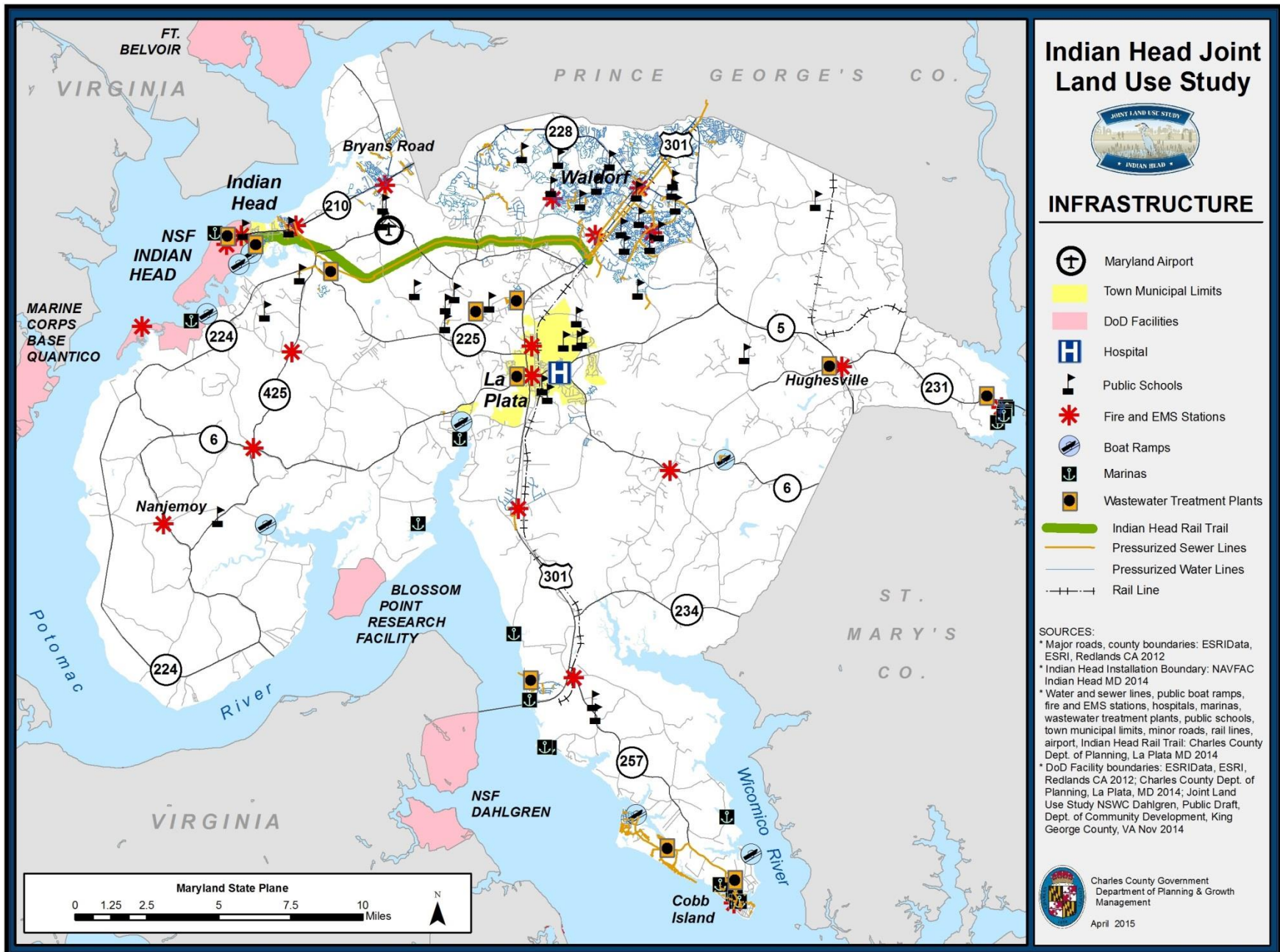


Figure 9: Charles County Infrastructure

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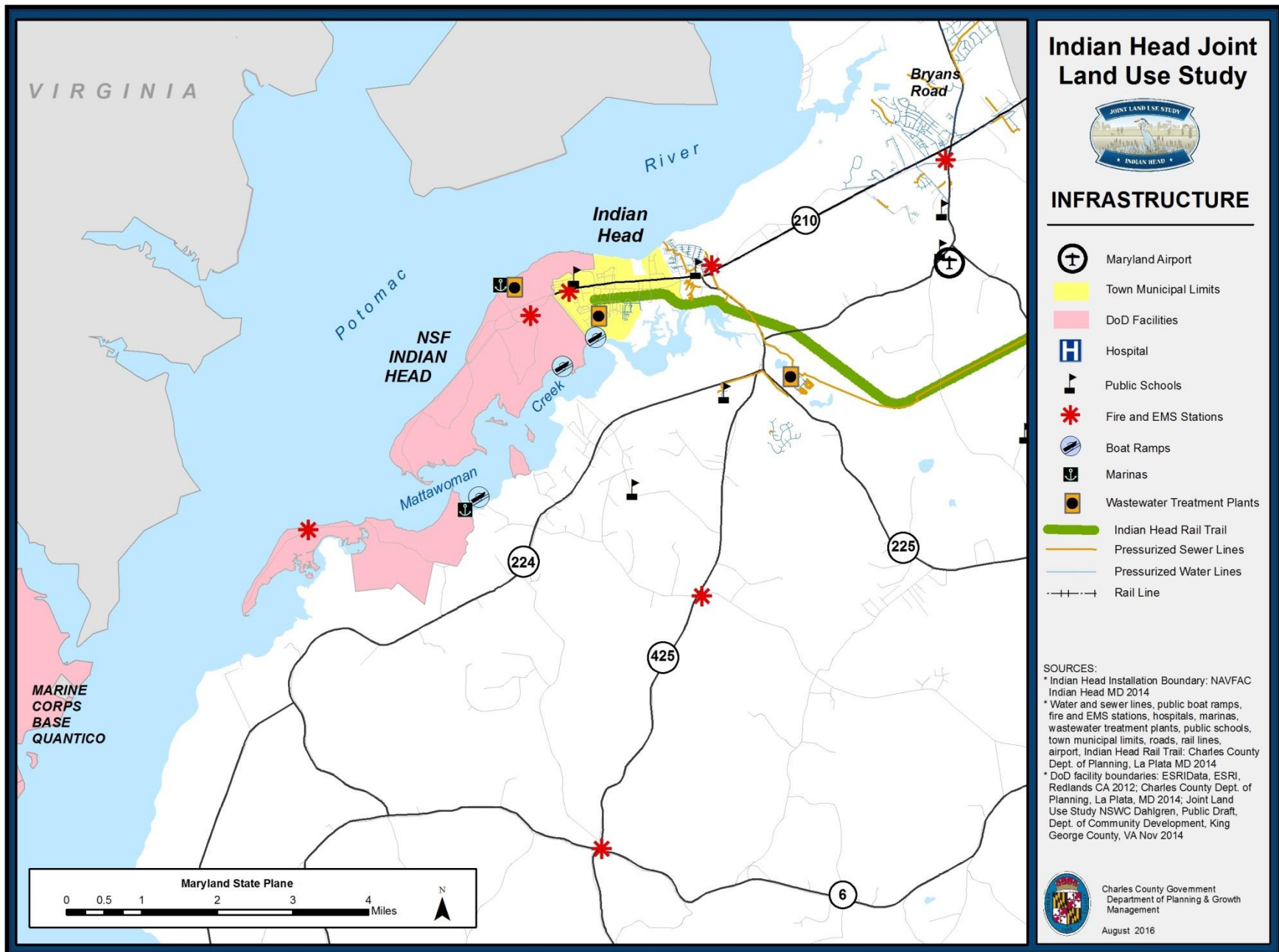


Figure 10: Infrastructure located in the vicinity of NSF Indian Head

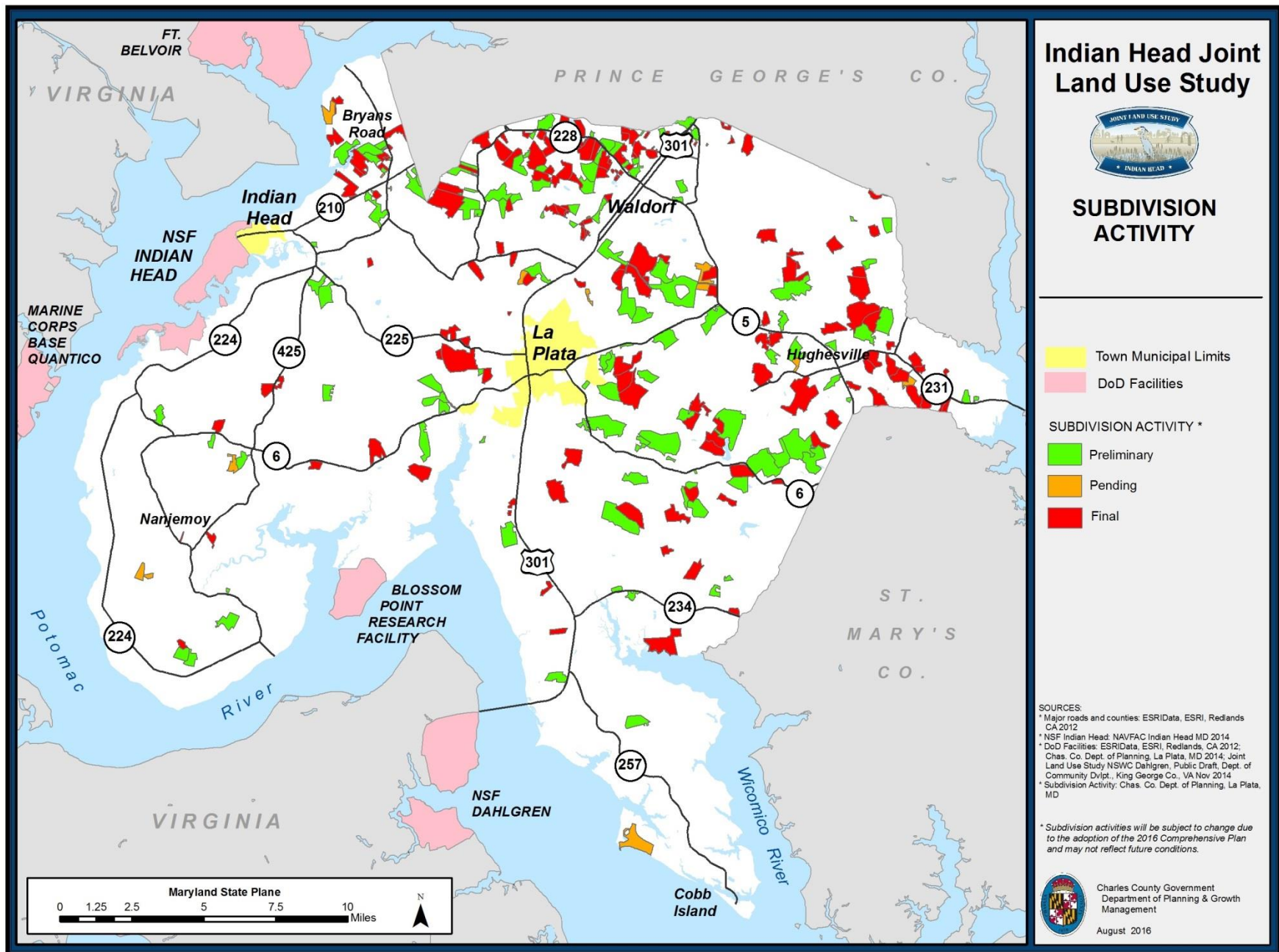


Figure 11: Subdivision Activity in Charles County, MD

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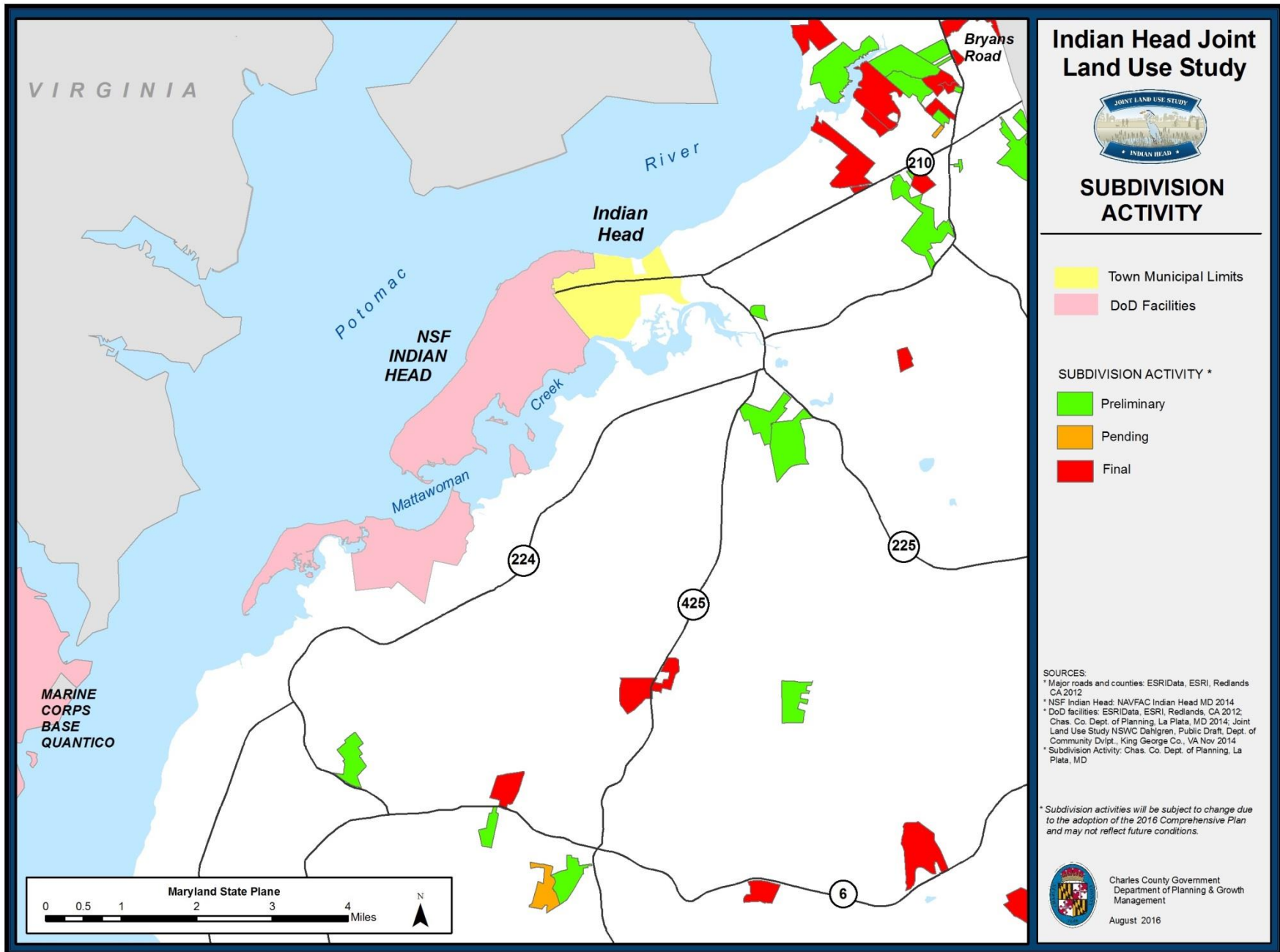


Figure 12: Subdivision Activity around NSF Indian Head

Demographic Trends

Data used for this study includes U.S. Census demographic data and Maryland Department of Planning (MDP) demographic data.

Population

Charles County is one of the fastest growing Maryland counties. The population in Charles County grew 21.5 percent from 2000 to 2010. More recent estimates identified Charles County as the second fastest growing county in Maryland between July 2013 and 2014.³

Historically, a majority of the Town's population was employed by NSF Indian Head. The Town is promoting its proximity to Washington D.C. and small-town amenities to draw in new residents. Between 2000 and 2010, the population within the Town of Indian Head increased by 12.3 percent. In 2000, the residents of the Town of Indian Head comprised 2.8 percent of Charles County. In 2010, that number decreased to 2.6 percent. Figure 13⁴ shows population changes for both the Town of Indian Head and Charles County.

Table 1 shows a breakdown of population by age in 2010 within the Town of Indian Head, Charles County, and Maryland. At 33.2 years, the median age within the Town of Indian Head was considerably younger than the county (37.4 years) and state (38 years) median ages. This difference shows most

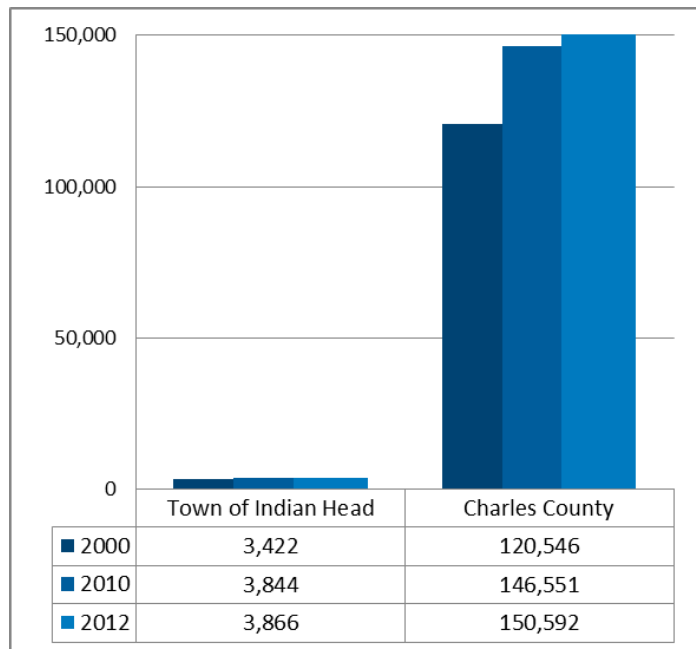


Figure 13: Population Changes in the Study Area

decidedly beginning with the 55 to 59 year-old population. As a share of the total population, the Town of Indian Head had fewer retirees (55 and older) in 2010 than the county and a slightly higher young labor force. The 2012 data indicate greater consistency between the county and the Town with median ages at 37 years.

Figure 14 shows the population density in Charles County. The highest population density surrounds the Waldorf and La Plata areas. Waldorf is the county's major population center.

Figure 15 shows the population density in the area surrounding NSF Indian Head. The Town of Indian Head has a population density of 500 to 5,000 persons per square mile. The area surrounding Stump Neck Annex is less densely populated with less than 150 persons per square mile.

³ Source:

<http://www.somdnews.com/article/20150410/N EWS/150419923/1043&source=RSS&template=g azette>

⁴ Source: U.S. Census Bureau SF1-P1 2000; Census Bureau DP01 2010; Census Bureau DP05 2012

Table 1: Population by Age Group (2010)

Age Group	Town of Indian Head		Charles County		Maryland	
	Number	Percent	Number	Percent	Number	Percent
Under 5 years	291	7.60%	9,438	6.40%	364,488	6.30%
5 to 9 years	286	7.40%	10,233	7.00%	366,868	6.40%
10 to 14 years	310	8.10%	11,668	8.00%	379,029	6.60%
15 to 24 years	598	15.60%	20,264	13.80%	799,939	13.90%
25 to 34 years	530	13.80%	17,175	11.70%	762,042	13.20%
35 to 44 years	638	16.60%	23,218	15.80%	795,572	13.80%
45 to 54 years	604	15.70%	24,797	16.90%	902,204	15.60%
55 to 59 years	146	3.80%	8,775	6.00%	377,989	6.50%
60 to 64 years	157	4.10%	7,131	4.90%	317,779	5.50%
65 to 74 years	181	4.70%	8,558	5.80%	386,357	6.70%
75 to 84 years	70	1.80%	3,877	2.60%	223,159	3.90%
85 years and over	33	0.90%	1,417	1.00%	98,126	1.70%
Median Age (years)	33.2		37.4		38	
<p>Sources: 2010 Census; Maryland: http://planning.maryland.gov/msdc/census/Cen2010/SF1/SumyProf/comparison/mdst.pdf; Charles County: http://planning.maryland.gov/msdc/census/cen2010/sf1/sumyprof/comparison/char.pdf; Town of Indian Head: http://planning.maryland.gov/msdc/census/cen2010/sf1/sumyprof/profile/CIP/cip_41500.pdf</p>						

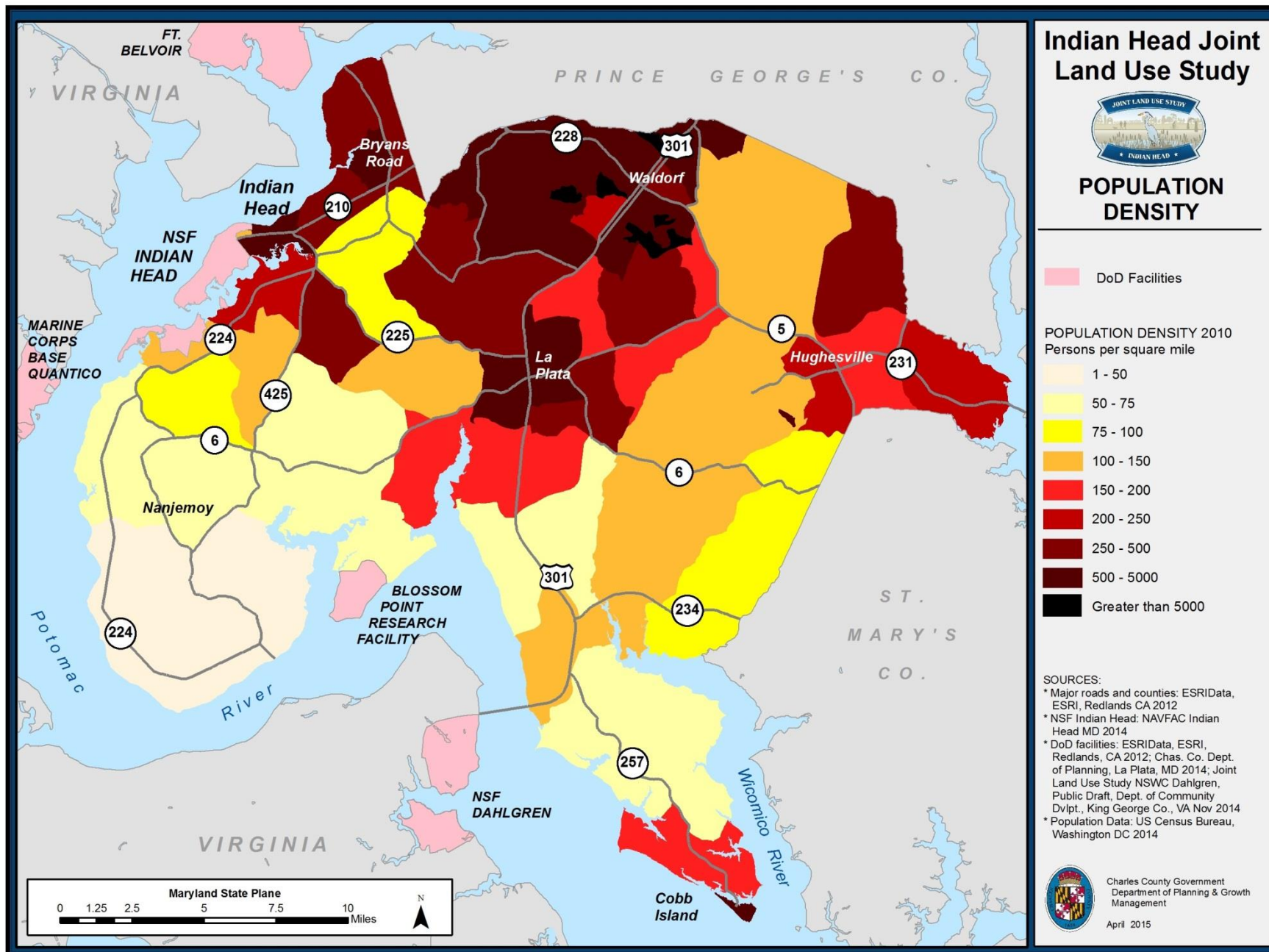


Figure 14: Population Density in Charles County, MD

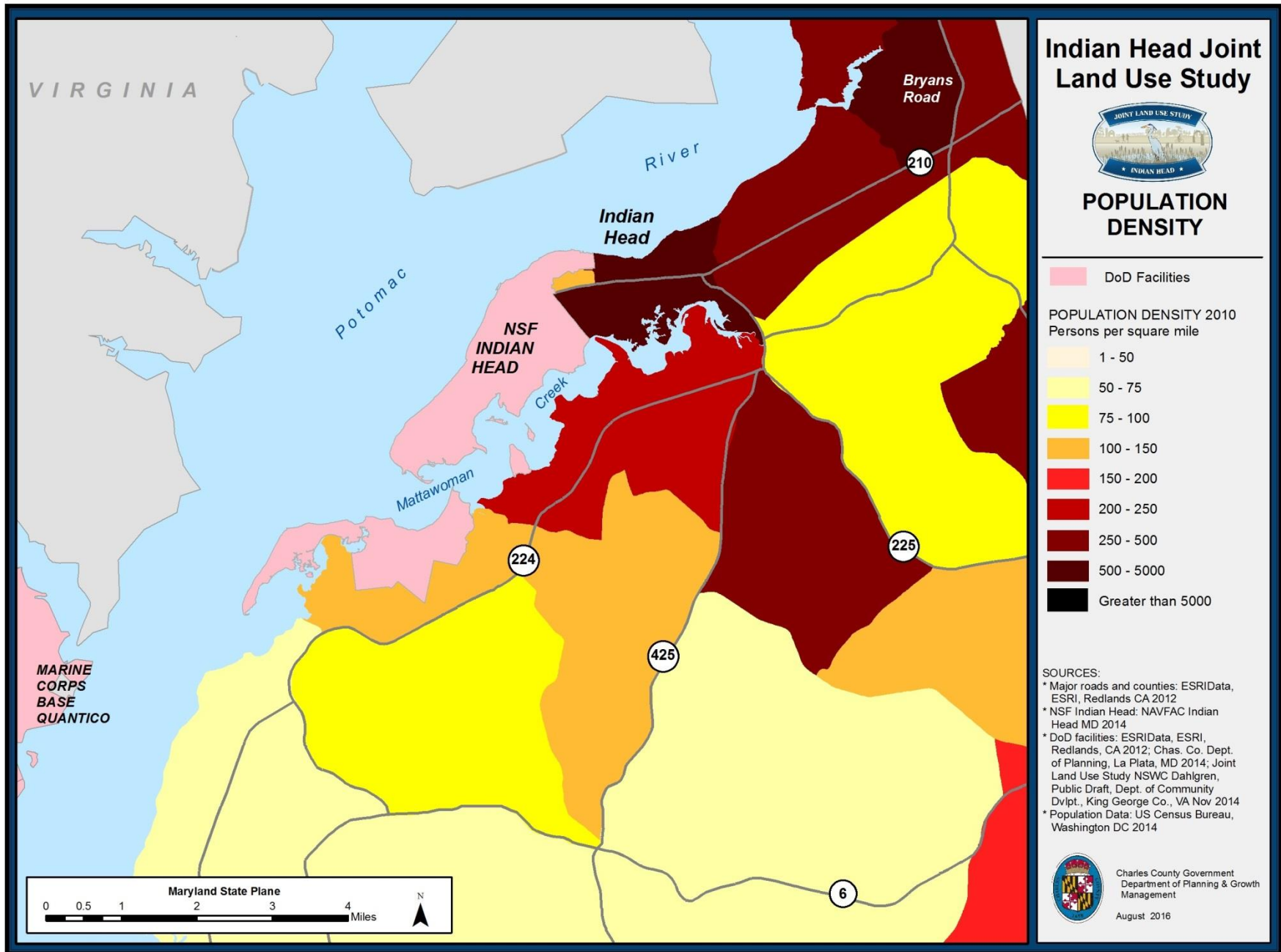


Figure 15: Population Density around the Town of Indian Head, MD

As of 2014, Charles County was projected to grow approximately 1.5 percent by 2030. However, a significant reduction in land use densities as a result of the adopted 2016 Comprehensive Plan will most likely result in a slower rate of growth, to 1 percent or less.

Household Income

Median household income in 2010⁵ within the Town of Indian Head⁶, Charles County, and the state of Maryland is shown in Figure 16. The median household income in the Town of Indian Head is slightly lower than the median income in the state. There are a slightly higher percentage of families living below poverty level⁷ in the Town than in Charles County, as shown in Figure 17.

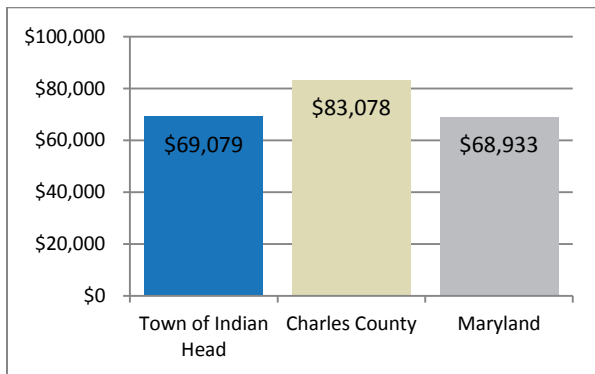


Figure 16: Median Household Income

Housing

Figure 18 shows that there were 1,767 housing units within the Town of Indian Head in 2012, a 7.9 percent increase from 2010.⁸

⁵Maryland Department of Planning: 2012 Maryland Statistical Handbook, August 2013.

⁶ U.S. Census Bureau: 2010 Census.

⁷ U.S. Census Bureau: 2010 Census.

⁸ U.S. Census Bureau: American Fact Finder: Selected Housing Characteristics for the Town of Indian Head.

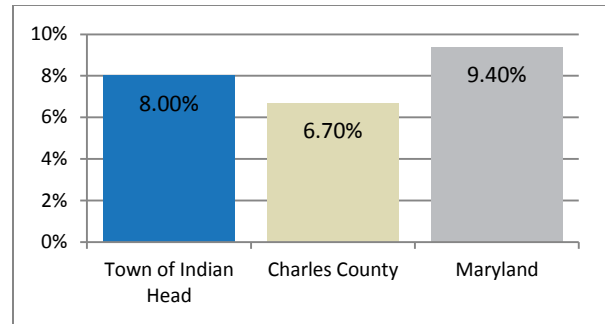


Figure 17: Percentage of Families Living Below Poverty Level

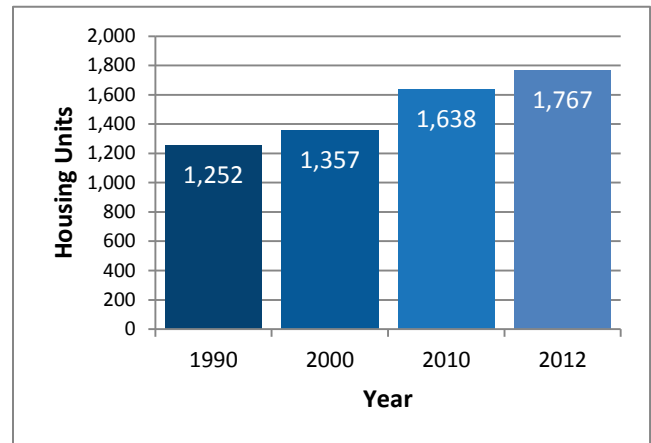


Figure 18: Town of Indian Head Housing Units

Figure 19 shows the 2.3 percent increase in housing units in Charles County from 2010 to 2012.⁹

Housing costs are somewhat lower in Charles County than in counties closer to the D.C. area. Table 2 shows the 2010 housing values of homes within the Town of Indian Head and Charles County. At \$217,900, the median housing value in the Town of Indian Head is 24.1 percent less than the median housing value of \$287,000 in Charles County.

⁹ U.S. Census Bureau: American Fact Finder: Selected Housing Characteristics for Charles County.

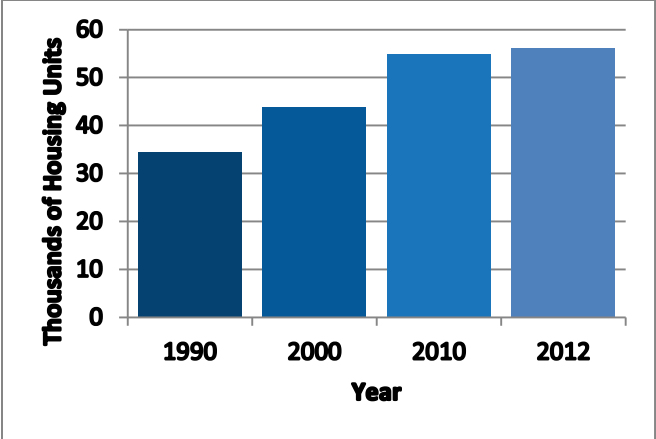


Figure 19: Charles County Housing Units

Table 2: Housing Values

Housing Value	Town of Indian Head		Charles County	
	Number	Percent	Number	Percent
Less than \$50,000	30	3.0 %	1,125	2.8 %
\$50,000 to \$99,999	16	1.6 %	469	1.2 %
\$100,000 to \$149,999	159	15.7 %	1,551	3.8 %
\$150,000 to \$199,999	222	22.0 %	4,682	11.5 %
\$200,000 to \$299,999	346	34.2 %	14,358	35.2 %
\$300,000 to \$499,999	208	20.6 %	15,102	37.1 %
\$500,000 to \$999,999	8	0.8 %	3,140	7.7 %
\$1.0 M or more	22	2.2 %	313	0.8 %
Median (dollars)	\$217,900		\$316,400	
<i>Source: 2014 American Community Survey 5-Year Estimates</i>				

Chapter 3: Existing Compatibility Tools & Implementation Strategies

Coordination of land use across jurisdictional boundaries can be a complex process. All levels of government (federal, state, regional, and local), military and community stakeholders, non-profit organizations, and private landowners and developers should coordinate land-use planning efforts when addressing a shared focus, such as NSF Indian Head. The following sections discuss the context for planning and the existing policies affecting growth and development in the study area.

State of Maryland Plans and Programs

The state of Maryland authorizes local jurisdictions to conduct planning and zoning principally through the Land Use Article of the Maryland Annotated Code. The statute outlines the roles and responsibilities of the planning commission and establishes the planning and zoning powers used by local jurisdictions.

In addition to planning responsibilities, other programs and regulations that may affect development are discussed here.

Chesapeake Bay Critical Area

Passed in 1984, the Critical Area Act¹⁰ established land use and resource protection programs to improve water quality and protect habitat in the tidal shoreline areas. Jurisdictions with land in the Critical Area, which includes all land within 1,000 feet of Maryland's tidal waters and wetlands, must implement a Critical Area program through local ordinances, codes, plans, and policies.

¹⁰ Title 8, Subtitle 18 of the Natural Resources Article of the Annotated Code of Maryland

Charles County's Critical Area regulation assigns land use management classifications to the land areas within the Chesapeake Bay Critical Area: Intense Development Zone (IDZ), Limited Development Zone (LDZ), and Resource Conservation Zone (RCZ). The majority of the land within the Critical Area near NSF Indian Head and Stump Neck Annex is designated RCZ, which, among the three classifications, imposes the greatest limitations on potential development activities. The Critical Area is shown on the maps in Figure 23 and Figure 24.

Maryland Coastal Zone Management Program

The Coastal Zone Management Act (CZMA) sets national guidelines to protect coastal resources. Federal agencies with the potential to impact land, water, or natural resources in coastal regions are obligated to adhere to the stipulations of federally-approved state Coastal Management Programs.

Maryland has a federally-approved Coastal Management Program that is managed by Maryland's Chesapeake and Coastal Service, a partnership among local, regional, and state agencies.

Charles County is located entirely within the Maryland Coastal Zone Management Program boundary and the Chesapeake Bay Watershed.

Forest Conservation Act

The Forest Conservation Act¹¹ was enacted to minimize the loss of Maryland's forest resources during land development by making the identification and protection of forests and other sensitive areas an integral part of the site planning process. Of primary interest are areas adjacent to streams or wetlands, steep or erodible soil areas, and large contiguous blocks of forest or wildlife corridors. Although administered by the Maryland Department of Natural Resources (DNR) Forest Service, the Forest Conservation Act is implemented on a local level. Developable lots are required to set aside priority forested areas (nontidal wetlands, streams and their buffers, steep slopes, and critical habitats) in a permanent easement. Development must receive approval from the county.

Maryland Military Installation Council (MMIC)

Originally established in 2003 as the Maryland Military Installation Strategic Planning Council, the MMIC works to identify public infrastructure and community support needed to develop and expand the state's military installations and maximize economic benefits to local communities.

¹¹ Code of Maryland Regulations, Title 08. Subtitle 19 Forest Conservation, enacted in 1992.

Maryland Priority Funding Areas

The Town of Indian Head is designated a Priority Funding Area through the 1997 Priority Funding Areas Act. This act directs state funding on infrastructure, economic growth, and development to existing communities and places designated by local governments for future growth.

State of Maryland Real Estate Disclosures

As of October 1, 2006, a contract for sale for residential real property in Maryland must contain a notification that the property may be located near a military installation that conducts various operations or testing.

Section 14-117(k) of the Real Property Article of the Annotated Code of Maryland provides that the contract for 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."

Sustainable Growth and Agricultural Preservation Act of 2012

The act emphasizes the state's commitment to promote growth in planned areas where supporting infrastructure is already in place. It requires local jurisdictions to designate tiers to guide the use of septic systems for new residential development. The purpose is to limit nitrogen pollution entering the Chesapeake Bay.

Four categories were created to identify where residential subdivisions may be located and what type of sewerage system will serve them:

- Tier I – areas currently served by sewerage systems
- Tier II – areas planned to be served by sewerage systems
- Tier III – areas not planned to be served by sewerage systems; however, developments using septic systems can occur
- Tier IV – areas planned for preservation and conservation; residential major subdivisions are prohibited

The county Tier Map, adopted by the Charles County Board of County Commissioners as part of the Comprehensive Plan in July 2016, is shown in Figure 20.

Charles County Plans and Programs

Charles County works to implement state legislation at a local level and develops its own plans and programs to guide land use and infrastructure development. Under the state’s Land Use Article, Charles County is responsible for preparing a Comprehensive Plan, a Zoning Ordinance, and Subdivision Regulations.

Charles County Comprehensive Plan

The Charles County Comprehensive Plan was adopted in 2016. The plan is the policy document that directs and manages future development in the county. It addresses issues relating to land use, water resources, natural resources, energy conservation,

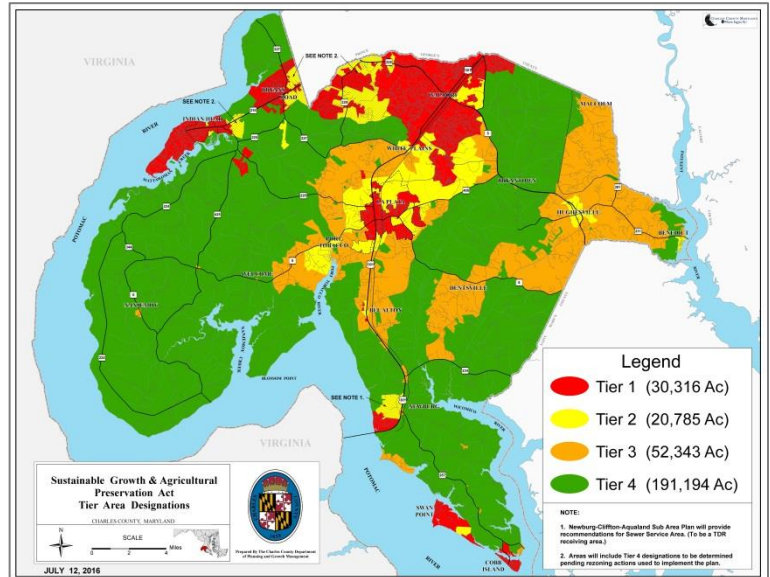


Figure 20: Charles County Tier Map

economic development, transportation, community facilities and services, community development, and zoning for the next 30 years.

The 2016 Comprehensive Plan also contains a Land Use Market Supply and Demand Analysis that provides an analysis of the supply of available commercial and residential land in the county.

Chapter 3, Land Use, of the Comprehensive Plan discusses the military installations in the county. Policy 3.12 states:

Protect military installations from incompatible land uses.

Charles County Zoning Regulations

The Charles County Zoning Ordinance can be considered a companion to the Comprehensive Plan since it is the prime legal document used to implement adopted land use policies by regulating development. Charles County is comprised of districts or zones (such as rural, conservation, residential, commercial, mixed use, industrial,

and village zones) and Planned Development Zones, which allow higher density and mixed use development with additional review. Overlay Zones are used to address the appearance of highway corridors and protect wildlife habitat and water quality.

The Charles County zoning districts are shown in Figure 21. As shown in Figure 22, the current county zoning districts for the land closest to NSF Indian Head are mainly Rural Conservation (RC). The purpose of the RC district is to preserve the rural environment, existing low-density residential uses, and existing agricultural uses and the land base to support these uses. The minimum lot size for any new residential use is three acres. Additionally, there are areas zoned Agricultural Conservation (AC) located near Stump Neck Annex. The purpose of the AC district is to preserve and protect the land base for agricultural related uses. In the AC district, residential development is limited in a way similar to the RC district. However, it is important to note that the county will enact new comprehensive rezoning to implement the 2016 Comprehensive Plan to ensure that land use densities prescribed in the plan are consistent with the corresponding zoning districts. The rezoning will re-designate most of the land closest to the base as Watershed Conservation District, with a corresponding change in permitted density in this district to one dwelling per 20 acres. Other areas near the facility will be designated as Rural Conservation, with a permitted density of 1 unit per 3 acres. However, it should be noted that this area is also designated as Tier IV, which only permits minor subdivisions with a maximum of 7 lots.

The Highway Corridor (Overlay Zone) District¹², which applies to the portion of Route 210 within the county, is intended to protect and improve the visual appearance along key highway corridors. This district ensures that buffering, landscaping, lighting, signage, and proposed structures are consistent in character.

Charles County Subdivision Regulations

The Charles County Subdivision Regulations guide and control the configuration and layout of land subdivision within the county. The subdivision regulations direct development of land within Charles County to promote public health, safety, and general welfare.

Bill No. 2014-12 amended the Subdivision Regulations on November 18, 2014. As a result, major subdivisions within designated Tier III areas on the Tier Map must be reviewed and advertised as a public hearing before the Planning Commission. There are no Tier III areas located in close proximity to NSF Indian Head.

Comprehensive Water and Sewer Plan

The Comprehensive Water and Sewer Plan guides the development of water supply and sewerage systems and facilities. It is designed to ensure that ample supplies of water are treated and delivered to points of use, and that wastewater is collected and delivered to points best suited for waste treatment, disposal, or re-use.

¹² Codified in Article X of the Zoning Ordinance

Blossom Point JLUS

In 2012, a JLUS was completed for Blossom Point Research Facility (BPRF). Several recommendations from that study may also be appropriate for NSF Indian Head. In particular, the establishment of a Military Influence Overlay District (MIOD) review area may be helpful in addressing concerns with encroachment on the mission of NSF Indian Head. In addition, the recommendation for a formal review process would also be relevant.

Charles County Real Estate Disclosures

There is an addendum to the Maryland State Association of Realtors Standard Contract, which requires further disclosures within Charles County. Section 12 states:

The Property may be located within or near several military aircraft operation centers located in Calvert County, Charles County, Prince George's County or St. Mary's County. Properties located 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:

Naval Surface Warfare Center, Indian Head Division (IHDIV), Indian Head, MD, and Explosive Ordnance Disposal Technology Division (NAVEODTECHDIV)¹³, Indian Head, MD, typically conduct explosive testing, evaluation and training operations five to seven days per week, between 7 a.m. and 4 p.m. However, infrequent operations occur

¹³ This title is prior to the merger and should be updated to Naval Surface Warfare Center Indian Head Explosive Ordnance Disposal Technology Division (NSWC IHEODTD).

outside these times. Sound from the training and testing may result in sporadic noise from helicopters, traffic, construction and industrial operations, and extend beyond the boundaries of the facility. The IHDIV Goddard Power Plant¹⁴ operates 24 hours per day and steam releases can sometimes be heard outside the facility. The present level and type of operations will continue for the foreseeable future. For additional information, contact the IHDIV or NAVEODTECHDIV Public Affairs Office¹⁵.

Note that the language needs to be updated to reflect changes in the installation command.

Mattawoman Creek Watershed Management Plan

The Mattawoman Creek watershed represents a majority of the Charles County Development District. Prepared in 2003 by the U.S. Army Corps of Engineers, the purpose of the plan was to balance the protection of the Mattawoman Creek with the development plans of Charles County.

The Mattawoman Ecosystem Management Interagency Task Force prepared a report¹⁶ in March 2015 to provide land use recommendations for the protection and conservation of resources in the Mattawoman Creek Watershed. This collaboration between DNR and the county was initiated to protect the ecologically valuable Mattawoman Creek.

¹⁴ Power Plant is now owned by NSF Indian Head.

¹⁵ For additional information, contact the NSASP Public Affairs Office.

¹⁶ The Case for Protection of the Watershed Resources of Mattawoman Creek

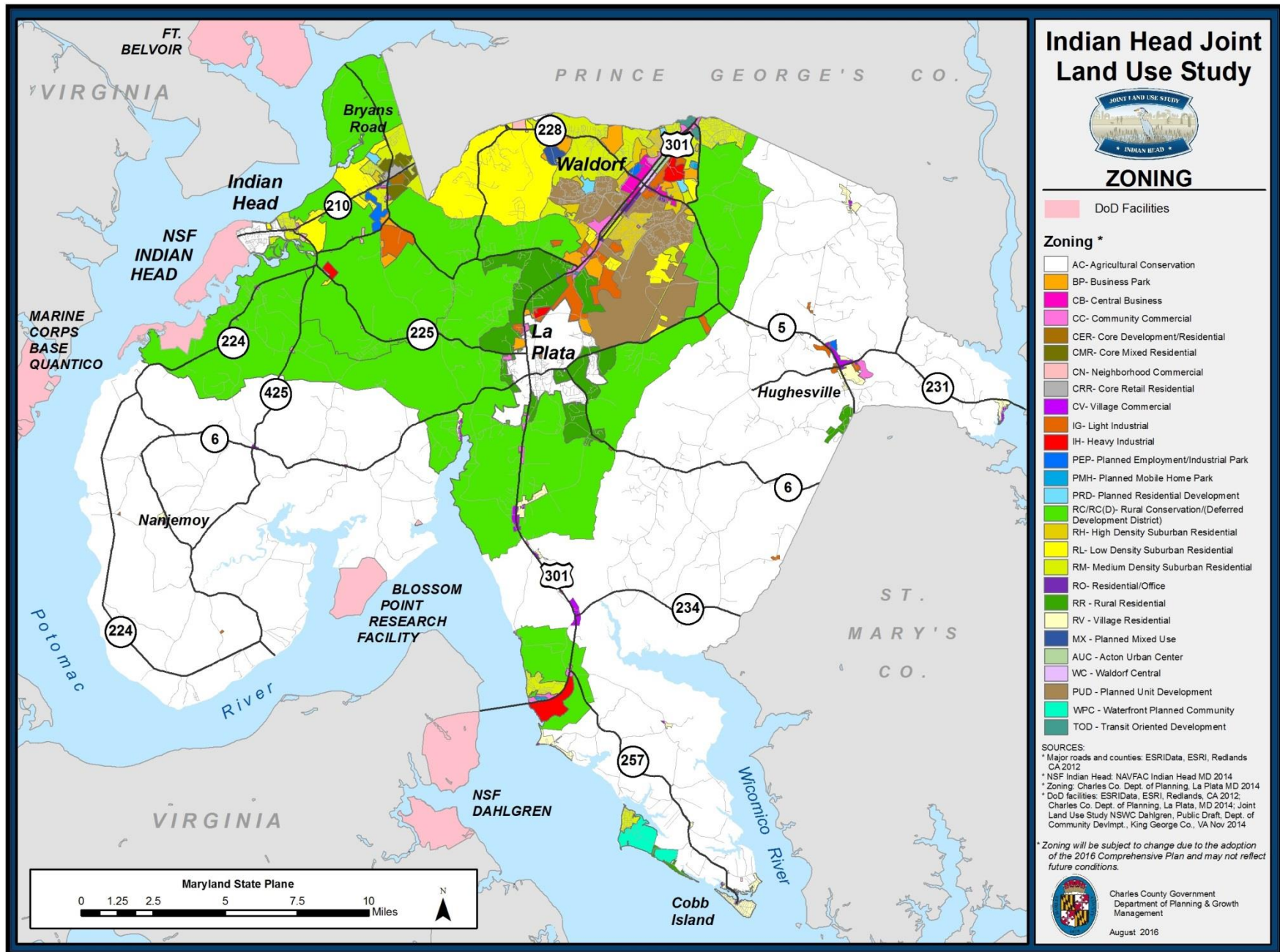


Figure 21: Charles County Zoning

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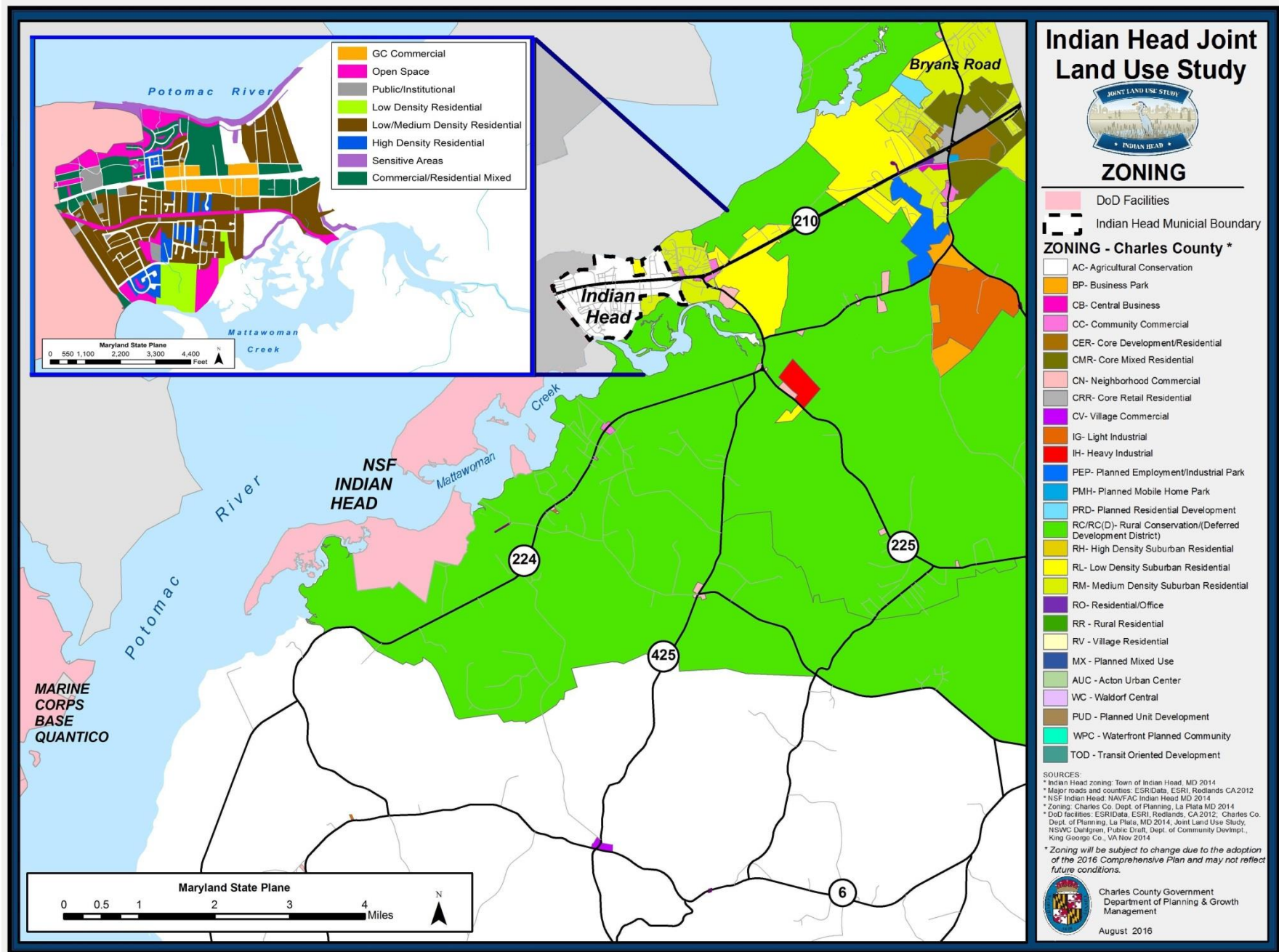


Figure 22: Zoning around the Town of Indian Head

Town of Indian Head Plans and Programs

The Town of Indian Head is an incorporated town and, as such, exercises its own planning authority, comprehensive plan, and zoning regulations. The Maryland Land Use Article requires coordination between the Town and Charles County regarding the municipal growth elements of the plan.

Comprehensive Plan

The Town of Indian Head 2009 Comprehensive Plan provides the policy framework to guide land use and development decisions in a manner consistent with the desires of the community. The Comprehensive Plan is focused on revitalizing the Town and creating new and innovative residential and business development opportunities. The Town is currently conducting an update to its Comprehensive Plan.



Zoning Ordinance

The purpose of the Town of Indian Head Zoning Ordinance is to implement the Comprehensive Plan and to promote the health, safety, order, convenience, and general welfare of the Town's citizens in accordance with present and future needs.

The Zoning Ordinance creates various zoning districts and lays out standards relating to residential and commercial densities and permitted uses. As shown in Figure 22, the zoning districts that border NSF Indian Head include low and medium density residential, commercial and residential mixed use, open space, and public and institutional use.

The Town has adopted a Floodplain Management Ordinance, Forest Conservation Ordinance, and regulations in the Zoning Ordinance to protect steep slopes, forested areas, the 100-year flood plain, and threatened and endangered species. The Town has also adopted regulations to protect the Chesapeake Bay Critical Area as part of the Zoning Ordinance.

Subdivision Regulations

The Town's adopted Subdivision Regulations are established to regulate the subdivision of land within the corporate limits of the Town of Indian Head and to facilitate the orderly growth and expansion of the Town. Standards and requirements are established in the *Town of Indian Head Design Manual* for construction of streets, sidewalks, curbs, and gutters.

Plan for the Future of Downtown

The Town of Indian Head adopted this plan for guiding development and revitalization efforts in 2002 and officially updated it in 2005. *Town of Indian Head – New Horizons, the Plan for the Future of Downtown* promotes economic vitality and improved urban design along Maryland Route 210. It contains recommendations for enhancing the streetscape and pedestrian amenities along Route 210, including capital improvements and better uses of open space, among others. The plan acknowledges NSF Indian Head as an important element of the economic and social well-being of the community. The plan's focus is on creating a more traditional downtown with patterns of mixed use development and waterfront development, including housing centered

around the Village Green, a community park that lies adjacent to the installation. The plan also provides building design guidelines for development along Route 210.

Economic Revitalization Strategy

The Town of Indian Head recently completed an Economic Revitalization Strategy. A focus of this strategy is identifying new development and investment in the Town. A major asset for the Town's economic vitality is riverfront access. As a result, proposed waterfront development, such as a boardwalk, is being pursued. The focus is to identify growth in areas with existing infrastructure, revitalization, and redevelopment of the Town.

Current Navy Compatibility Tools

The Navy uses several key tools to promote land use compatibility and minimize operational impacts on surrounding communities, including ongoing outreach strategies and mitigation procedures laid out in planning documents, such as the Encroachment Action Plan and regional land use planning efforts, such as this JLUS.

Numerous studies and plans are used to address range safety and maintain

compliance with state and federal regulations.

Encroachment Action Plan, Naval Support Activity South Potomac

An Encroachment Action Plan (EAP) is an important internal tool for managing encroachment at a military installation or range. An EAP is designed to identify, quantify, and create a plan for mitigating or preventing encroachment impacts around Navy installations.

The *Encroachment Action Plan, Naval Support Activity South Potomac* provides the Commanding Officer (CO) of NSF Indian Head a comprehensive approach, both inside and outside the fence, for preventing further encroachment that may affect the mission at NSF Indian Head. The EAP includes strategies for proactively working with the surrounding

communities to address future development and preservation efforts. An updated EAP for NSF Indian Head was completed in 2016 and is currently in the process of being implemented.

Integrated Natural Resources Management Plan, NSF Indian Head

The *Integrated Natural Resources Management Plan (INRMP), NSF Indian Head*

Encroachment challenges identified as high concern in the 2007 EAP:

Urban Development – growth of residential development near active testing areas can curtail the efficiency of Navy operations

Maritime Issues – increasing use of popular water-based activities can delay or cancel testing

Safety Arcs/Footprints – explosive safety restrictions can affect the ability of the installation to accommodate new or changing missions

Threatened/Endangered Species – presence of protected species requires operational adjustments to minimize impacts

was finalized in June 2014. Required by the Sikes Act Improvement Act of 1997, the INRMP is a long-term internal planning document that guides implementation of the natural resources program to ensure support of the installation mission while protecting and enhancing installation resources. This plan documents the military mission, baseline conditions of natural resources, impacts to natural resources due to the military mission, and the management approaches to conserve and enhance natural resources. It also lists specific projects aimed at protecting and enhancing natural resources.

Naval Support Facility Indian Head Master Plan

Prepared in 2010, the *Naval Support Facility Indian Head Master Plan* provides an internal vision for land use and facilities at NSF Indian Head through 2035. It includes information about the operations at NSF Indian Head and the surrounding region. The *Capital Improvements Plan*, included within the document, outlines projects that would achieve the planning vision within the Master Plan. The vision for future planning on NSF Indian Head is focused on the following four categories:

- Consolidation of similar functions for operational efficiency
- Demolition of underutilized and deteriorating facilities
- Upgrading utility infrastructure
- Adopting more sustainable uses of energy, water, land, and other resources.

Operational Noise Consultation

In December 2009, the US Army Public Health Command prepared a noise consultation, based on computer noise modeling, for Naval Facilities Engineering Command (NAVFAC) to recommend which areas should be considered in the NSF Indian Head JLUS. Most of the noise-producing activities of concern occur at Stump Neck Annex, including live-fire ranges used in conjunction with the mission of developing procedures for rendering safe weapons, missiles, and munitions.

Noise zones identify areas where noise-sensitive land uses are not recommended. These zones are discussed in more detail in Chapter 4.

Community Relations (COMREL) Council

NSA South Potomac has established a Community Relations (COMREL) Council to improve communications with surrounding communities. Meetings are held quarterly at different locations in the region. These meetings are mostly attended by elected officials and community representatives. A variety of topics are briefed by both community and Navy representatives.

Range Sustainability Environmental Program Assessment (RSEPA)

NSWC IHEODTD prepared a Range Condition Assessment Report, as part of RSEPA for operations at Stump Neck Annex, in accordance with Navy procedures. Its purpose is to assess the potential risk to human health and the environment posed by range operations and ensures continued operational readiness.

Land Preservation Tools

Land preservation tools, such as conservation easements, transfer or purchase of development rights, and land acquisitions, can be used to ensure compatible growth. Preserving land can help prevent encroachment at NSF Indian Head, while also maintaining the rural and agricultural character of Charles County. The 2016 Charles County Comprehensive Plan identifies a goal to protect 50 percent (147,000 acres) of the county's land area in open space. The county's 2012 Land Preservation, Parks and Recreation Plan identifies future needs and priorities for land preservation, parks, and recreation, including facilities.

Conservation easements are one means to preserve land, and are an alternative to land acquisition. An easement is a legally binding agreement that landowners enter into willingly limiting the types of development allowed. The landowner retains ownership of the property and can continue to use the land as set forth in the agreement. There is usually a financial incentive for the landowner, such as proceeds from the sale of the easement or a tax deduction, if donated. Many conservation easements are permanent and are transferred with the property if and when it is sold. There are a variety of voluntary federal, state, and county programs that assist with the purchase of easements or property to preserve ecological and agricultural resources.

Federal Programs

There are several federal programs that can be used to preserve land. For example, the

Navy partners with state and local groups to preserve lands that benefit military readiness, neighboring communities, and the environment through the DoD Readiness and Environmental Protection Integration (REPI) program. This program provides funding for the Navy to cost-share with partners to purchase land or easements from willing landowners. In addition to partnering with non-profits and state and local governments, eligible Department of Agriculture (USDA) and Department of Interior (DOI) programs can now use REPI as a cost-share partner. The details are still being clarified by the federal agencies.

USDA has several land preservation programs that allow land to be conserved through easements, some of which are temporary, including the Conservation Reserve Enhancement Program, the Healthy Forest Reserve Program, and the Agricultural Conservation Easement Program (which includes wetland preservation). Other federal programs, such as the National Oceanic and Atmospheric Administration (NOAA) Coastal and Estuarine Land Conservation Program, provide matching funds to protect coastal lands through purchase or easement.

State Programs

Maryland has identified targeted ecological areas, which are the most ecologically valuable areas in the state, to help focus land preservation efforts and direct Program Open Space funds. Program Open Space provides grants and funds to local communities to acquire outdoor recreation and open space areas for public use.

Maryland has a variety of other programs that focus on land protection through the use of conservation easements, including Maryland Agricultural Land Preservation Foundation (MALPF), the Rural Legacy Program, the Priority Preservation Area (PPA), the Forest Legacy Program, and the Maryland Environmental Trust.

The MALPF run by the Maryland Department of Agriculture protects productive agricultural lands through the use of perpetual easements. The PPA Program was established by the state in 2006 to support the ability of working farms to continue to engage in agricultural activities. Land must meet certain criteria to be designated as PPA, such as containing productive agricultural or forest soils and being of a sufficient size to support agricultural and forest activity. The Rural Legacy Program, administered by the Maryland DNR, protects Maryland's best remaining rural landscapes and natural areas. Funds are awarded to purchase easements or property within a designated Rural Legacy Area. Charles County has one Rural Legacy Area, the Zekiah Watershed (Zekiah Swamp Run) in the eastern part of the county. The 2016 Comprehensive Plan contains a recommendation to apply to the state to establish a new Nanjemoy-Mattawoman Rural Legacy Area to protect the important resources in this area, which is in close proximity to NSF Indian Head. Maryland also participates in the federal Forest Legacy Program, and portions of Charles County, including areas near Stump Neck Annex, are part of a Forest Legacy Area. This program focuses on protecting forested lands through conservation easements. Eligible lands should

be at least 75 percent forested with the remaining land in compatible land uses such as agriculture.

In addition to these programs, the Maryland Environmental Trust is a statewide local land trust that preserves open land, such as farmland, forest land, and significant natural resources. Land is protected primarily through permanent conservation easements that ensure the property is not developed beyond a limit agreed upon by both parties.

Maryland also works to acquire, preserve, and restore historic properties through the various programs of the Maryland Historical Trust. Additionally, the Maryland Department of Transportation provides grants to protect the scenic character along designated Scenic Byways.

County Programs

Charles County has a Transfer of Development Rights (TDR) program, established in 1992, that focuses on preserving farms and forests with productive soils. The program allows landowners to sell development rights to designated growth areas where development is encouraged. Lands in the AC and RC zoning districts are potentially eligible to become sending areas for TDRs—that is, development rights could be sent from the areas nearest the installation to areas in Charles County designated for higher-density development. However, for a property to be considered as a sending area, it must be in a designated Agricultural Land Preservation District. The 2016 Comprehensive Plan contains recommendations to revise the TDR program to allow for more areas to become TDR

sending areas and to ensure TDR-protected resource lands remain permanently protected.

More recently, the county has adopted a Purchase of Development Rights (PDR) program. This program allows the county to purchase development rights to protect land, but unlike a TDR, the rights are retired and are not transferred to a receiving property. The properties must be at least 50 acres in size or contiguous to already preserved land.

Charles County established a PPA as part of the adoption of the 2016 Comprehensive Plan. The PPA contains 134,168 acres and includes three major rural parts of the county; the Cobb Neck area, the Nanjemoy Peninsula area, and the Mattawoman Creek. The county's goal is to preserve at least 80 percent of the remaining undeveloped lands within the PPA through easements and zoning.

Although a state program, the Forest Conservation Act is implemented at the county level. The program requires developments outside the Critical Area to set

aside priority forested areas (nontidal wetlands, streams and their buffers, steep slopes, and critical habitats) in a permanent easement.

Charles County also has two locally active non-profit land trusts: the Conservancy for Charles County and the Mason Springs Conservancy. Founded in 1996, the mission of the Conservancy for Charles County is "to protect scenic, natural, forest, agricultural, rural, and historic areas of Charles County, Maryland, for the benefit of the general public." It holds easements on more than 1,800 acres in the county.

Mason Springs Conservancy owns and maintains a 3.5-acre tract of land adjacent to the Mattawoman Creek. The group was formed by anglers in 2006 to protect the popular bankside fishing hole.

Protected lands are shown in Figure 23 and Figure 24. Note that the MALPF districts are not shown as they are not permanent; the designation can be terminated after five years.

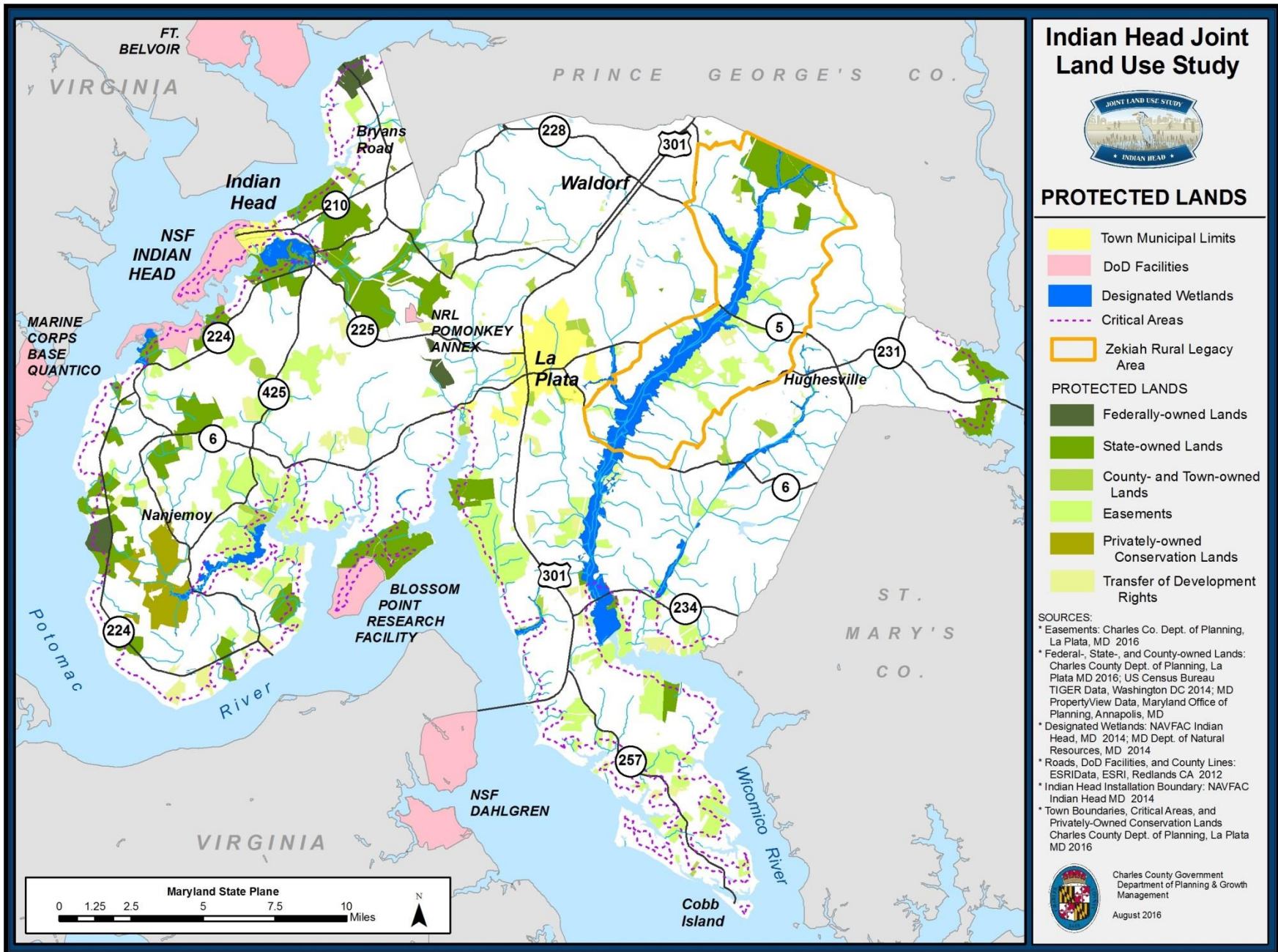


Figure 23: Protected Lands in Charles County, MD

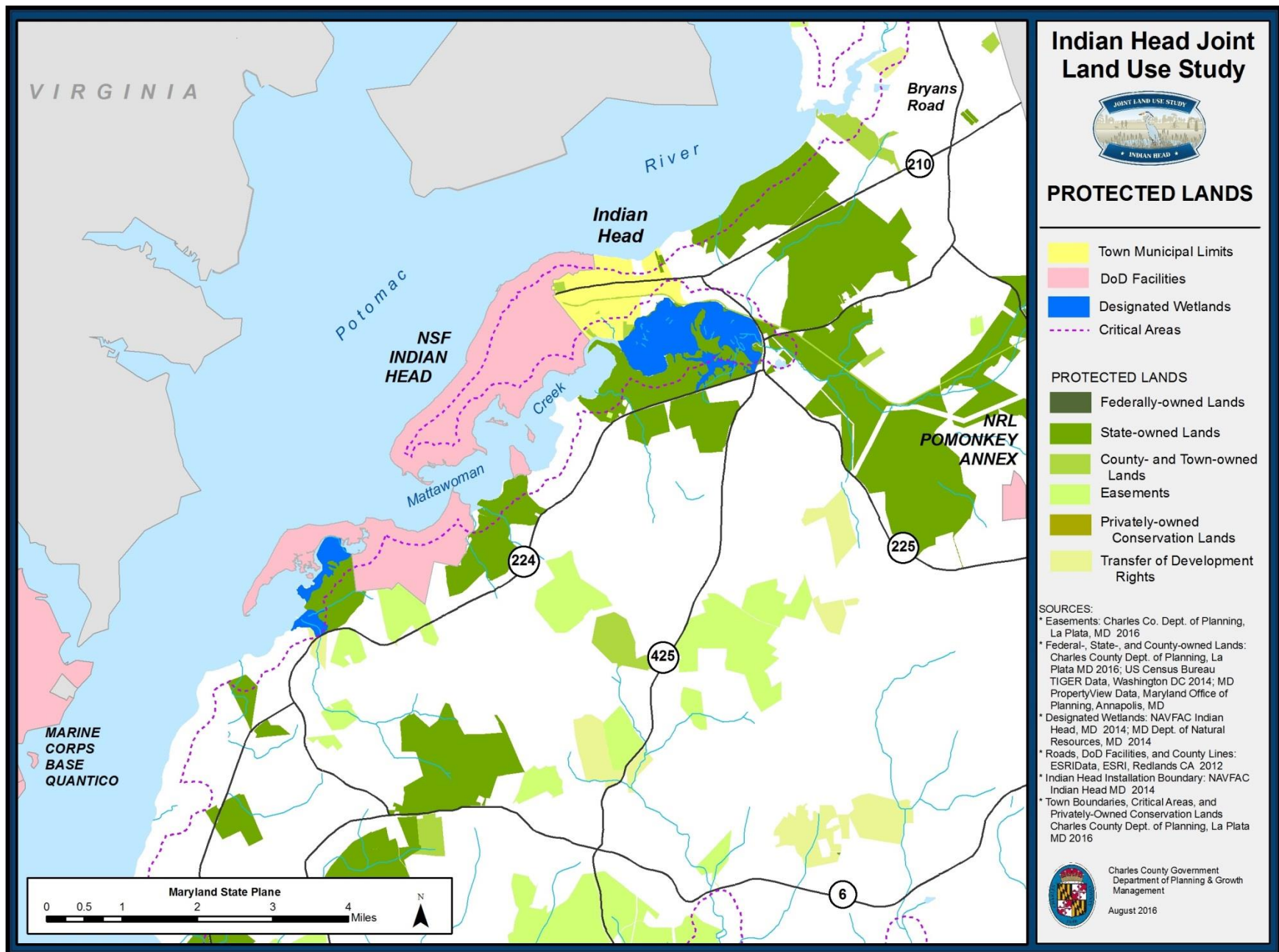


Figure 24: Protected Lands near NSF Indian Head

Land Restrictions
Airborne Noise
Community Growth
Frequency Spectrum
Interference
Endangered Species and
Critical Habitat
Water Quantity, Water
Quality, and Wetlands
Protection
Historic, Scenic, and
Cultural Resources and
Viewshed Protection
Unexploded Ordnance and
Munitions
Marine Resources
Energy Compatibility and
Availability
Security (Anti-terrorism/
Force Protection)
Natural Factors
Current and Planned
Range Operations
Height Restrictions
Impact from Blast Impulses
Transportation of
Hazardous
Materials//Traffic

Chapter 4: Compatibility Assessment

Compatibility is the balance between community and military needs and interests where both can thrive without problems or conflicts. DoD programs are designed to address concerns for safety, mitigation, and how the military can be a good neighbor. However, a community's changing pattern of land use, infrastructure and resource development, and even recreation near a military installation can strain the operations and mission.

The Indian Head JLUS planning process considered, as applicable, the military mission compatible use factors shown on the left of this page. The following summary identifies compatibility concerns that were identified in stakeholder interviews, from public comments, and through the research and analysis conducted by the project consulting team in coordination with the PC and TAG.

The factors were grouped according to the following classifications:

- Community Factors
- Operational Factors
- Safety Factors
- Environmental Factors

The review of the compatibility factors is summarized in Table 3. Based on the information received during stakeholder interviews, PC and TAG discussions, public feedback, and other research, the factors were ranked as negligible, minimal, or moderate concerns. There were no compatibility factors that ranked as a high concern.

Factors judged to have negligible or minimal concerns were expected to have little to no conflict between the installation and the community. These may not necessarily require any action or recommendations in the JLUS; however, they should be monitored to ensure conditions do not change.

Table 3: Summary of Indian Head JLUS Compatible Use Factors

Compatible Use Factor		Concern
Community	Land Restrictions	Moderate
	Community Growth	Moderate
Operational	Current and Planned Range Operations	Moderate
	Noise	Moderate
	Height Restrictions	Negligible
	Frequency Spectrum Interference	Negligible
	Security (Anti-terrorism/Force Protection)	Minimal
Safety	Unexploded Ordnance and Munitions	Moderate
	Impact from Blast Impulses	Minimal
	Transportation of Hazardous Materials/Traffic	Moderate
Environmental	Endangered Species and Critical Habitat	Moderate
	Water Quantity, Water Quality, and Wetlands Protection	Moderate
	Marine Resources	Moderate
	Historic, Scenic, and Cultural Resources and Viewshed Protection	Negligible
	Energy Compatibility and Availability	Negligible
	Natural Factors	Minimal

Community Factors

Actions taken by surrounding communities have the potential to impact the Navy's ability to meet its mission. At military installations, for example, community growth and development can be at times incompatible with current and future operations. In some instances, current land use may also be a concern. While incompatible development may not be an immediate threat, it could necessitate modifications to the types, timing, duration, or location of Navy operations in the future. Below, community factors, such as land restrictions and community growth, are discussed in the context of NSF Indian Head operations.

Land Restrictions

Counties and municipalities use land use restrictions, through zoning and other ordinances, to control and direct the development of property within their borders. Charles County and the Town of Indian Head have comprehensive plans that serve as the policy guide and framework for future growth, development, and preservation. Overall, these land use plans are compatible with military operations; the 2016 updates to both the County and Town comprehensive plans include language on NSF Indian Head operations and military compatibility. Some recommendations are provided in the JLUS Implementation Plan to ensure compatibility between military operations and the community. Both the county and Town have zoning ordinances to implement their comprehensive plans.

As shown in Figure 22, the Town zoning districts that border NSF Indian Head include low- and medium-density residential, commercial and residential mixed use, open space, and public and institutional. The Town Village Green and residential areas border the NSF Indian Head fence line.

Areas to the east of the Town of Indian Head are zoned for residential development by the

county. Currently, most of the land surrounding NSF Indian Head, with the exception of the Town and surrounding development area, is zoned RC and AC by Charles County. The minimum lot size for any new residential use in these districts is restricted to three acres which would allow for only low density growth. However, it is important to note that the county will enact new comprehensive rezoning to implement the 2016 Comprehensive Plan to ensure that land use densities prescribed in the plan are consistent with the corresponding zoning districts. The 2016 plan designates much of the land closest to the naval facility as Watershed Conservation District. The rezoning will change the permitted density in this district to one dwelling per 20 acres. In addition, most of the land near the facility is designated as Tier IV, thus limiting development to minor subdivisions of no more than 7 lots.

The EAP identified residential growth near active ranges as an encroachment issue, and future residential growth may put pressure on NSF Indian Head to curtail operations due to noise impacts to the surrounding communities. In addition, stakeholders had indicated some concerns about future

residential development near Stump Neck Annex. The change in land use designations and accompanying density limits from the adoption of the 2016 Comprehensive Plan will serve to reduce the development pressure in these areas and thus provide more protection to NSF Indian Head than the current zoning.

Zoning districts focused on preserving the rural environment and agricultural land uses are compatible with operations at NSF Indian Head because they minimize residential development that could result in increased noise complaints and damage claims. The low-density land use designations to the south of NSF Indian Head (Watershed Conservation and Rural Conservation) are compatible with the operations at Stump Neck Annex.

State parks and other natural areas in the region can also serve to restrict or limit development potential and ensure lands remain compatible with the military mission. These include Chapman State Park and the adjacent Glendening Natural Environmental Area, General Smallwood State Park, Purse State Park, Mattawoman Natural Environmental Area, Doncaster Demonstration State Forest, Chicamuxen Wildlife Management Area, Myrtle Grove Wildlife Management Area, and Nanjemoy Natural Resource Management Area. The National Oceanographic and Atmospheric Administration (NOAA) has declared its intent to designate Mallows Bay, located on the Potomac River south of NSF Indian Head,

as a National Marine Sanctuary¹⁷. In addition, there are protected areas across the Potomac River in Virginia, such as Mason Neck State Park and National Wildlife Refuge, Occoquan Bay National Wildlife Refuge, Featherstone National Wildlife Refuge, and Leesylvania State Park.

The Nature Conservancy owns land in the area, and there are easements on privately owned land that also restrict development, which are compatible with Charles County's goals to preserve agricultural and forest lands. Easements include Forest Conservation and Maryland Environmental Trust easements and several acres that are enrolled in Maryland Agricultural Preservation Districts, which are areas eligible for easements through the MALPF Program. Other properties are protected by conservation easements resulting from the county's TDR program, which, in Charles County, focuses on preserving farm and forest land with productive soils.

Development in designated Critical Areas in Maryland is restricted, which creates a natural buffer along shoreline areas around and across from the installation. Wetlands; habitat for rare, threatened, and endangered species; bald eagle nest protection zones; shoreline and riparian buffers; and historical and cultural resources place further restrictions on how land is used at NSF Indian Head. These issues are discussed further in the Environmental Factors section.

¹⁷ <http://www.nominate.noaa.gov/nominations/>

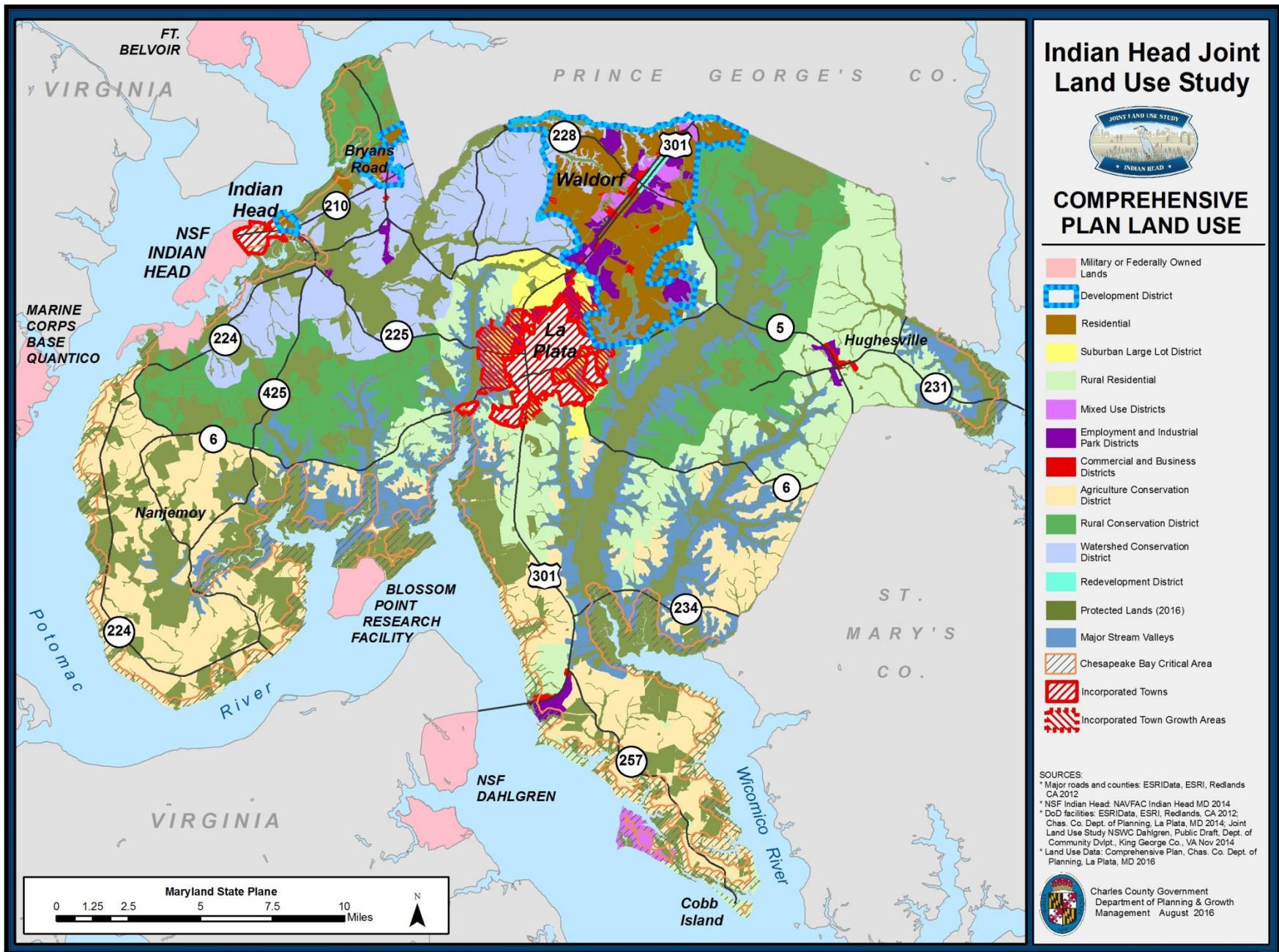


Figure 25: Comprehensive Plan Land Use in Charles County, MD

September 27, 2016

Draft Final for County Commissioner Adoption

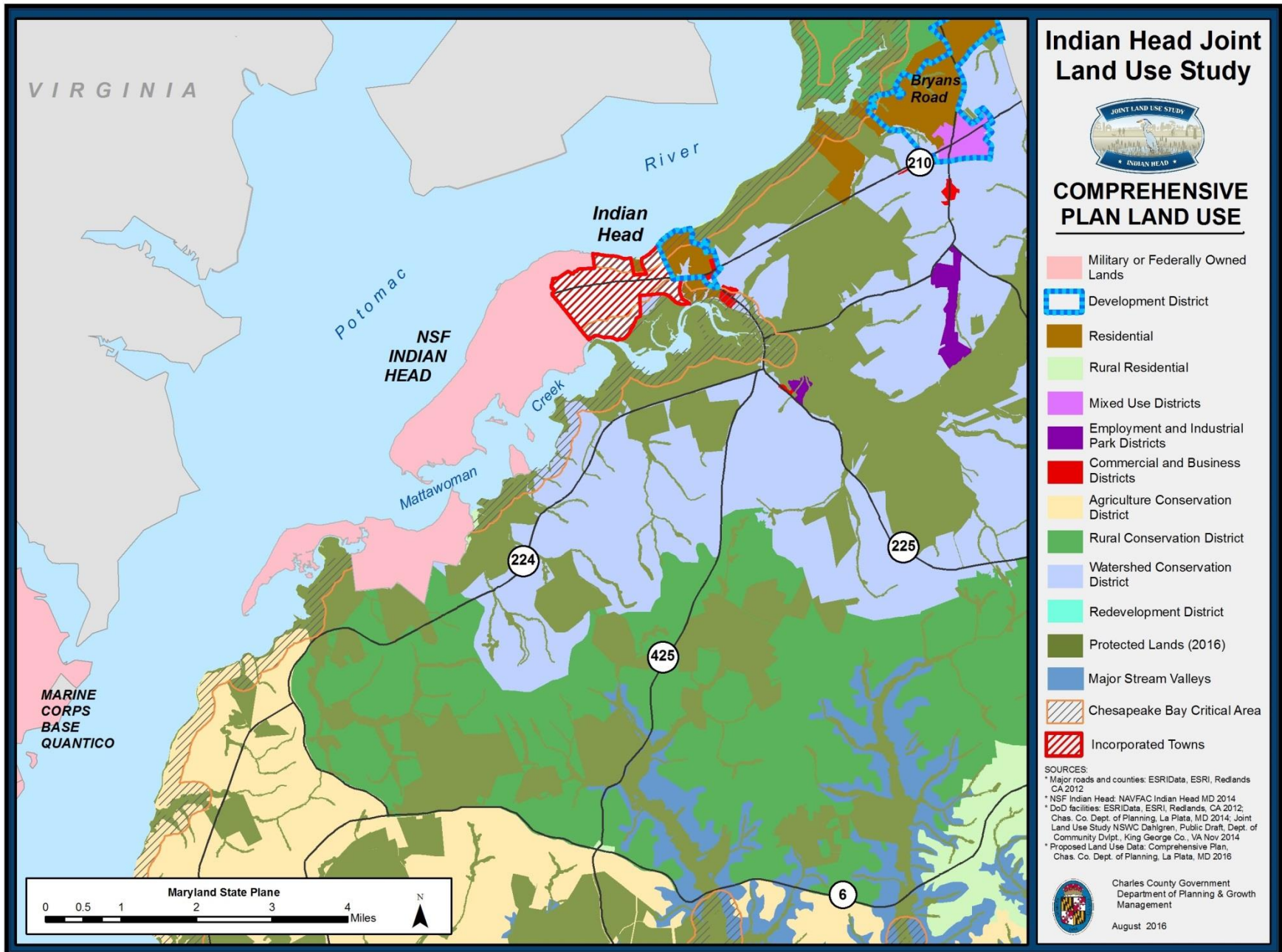


Figure 26: Comprehensive Plan Land Use around NSF Indian Head

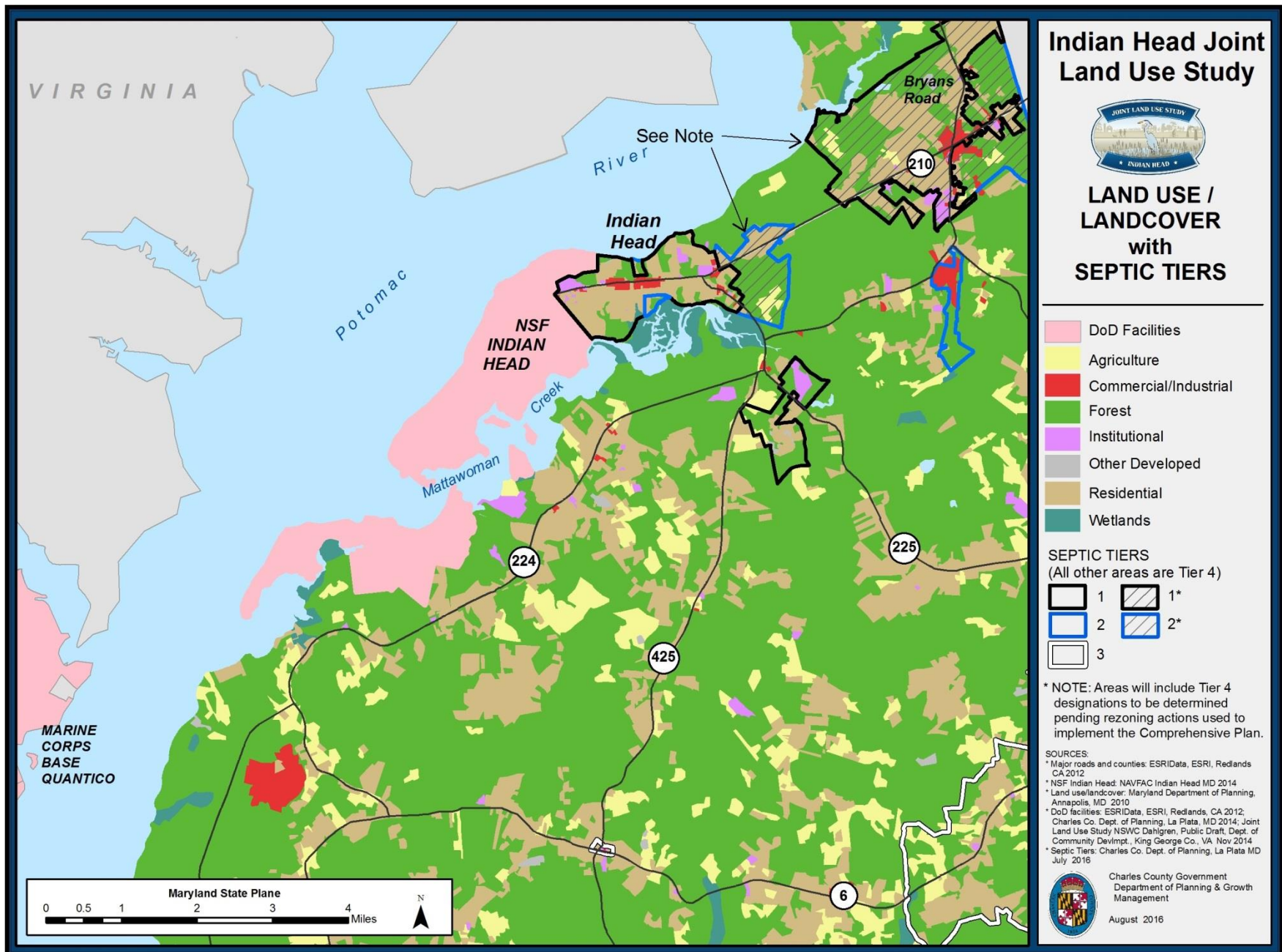


Figure 27: Septic Tier Map in the vicinity of NSF Indian Head

September 27, 2016

There are also land use restrictions on NSF Indian Head due to operational, compliance, and safety constraints. Opportunity areas have been identified on the installation for future growth. These areas are mostly located on the northern portion of the installation, as well as scattered locations on Stump Neck Annex. NSF Indian Head has a Master Plan, prepared in 2010, that provides a vision for land and facilities use through 2035. Most of the administrative work, such as the engineering campus, is being moved to the northern end of the installation. The manufacturing and testing are transitioning to the southern end to minimize potential impacts to the surrounding community. For example, explosives safety quantity distance (ESQD) arcs represent a considerable developmental constraint at NSF Indian Head. The EAP states that explosive safety restrictions can limit the ability of the installation to accommodate a new or changing mission. This concern was also voiced during interviews with several Navy stakeholders. The ESQD arcs are further discussed within the Operational Factors section.

Overall, no obvious, direct, or existing land use conflicts were identified after review of comprehensive plans and zoning ordinances; however, any land use changes that would result in increased density of residential development being permitted near noise producing operations at the installation would be incompatible. This concern is further discussed within the noise section.

This factor was classified as a moderate concern. Opportunities have been identified that would help protect against future

encroachment and ensure compatible land uses continue. Several recommendations are made in Chapter 5 that address this factor. Subsequent to the JLUS public input process being completed, the 2016 Comprehensive Plan was adopted which, as discussed previously, made significant land use changes that should better address this concern.

Community Growth

NSF Indian Head is an economic engine directly and indirectly responsible for much of the growth in the immediate area. Increasing growth and development around NSF Indian Head may increase complaints about noise and increase pressure on the installation to curtail operations. Community Growth was one of the highest concerns cited by attendees at Public Forum #2 (see Appendix B).

Washington, D.C is located 20 miles north of NSF Indian Head. Although there are no current impacts on the installation from the growth of the metropolitan area, development pressures may create future compatibility concerns, particularly from lower density residential community growth.

New centers of commercial development in Charles County, such as Bryans Road, have resulted in the increase of residential and commercial businesses north of the Town. However, vacant, underused land within commercial areas is available in the Town.

The state, county, and Town are interested in promoting development in areas with access to existing infrastructure. Redevelopment within the Town of Indian Head's existing municipal boundaries is consistent with Maryland's Smart Growth goals. Infill

development can rejuvenate older communities and provide existing infrastructure and services to developers. The Town has been designated a Priority Funding Area, which makes it eligible for state funding for infrastructure, economic growth, and development.

There is concern about the potential for the revitalization in the Town of Indian Head to encroach on operations at the installations by pursuing businesses that can conflict with the operations; however, most stakeholders were supportive of revitalization efforts. Many felt that a focus on urbanized growth would benefit and revitalize the Town of Indian Head and would not impact operations.

Since the areas adjacent to the installation are already developed with residences, parks, and businesses bordering the installation, and the NSF Indian Head Master Plan is focusing operations further to the south, development within the Town is compatible with operations with consideration to the noise producing activities on the installation. Areas to the east of the Town also fall outside the

noise contour (further described in the noise section).

However, the Town's revitalization efforts should be carefully considered in light of existing operations. It is important that infill development is designed to be compatible with existing development and NSF Indian Head operations. In particular, the noise contours, discussed in the operational factors section, should be considered when identifying new development. In addition, development that would adversely impact the traffic situation should be mitigated or moved elsewhere.

Another potential future growth area considered for the Town of Indian Head is becoming a tourism destination. As part of revitalization efforts, both the Mattawoman Creek and the Indian Head Rail Trail are important tourism resources.

Increased water-based tourism could interfere with explosives testing at Stump Neck Annex, particularly during the work week. Efforts should be taken to educate the public about vacating the range during operations to prevent delays.

The Town is planning to install a boardwalk, shown in Figure 28, and a nature walk along the Potomac River, and is working on a connector trail from the Indian Head Rail Trail to the recently completed John Thomas Parran Trailhead Plaza on the Village Green. These do not present any incompatibility concerns because they are located near areas identified for personnel support on the installation and away from the industrial areas.

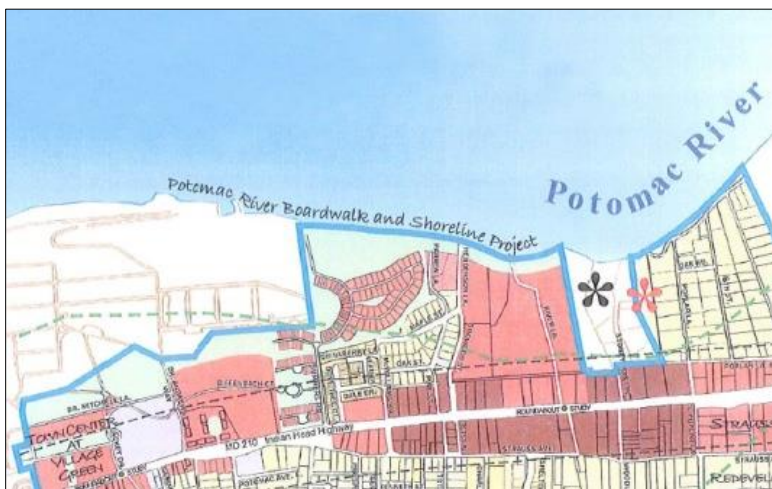


Figure 28: Town Boardwalk and Shoreline Project Location

The Northern Virginia Regional Commission is currently assessing commuter ferry service on the Occoquan, Potomac, and Anacostia Rivers. The landing identified for the ferry is owned by NSF Indian Head and consists of a pier with unknown structural integrity. Further coordination with the installation is therefore necessary.

Operations at Stump Neck Annex are compatible with the existing minimal development in the area.

Increasing growth and development near Stump Neck Annex is a concern raised by several stakeholders and noted in the EAP. The majority of the land surrounding Stump Neck Annex is forested with some large lot residential development and agriculture (shown in Figure 7 and Figure 8 in Chapter 2). Navy stakeholders indicated that it would benefit the Navy if it remained minimally developed because large residential development of the area could increase noise complaints.

The Maryland Airport has recently completed a runway expansion project to accommodate larger private aircraft. The county supports industrial development and a new terminal inside the fence of the airport, but not outside the fence due to environmentally sensitive lands in the area.

Development within the airport fence does not present any incompatibility issues with the Navy at the present time and is not expected to cause conflicts due to its distance from the installation, although stakeholders did voice both concern and support for potential expansion for numerous reasons.

The installation of a natural gas line from Bryans Road to NSF Indian Head has raised some concern about more growth in the area; however, the natural gas line was appropriately sized to accommodate the NSFIH's demand for the secondary and primary gas plants¹⁸.

The adopted 2016 Comprehensive Plan changed the area formerly designated as Deferred Development District to the Watershed Conservation Land Use District (shown in Figure 21 and Figure 22). The county's planned comprehensive rezoning effort will further enhance land use compatibility with NSF Indian Head, due to the minimum density requirement of 1 unit per 20 acres in the Watershed Conservation district.

Meetings with leadership, stakeholders, and the general public concluded that current land use is compatible between NSF Indian Head and surrounding properties, although concerns were raised about potential conflicts that may arise as a result of future development. Decreased development densities enacted in the adopted 2016 Comprehensive Plan should serve to mitigate these concerns. The 2016 Comprehensive Plan land use designations for Charles County and the more immediate area are shown in Figure 25 and Figure 26.

A strong, vibrant town is compatible with installation operations. Growth near Stump Neck Annex, especially in the "high risk of complaint" area, could lead to encroachment.

¹⁸ NSF Indian Head Environmental Assessment, Energy Upgrades to Steam Distribution System (MILCON P222).

However, the 2016 Comprehensive Plan re-designated all areas near Stump Neck Annex to Tier V, which will serve to reduce development in the area. Increased use of the surrounding waterways, resulting from

community growth, could also present some compatibility concerns, which are further discussed in the Marine Resources section. Therefore, community growth is considered a moderate concern.

Operational Factors

While land use in the surrounding community can impact military operations, the military installation can also affect the surrounding community. The following operational factors were assessed for compatibility: current and planned range operations, noise, height restrictions and frequency spectrum interference.

Current and Planned Range Operations

NSF Indian Head has been manufacturing and testing ordnance and explosives since it was founded in 1890 as a Naval Proving Ground. Today, the military community on the installation represents a diverse and strategically important mix of research and development activities alongside operational support programs that are protecting the U.S. from terrorist threats as well as serving military personnel deployed worldwide.

Most missions are tied to manufacturing, oversight, safety, and transport of munitions. Explosive operations are generally conducted on the southern end of the Mainside peninsula (Cornwallis Neck) and at Stump Neck Annex, removed from populated areas. These activities include range operations that may create smoke, noise, or vibration.

There are two active ranges at



Explosive ordnance disposal technicians use remote-controlled machines to help detect and defuse improvised explosive devices. (U.S. Navy photo)

Stump Neck Annex: Range 2 and Range 3. Range 3 is used approximately three weeks per month, and operations are usually limited to Monday through Thursday. Range 2 is less commonly used. The largest detonations (up to 60 pound net explosive weight [NEW] surface charges) are conducted at Range 3, with larger explosives taken to BPRF. About 80 percent of detonations involve surface charges of less than 20 pounds NEW. Material is also buried prior to detonation to reduce noise.

There were no planned changes to the operational mission at NSF Indian Head. Current and planned Military Construction (MILCON) projects include: steam decentralization and building of a natural gas line; a chemical facility for Otto fuel; a research, development, test, and evaluation complex; and a

laboratory complex.

NSWC IHEODTD has been designated as a Center of Industrial and Technical Excellence (CITE) facility. This depot and arsenal-level statutory authority provides an ability to create public-private partnerships to perform work related to core competencies and access to NSWC IHEODTD expertise. Stakeholders noted that if the Navy were to embrace public/private partnerships, such as Enhanced Use Lease (EUL), the Town could benefit.

While many stakeholders interviewed were familiar with operations at NSF Indian Head, results from the community survey show that more information regarding operations is desired by residents. Some concerns have been noted by the community in regards to current operations, mostly in relation to noise. Current and planned range operations are a moderate compatibility concern, as a changing or growing mission is likely to impact the surrounding community in both positive and negative ways.

Noise

Noise can be categorized as a pollutant and can be hazardous to physical, psychological, and social health. For example, noise that is loud or extends into night hours can be very disruptive to the surrounding community. Noise can result from military operations, as well as construction and development activities. Residents in communities surrounding NSF Indian Head may be impacted by infrequent but loud noise from operations at Cornwallis Neck, which includes thermal treatment (open burning) of waste propellants, explosives, and pyrotechnics

(PEP) and material contaminated with PEP and Stump Neck Annex, which includes the detonation of explosives.

Operations produce noise that can disturb surrounding communities. Increasing residential development may increase the number of noise complaints, and new arrivals to the community may have concerns about noise.

Most noise is heard in the areas around Stump Neck Annex. Some residents report that it is sudden or unexpected, and advance notification is desired. There have also been reports of noise and vibration at Bryans Road. Other residents have noted that they are accustomed to the noise and are not bothered. Most community survey respondents (67%) noted that they sometimes, rarely, or never heard noise. The remaining reported hearing noise on a daily or weekly basis. The majority of respondents that heard noise did not find it disruptive or found it only mildly disruptive.

Factors such as low cloud cover, wind, and the landscape of the area can influence how noise travels. For example, water may further propagate the sound. To minimize the impact of noise, NSF Indian Head uses the Sound Intensity Prediction System (SIPS) to assess atmospheric conditions and predict the likelihood of excessive noise. The system accounts for the amount of sound energy released by the test, landscape of the area and current weather conditions. If the noise is predicted to be too loud, testing is postponed until conditions are more favorable.

An operational noise consultation was conducted in 2009 to identify noise levels due to operations. The study identified noise zones and areas of complaint risk, shown in Figure 30.

The noise zones are based on “annual average noise doses (C-Weighted Day-Night Average Levels [CDNL]) and depict areas where further noise-sensitive land uses are not recommended due to the total noise dose based on loudness, frequency, and time of operations.” Noise in these zones ranges from 62 dB CDNL to greater than 70 dB CDNL. The report suggests land use in certain noise zones. As shown in Figure 30, Noise Zone I extends over water and some wetlands, but not developable land.

Within the Noise Zone II and Navy Land Use Planning Zone (LUPZ) buffer¹⁹, the land is mostly protected or zoned Agricultural Conservation and Rural Conservation District, and designated as Tier IV with minimal residential development. This is compatible with NSF Indian Head operations, and it is

¹⁹ Also presented in the study, the Navy LUPZ extends beyond the noise zones and is intended to act as buffer.

suggested that this land remain minimally developed to allow for resource production, and/or considered for protections.

Areas of moderate and high complaint risk were also identified where loud but infrequent noise may occur due to individual events. These may generate complaints from the surrounding community during detonation when weather conditions favor sound propagation. Beyond these areas, the risk of complaint is considered low and incompatibility is minimal.

The study notes that due to the frequency of noise generated by the detonation of explosives, revisions to building regulations may not be beneficial; therefore, it is recommended that all areas occasionally exposed to high noise levels, shown in Figure 32, are considered during land use policy

discussions.

The moderate risk of complaint area encompasses the Town of Indian Head, extends south to Nanjemoy, and extends west over the Potomac River into Virginia. Within this area, peak levels can range from 115 to 130 dB, as might be expected at a rock concert.

Noise Zone I (> 70 dB CDNL): No noise sensitive land uses recommended, such as schools, hospitals, or rest homes.

Noise Zone II (62 to 70 dB CDNL): “limited to activities such as industrial, manufacturing, transportation, and resource production”

Land Use Planning Zone (57 to 62 dB CDNL): a buffer

High Risk of Complaint Area (peaks > 130 dB): Minimize noise sensitive land uses.

Moderate Risk of Complaint Area (peaks from 115 to 130 dB): Carefully consider during land use planning.

Low Risk of Complaint Area: No land use restrictions are recommended.

The high risk of complaint area extends around Stump Neck Annex. Within this area, noise levels may reach peaks greater than 130 dB, the equivalent of a gunshot or firework. This is the area most at risk for compatibility issues. Development in the area should be limited to those land uses that are not considered noise sensitive. Further, to protect the sustainability of the mission, areas within the high risk of complaint area should not be zoned to allow high-density residential land use.

NSWC IHEODTD does not have a noise complaint hotline or website to notify the community of noise events.

NSF Indian Head currently does not have a noise complaint hotline and does not perform prior public notification of noise events; however, a communication plan is in development to publicize daily information on testing. NSWC IHEODTD posts a generic notice, as shown in Figure 29 on their command social media site if testing is expected to generate loud noise.

Although there are no current plans to use the Maryland Airport for military aircraft operations, any military use may generate a noise profile that may become a compatibility issue. The zoning regulations do not address airport noise.

In summary, some residents and stakeholders voiced concern about noise; however, this was not a major issue for the community. The installation takes precautions to minimize noise impacts. Realtors are required to provide disclosures to buyers. Because of potential for some limited residential

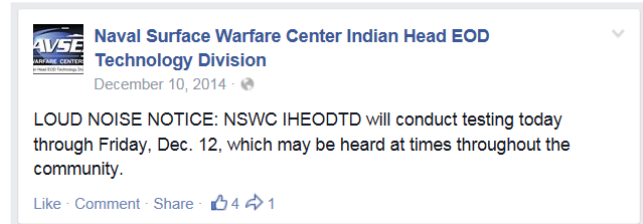


Figure 29: Generic noise notice

development in complaint areas and opportunities to improve communication between the installation and the community, this issue is considered a moderate compatibility concern.

Height Restrictions

In some localities, restrictions may be imposed that limit the height of structures. Vertical obstructions resulting from buildings, structures, cell towers, or other construction may encroach into areas used by the military and can conflict with flight operations at some installations. NSF Indian Head has two helicopter pads that can be accessed by aircraft. One helicopter pad is located at Mainside and the other at Stump Neck Annex. Both are used infrequently for medical evacuations and Chemical Biological Incident Response Force (CBIRF) military training purposes. CBIRF conducts quarterly training operations using the helipad at Stump Neck Annex.

NSF Indian Head is located in the DC Special Flight Rules Area (SFRA)²⁰, which requires established operating requirements and procedures for flights in and around the area. Beyond that restriction, there are no further airspace restrictions at NSF Indian Head. Aircraft routinely fly over and around en

²⁰ SFRA was codified in 14 CFR 93.331-345 on February 17, 2009.

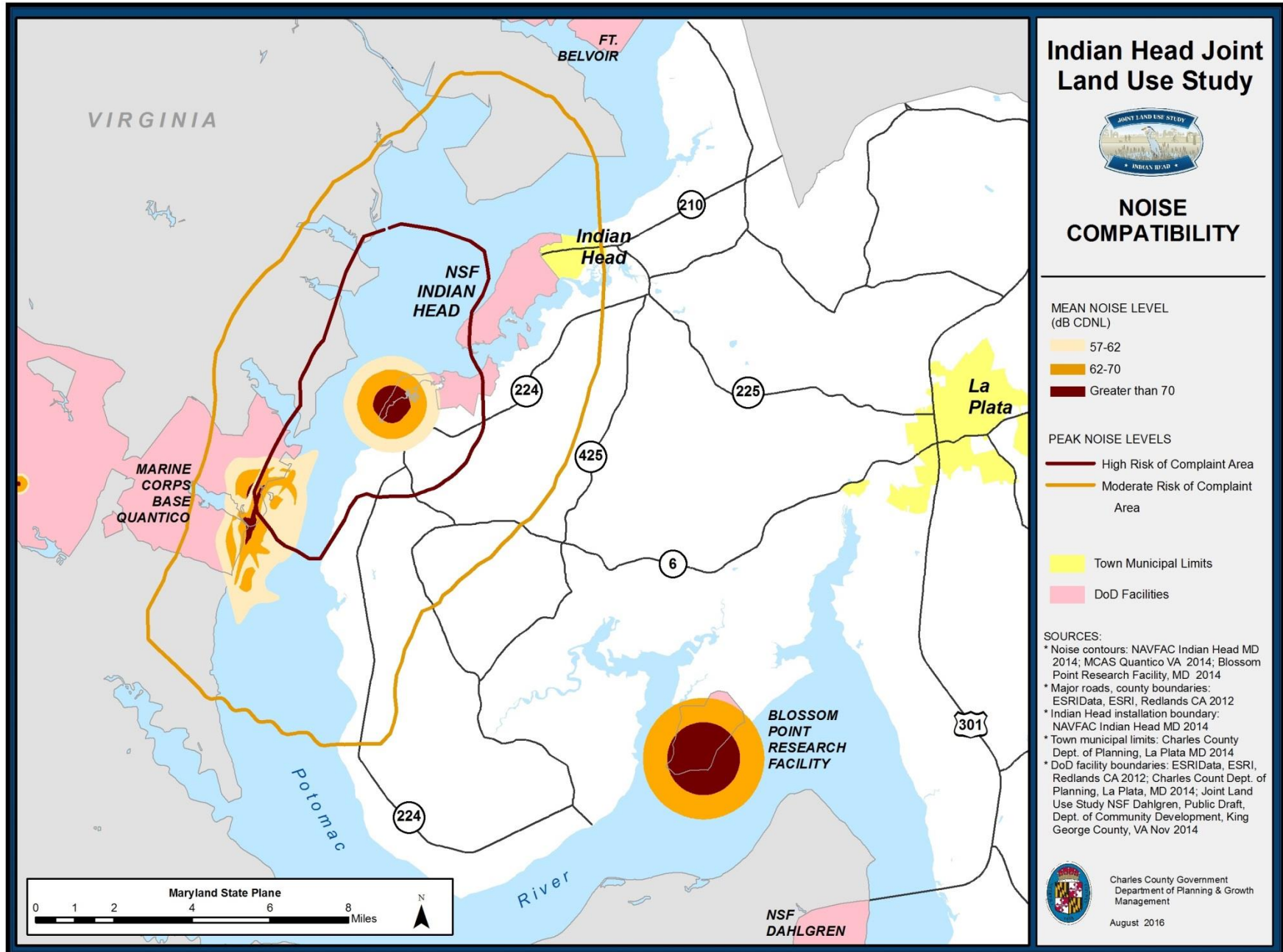


Figure 30: Noise Compatibility Contours around NSF Indian Head

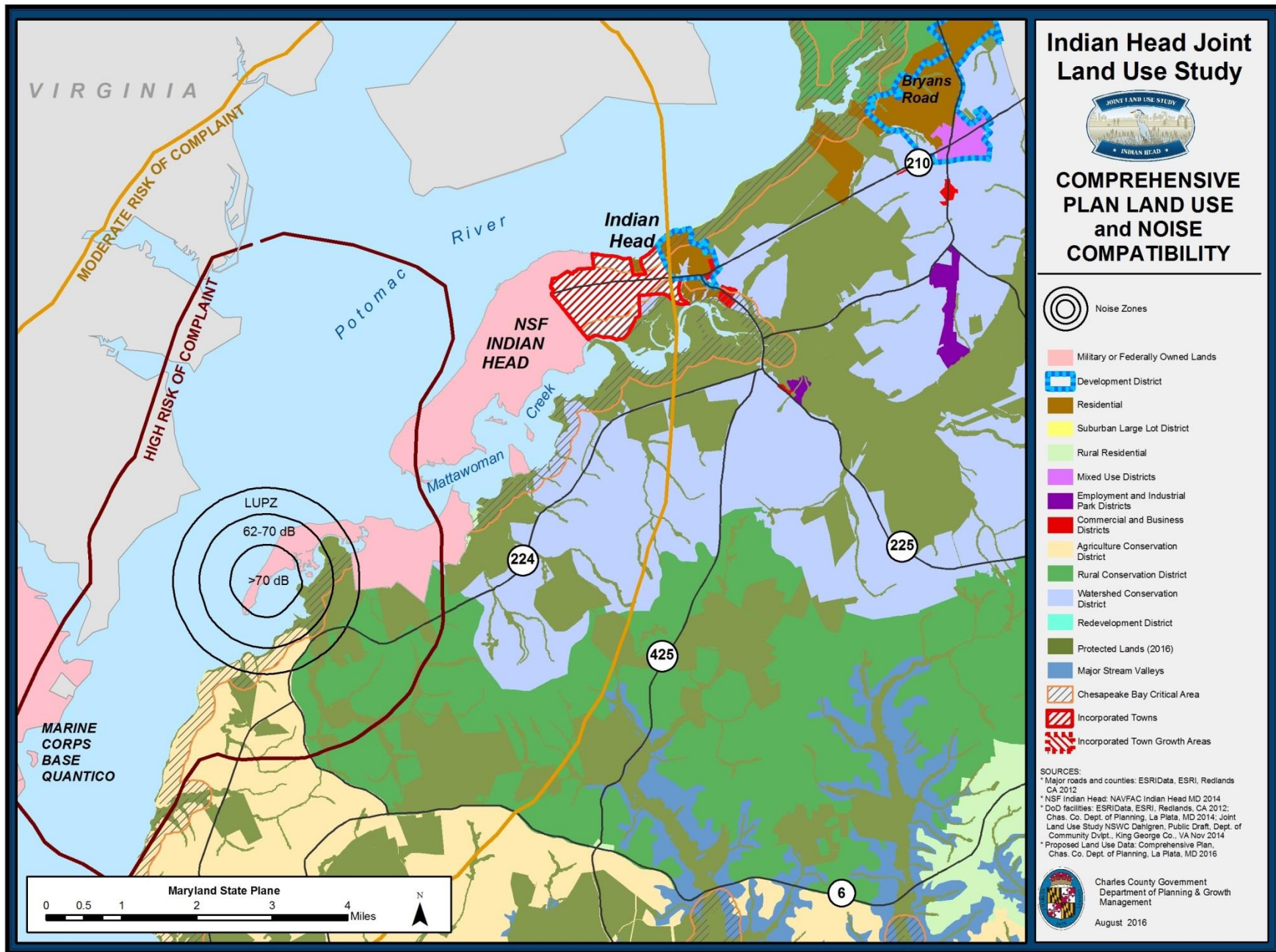


Figure 31: Comprehensive Plan Land Use and Noise Compatibility

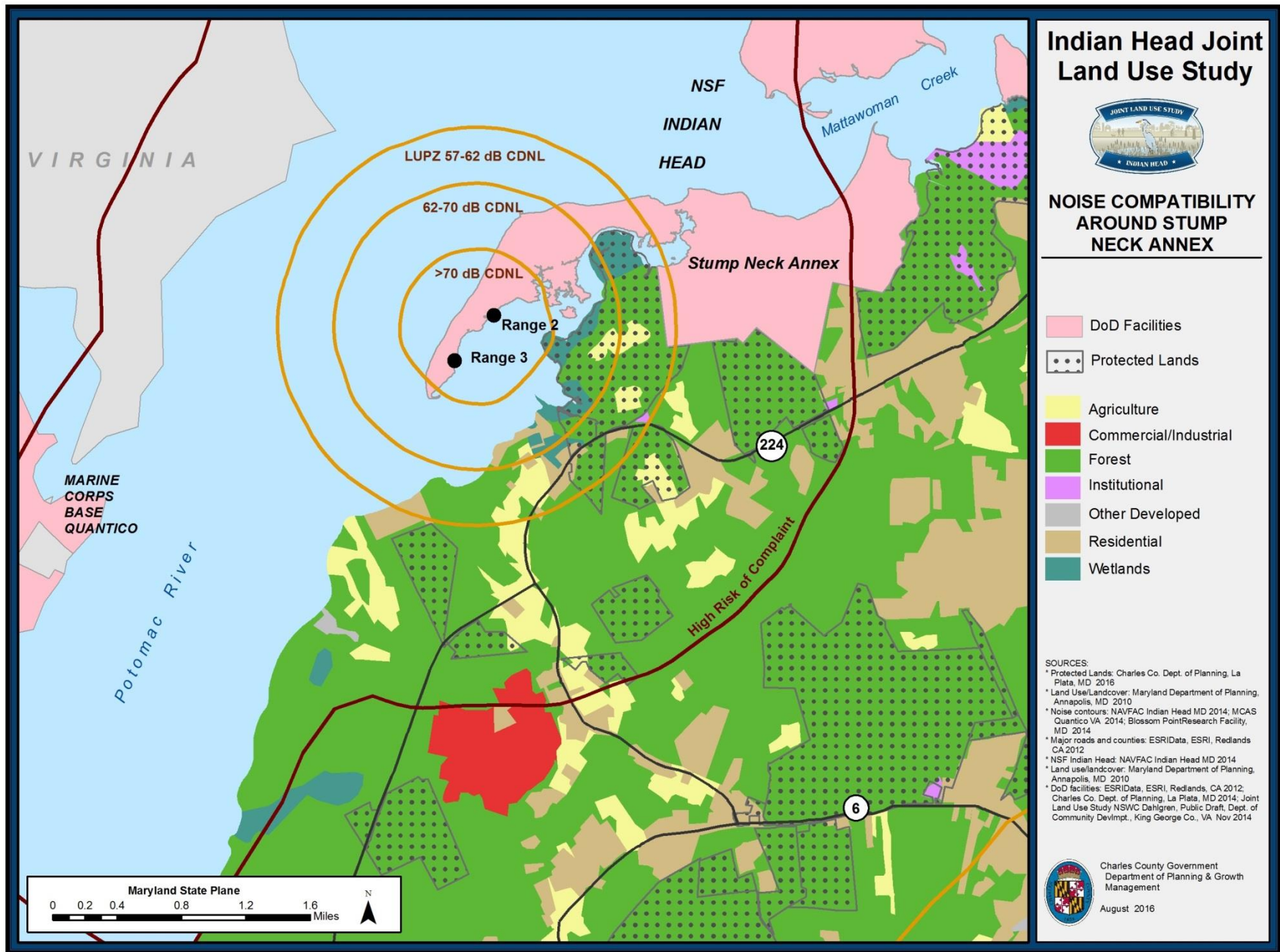


Figure 32: Noise Compatibility around Stump Neck Annex

route to local airports, including Maryland Airport, located in Pomonkey, Maryland. The Charles County Zoning Ordinance limits buildings to a maximum of 5 stories or fewer and 60 feet in height or less in most areas of the county, except where prohibited as an obstruction to air navigation. Compatibility concerns with height restrictions are negligible.

Spectrum Interference

Frequency Spectrum is the range of electromagnetic frequencies used for communications and other transmissions, which includes radio, cellular phones, and television. The military relies on a range of frequencies with capacities for communications and support systems in the performance of operations. Similarly, public and private users use a range of frequencies on a daily basis. NSF Indian Head uses radiofrequencies for EOD, robotic systems, and communication datalinks.

NSF Indian Head restricts radio transmitters, from cell phones to radios, in the vicinity of explosive manufacturing facilities and operations because of hazards of electromagnetic radiation to ordnance (HERO) concerns. Electromagnetic radiation in certain portions of the frequency spectrum has the potential to detonate munitions, particularly during manufacturing. Physical barriers and fences control access to ordnance areas aboard NSF Indian Head.

Based on stakeholder feedback, and because restricted areas are located on NSF Indian Head, the potential for frequency spectrum interference to the installation from the surrounding community is

unlikely/negligible. The potential for frequency spectrum interference from the base to licensed spectrum users in the surrounding community is also unlikely/negligible. Any suspected interference from the base to unlicensed devices (for example, FCC Part 15 unlicensed devices, such as garage door openers) will be addressed on a case-by-case basis.

Security (Anti-Terrorism/Force Protection)

Security (anti-terrorism/force protection) is the protection and security of the nation's defense assets. Installation defenses can be breached or compromised, such as development close to the fence line where the public can view operational activities. It is important to address these issues to ensure military readiness.

Mainside (Cornwallis Neck) is bounded on the west by the Potomac River, on the east by Mattawoman Creek, and on the north by the Town of Indian Head, which includes some residential areas. There is a fence along most of the perimeter of the facility. Stump Neck Annex is located to the south of Cornwallis Neck and is bounded by the Potomac River to the north, Chicamuxen Creek to the south, and General Smallwood State Park and Chicamuxen Wildlife Management Area to the southeast.

During range operations, explosives and energetics are exploded and burned adjacent to bodies of water. NSF Indian Head must rely on patrols and visual surveys of the waters to ensure the danger area is clear. There is signage along the land perimeter that indicates the presence of a military facility and prohibits trespassing.

Public trespassing has not been a major problem; however, the extensive shoreline at the installation remains a concern with respect to public safety and security. The

wetlands at NSF Indian Head provide a natural barrier to trespassing; therefore, security was considered a minimal concern in regards to compatibility.

Safety Factors

The Navy has an excellent track record for safety and takes numerous precautions to make sure employees and the community are protected. Explosive safety arcs and surface danger zones help ensure the public's health and safety is protected during planned explosions or in the event of an accident. Below is a discussion of safety considerations.

Unexploded Ordnance and Munitions

A significant component of the operations at NSF Indian Head involves the development and testing of munitions and other energetics. Facilities for production, storage, testing, and detonation of explosives are located on Mainside. All materials are stored, handled, and transported in strict compliance with applicable federal standards.

Munitions are stored onsite in specially designed above- and below-ground magazine storage facilities located throughout the installation, as well as explosive dry houses. Structures are built to direct blasts vertically if an accidental detonation should occur. Numerous studies and plans are used to address range safety and maintain compliance with state and federal regulations.

Explosive Safety Quantity Distance arcs extend over Mattawoman Creek.

Testing and evaluation are performed at designated facilities and ranges located on both Mainside and Stump Neck Annex. ESQD arcs are established around buildings to safeguard personnel, protect the inhabitants

of nearby communities, protect public and private property, and keep the loss of valuable ammunition stores to a minimum in the event of a fire or explosion. Establishment of safety arcs consider worst-case scenarios and apply to the concentration of ammunition, explosives, and other hazardous materials at Navy installations during development; manufacturing; test and maintenance; storage, loading, and off-loading of vehicles, railcars, and aircraft; disposal; and all related handling.

These arcs cannot extend over buildings and are not permitted over private property; however, several of the ESQD Arcs from Cornwallis Neck could extend over Mattawoman Creek.

Waterfront development could have impacts on military operations.

Waterfront development is considered a valuable amenity and Charles County has identified access to the water as a recreation objective. A 1999 study²¹ identified

²¹*Assessment of Waterfront Development Opportunities for Charles County*

Mattawoman Creek/Sweden Point as one of several locations appropriate for targeting waterfront development. Additionally, this development could contribute to increasing water traffic in and around NSF Indian Head, impacting operations. (This concern is further discussed in the Marine Resources section.) However, in 2010, the County Commissioners prioritized other sites for waterfront development; the county has no plans to develop this area.

Many decades of manufacturing operations and testing at NSF Indian Head have resulted in contamination over portions of both NSF Indian Head and Stump Neck Annex. While testing of explosive devices and projectiles no longer occurs, unexploded ordnance²² (UXO) are still found, although rarely. The Munitions Response Program (MSP) has identified and mapped areas at NSF Indian Head where past land uses have left potential UXO.

NSF Indian Head conducts thermal treatment (open burning) of waste explosive material contaminated in various specially designed fixtures. These wastes are byproducts of the production, research, development, and testing processes at NSWC IHEODTD. The majority of the waste treatment occurs in units known as burn pans, located on Cornwallis Neck. Smoke is generated during the burns from the combustion of diesel fuel and waste. Approximately 200,000 pounds of waste are burned per year. NSF Indian Head is operating under an interim Resource

²² UXO are explosive weapons that did not explode when intended and still pose a risk of detonation, potentially, many decades after they were used or discarded.

Conservation and Recovery Act (RCRA) permit; the installation submitted the application for a final Maryland Department of the Environment permit on 2 September 2016. In accordance with NSF's Title V air permit the burn point is considered an insignificant source of emissions and does not require an air emissions permit. Air modeling to determine compliance and a risk assessment have been included as part of the permit application.

Because safety arcs extend over the water, which is used for recreational purposes, this is considered a moderate concern.

Impact from Blast Impulses

Explosives are detonated as part of the research, development, and testing mission at NSF Indian Head. Blast impulses can create noise, vibration, and smoke that could impact the community. Most of the detonations at NSF Indian Head ranges are less than 20 pounds NEW. Despite this, there can be noticeable noise associated with the explosions. Most of the research, development, and testing at NSF Indian Head is conducted within laboratories; however, some operations are conducted in the open air. Most of the explosive testing and detonations occur at Range 3 at Stump Neck Annex. The detonation and explosive impact (vibration) resulting from these operations could affect the community, resulting in complaints.

For example, on November 5, 2014, a concerned Marbury resident reported ground tremors to Charles County's liaison with the installation. One of the tenants at NSF Indian Head was performing testing that day.

Based on input received during stakeholder meetings and the public forum, the frequency and duration of the vibrations are minimal and appear to be a minimal problem for the community.

Transportation of Hazardous Materials/Traffic

Initially moved by water, then rail, hazardous and explosive materials are now transported by truck. Concerns were raised by some stakeholders that increased traffic and traffic control devices could impact the transport of these materials to NSF Indian Head and Stump Neck Annex. Increased traffic, stoplights, turns, etc., could lead to longer commutes for trucks bringing hazardous material in and out of NSF Indian Head.

There are concerns about the transport of hazardous material and explosives near residential development.

However, all transportation must comply with Department of Transportation (DOT) regulations. NSF Indian Head is also a designated Safe Haven; trucks with hazardous cargo may park at the facility during emergencies. It is unknown if development that has occurred around Bryans Road and other areas, such as MD Routes 224 and 225, would impact these transports, but it may be beneficial if these transports are considered during planning.

Environmental Factors

The health and diversity of the ecosystem is important to area residents. The Navy is dedicated to protecting the environment and remaining good stewards. However, environmental regulations can put constraints on operations and create additional work and costs. At some military installations,

There are concerns about traffic during peak commute times, particularly during times of increased security.

It has also been noted that some Indian Head residents may have a difficult time leaving residential areas during peak commute times. During times of increased security, traffic at the main gate is often backed up.

Route 210 corridor planning and development along the highway has the potential to benefit both the Town and NSF Indian Head. The Town of Indian Head plan, *New Horizons, The Plan for the Future of Downtown*, contains recommendations for enhancing the streetscape and pedestrian amenities along Route 210, including capital improvements and better use of open space, among others. The county also has a Highway Corridor Overlay Zone that applies to Route 210, intended to protect and improve the visual appearance along key highway corridors.

The focus on a unified “streetscape” and pedestrian friendly roadway does not consider the transport of hazardous materials and explosives to and from NSF Indian Head.

While some stakeholders raised this as a concern, others felt there were appropriate considerations in existing planning processes. Since this transportation is an important component to NSF Indian Head operations, this concern was considered moderate.

there may even be competition between local communities and military for use of natural resources. The environmental factors discussed here include endangered species and critical habitat; water quantity, water quality, and wetlands protection; marine resources; historic, scenic, and cultural resources and viewshed protection; energy compatibility and availability, and natural factors.

Endangered Species and Critical Habitat

A plant or animal species in danger of extinction throughout all or a significant portion of its range is identified as an endangered species, while those likely to become endangered in the near future are identified as a threatened species. The presence of endangered and threatened species on military installations can constrain operations and require management actions. Activities in the surrounding area can lead to the decline of species population or changes in distribution. For instance, if habitat for a rare species is altered or destroyed in the surrounding region, species may seek refuge on suitable habitat on military installations.

Designated parks and natural areas in the vicinity of NSF Indian Head help to sustain the biodiversity and ecological integrity of the region. The Maryland DNR has worked with Charles County to identify sensitive areas and areas that need protection near Mattawoman Creek. As residential development has increased, stakeholders have reported that the health of the creek, fish populations, and species diversity in the creek and surrounding natural areas has declined.

NSF Indian Head has an Integrated Natural Resources Management Plan (INRMP)²³, a

long-term planning document that guides the management of natural resources. The INRMP identifies any species of concern and provides a plan for managing the habitat and species. Two federally endangered species, the shortnose sturgeon and Atlantic sturgeon, may be found in the waters surrounding NSF Indian Head; however, there are no known or expected impacts to mission-related activities. Activities that could potentially impact these species and would require notification to the U.S. Fish and Wildlife Service (USFWS) include in-water training, pier repair, dredging, shoreline stabilization, and river water in-take system repair. In addition, the federally-threatened sensitive joint-vetch, a marsh plant in the pea family, has been found along the Potomac River. This species has not been observed on NSF Indian Head, despite surveys, but there are coastal marshes that could support the plant.

To protect threatened and endangered species, critical habitat may be designated. The USFWS defines critical habitat as “a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.” According to the INRMP, no critical habitat is proposed or designated at NSF Indian Head. The installation is also home to several other rare or sensitive species, including several species of concern

²³ Dated June 2014.

and state-listed species of plants, fish, and invertebrates. The installation has implemented several management practices to enhance habitat and minimize operational impacts related to these species.

Bald eagles require special management action and precautions.

While delisted in 2007, bald eagles require special management action and precautions to minimize impact during nesting times. NSF Indian Head has established bald eagle nest protection zones and has a Bald Eagle Management Plan. Currently, there are 10 to 14 nests being managed and there are reports that bald eagle activity has increased on NSF Indian Head in recent years. According to the INRMP, “[c]urrent and planned operations and mission activities at NSF Indian Head [NSF Indian Head] with the potential to be affected by bald eagle management include: power lines, forestry, hunting, training, testing, construction of new facilities, building demolition, building renovation/maintenance, grounds maintenance, and establishment of additional training areas.”

There are large parcels of protected lands in the study area, but due to the current and possible restrictions to operations from the



A seven-week-old bald eagle nests in a loblolly pine tree at Naval Support Facility Indian Head, MD (U.S. Navy photo)

presence of endangered and other sensitive species, and because activities in the study area can impact species populations or change distributions, endangered species and critical habitat was determined to be of moderate concern.

Water Quantity, Water Quality, and Wetlands Protection

Water quality can be affected by military operations, local recreational use, and community development. Water Quality was one of the top concerns of the attendees of Public Forum #2. This factor evaluates the impacts resulting from the quantity and quality of the water.

Groundwater appropriations are limited due to aquifer drawdown, impacting the Town of Indian Head and NSF Indian Head.

Increased demand and development in the aquifer could influence water availability in the future and put more pressure on the Navy to find alternative solutions. The use of groundwater has been limited by appropriation by MDE. To free up water in the upper aquifer, both NSF Indian Head and the Town of Indian Head have drilled deeper wells for drinking water. The Town is also considering the possibility of drilling another deep well.

At NSF Indian Head, manufacturing and operations require the use of water, and there is piping for steam generation throughout the installation. NSF Indian Head is limiting its use of potable water for industrial processes and using river water instead. The use of river water for industrial purposes requires the installation of reverse osmosis systems which are costly; however, these systems will reduce the amount of potable ground water required for mission operations. NSF Indian Head has also been installing systems that use river water for fire and rescue needs. The conversion of the coal-fired Goddard Power Plant to natural gas will also alleviate water supply pressure by reducing the amount of potable water used for steam production.

Several Charles County boards and plans address water issues, including a water conservation plan and a water source feasibility study (under development). The reduction in development that will result from the adoption of the 2016 Comprehensive Plan will also help to alleviate pressure on the water supply. Charles County also has an agreement with the Washington Suburban Sanitary Commission (WSSC) in which the county could draw from the Potomac River for drinking water. This could potentially reduce pressure on the aquifers. However, this issue reaches beyond the study area and is a regional concern because many of the aquifers extend beyond the county boundary.

In addition to groundwater, many stakeholders voiced that the water quality and health of the area's rivers and streams is very important. Mattawoman Creek is a vital lifeline for the Chesapeake Bay and has been

recognized for its biological importance. It is a world-class bass fishery, and Mallow's Bay is being considered for National Marine Sanctuary designation.

Historic waste storage practices at NSF Indian Head led to the contamination of Mattawoman Creek; however, environmental laws in the 1970s and remediation activities onsite have led to the recovery of fish and vegetation populations. As an industrial facility with Superfund sites, there is heightened awareness about environmental issues. The ecology of the creek is very important to the Navy, and two public meetings are held each year to discuss environmental restoration activities at the installation.

Approximately 213 acres of NSF Indian Head are covered by wetlands, and submerged aquatic vegetation beds can be found in the surrounding waters. Development activities in wetland areas are limited and in many instances require mitigation.

Water quantity, water quality, and wetlands protection at NSF Indian Head are well-managed; however, some concerns were raised during stakeholder interviews and by members of the public. Because of the importance of water availability to NSF Indian Head operations and the local community, there are moderate concerns regarding compatibility.

Marine Resources

Maritime issues, such as the protection and preservation of marine resources, have the potential to impact NSF Indian Head's ability to conduct testing and training exercises in and near the surrounding waters. The waters

surrounding the installation are used for recreational purposes, with boat landings and marinas in the vicinity. These waterways are home to a number of important sport-fishing species, including largemouth bass and two endangered species of sturgeon, and habitat, such as submerged aquatic vegetation beds. The Mattawoman Creek and Potomac River are world-class spots for sport fishing and numerous national largemouth bass fishing tournaments are held in the area.

NSF Indian Head infrequently uses the surrounding waters for Landing Craft Air Cushion (LCAC) operations (one day every year or two). These boats, or hovercraft, travel the surrounding waterways and land on a designated area on Stump Neck Annex and have potential to create noise.



CBIRF uses a Landing Craft Air Cushioned (LCAC) vessel to validate water routes along the Potomac River. The hovercraft is nearly 90 feet long, can lift more than 60 tons of cargo, and is capable of speeds in excess of 40 knots. (U.S. Navy photo)

In addition, there is a danger zone (33 CFR 334.240), shown in Figure 33, that extends over the Potomac River, Mattawoman Creek, and Chicamuxen Creek, where access is restricted during operations to ensure the public safety. These operations mostly include the controlled detonation of explosive materials at Stump Neck Annex.

Access is restricted in the danger zone (33 CFR 334.240) during NSF Indian Head operations to ensure public safety.

The danger zone is shown in the Notice to Mariners. Boaters are notified of impending operations by flashing red lights and horns and should promptly vacate the area. Most of the operations and interaction with the boaters are well-managed. The majority of the time boaters and fishermen leave when asked. The description of the danger zone and the Notice to Mariners map is included in Appendix E.

Community or individual slips or piers are permitted on the waterfront; there may be a concern with increasing boat traffic on Mattawoman Creek and Chicamuxen Creek.

According to the Code of Federal Regulations, operations/control

ed explosions may occur any time (day or night) during any day of the week; however, NSF Indian Head usually conducts these operations Monday through Thursdays during the workday. In addition, the installation avoids scheduling operations during fishing tournaments. Event dates and scheduling of fishing tournaments are not coordinated with the installation, county, or

Town; however, many times, installation personnel are aware of tournament dates. For those tournaments using the facility at General Smallwood State Park, a permit is required and the park office can be contacted for a list of events.

Scheduling of fishing tournaments is not coordinated with NSF Indian Head, Charles County, or the Town of Indian Head.

While marine resources do not appear to create any substantial compatibility issues, the presence of the danger zone over the surrounding waters and the use of these waters by the public suggest some moderate compatibility concerns.

Historic, Scenic, and Cultural Resources and Viewshed Protection

Historic, scenic, and cultural resources and viewshed protection is the recognition of buildings, structures, and sites that have historical or cultural significance. The preservation of cultural and scenic resources is essential to the area's character, economic vitality, and quality of life. Historic resources are significant on NSF Indian Head; there are 5 historic districts eligible for listing on the National Register of Historic Places, 270 historic structures within these districts, 120 archaeological sites, and 7 archaeological sites that are eligible for listing on the National Register of Historic Places. While the golf course is considered a contributing element to the Naval Residential Historic District, the grounds are only maintained as open space and there is no longer any equipment. Once accessible to the public, it was shut down in 2009 due to costs and funding issues.

Charles County also has a rich diverse history. Within 15 miles of the installation is the county's only national historic landmark, Habre de Venture. There are also several locations that are listed on the National Register of Historic Places or are eligible for listing.

The National Park Service also manages several water trails in the region that bring visitors to the Potomac River to explore history. These include the Captain John Smith Chesapeake National Historic Trail and Star-Spangled Banner National Historic Trail. Portions of the Potomac Heritage National Historic Trail bicycle route also transverse southern Maryland, including MD Route 224 south of Stump Neck Annex.

The historic community of Pomonkey is located at the crossing of Livingston Road and Pomfret Road, one mile from Bryans Road. Charles County recently completed a survey to support the Maryland Inventory of Historic Properties form for the Pomonkey Historic District. The historical research and documentation project will determine appropriate redevelopment and preservation strategies for the area to ensure this important community is protected.

Established in 1999, the goal of the Southern Maryland Heritage Area (SMHA), consisting of Calvert, Charles, and St. Mary's Counties, is to act as a catalyst to coordinate regional tourism and preservation efforts. The Southern Maryland Heritage Area Tourism Management Plan selects Target Investment Zones (TIZ), which are areas specifically selected as eligible for capital investments through grants. The Town of Indian Head is a TIZ.

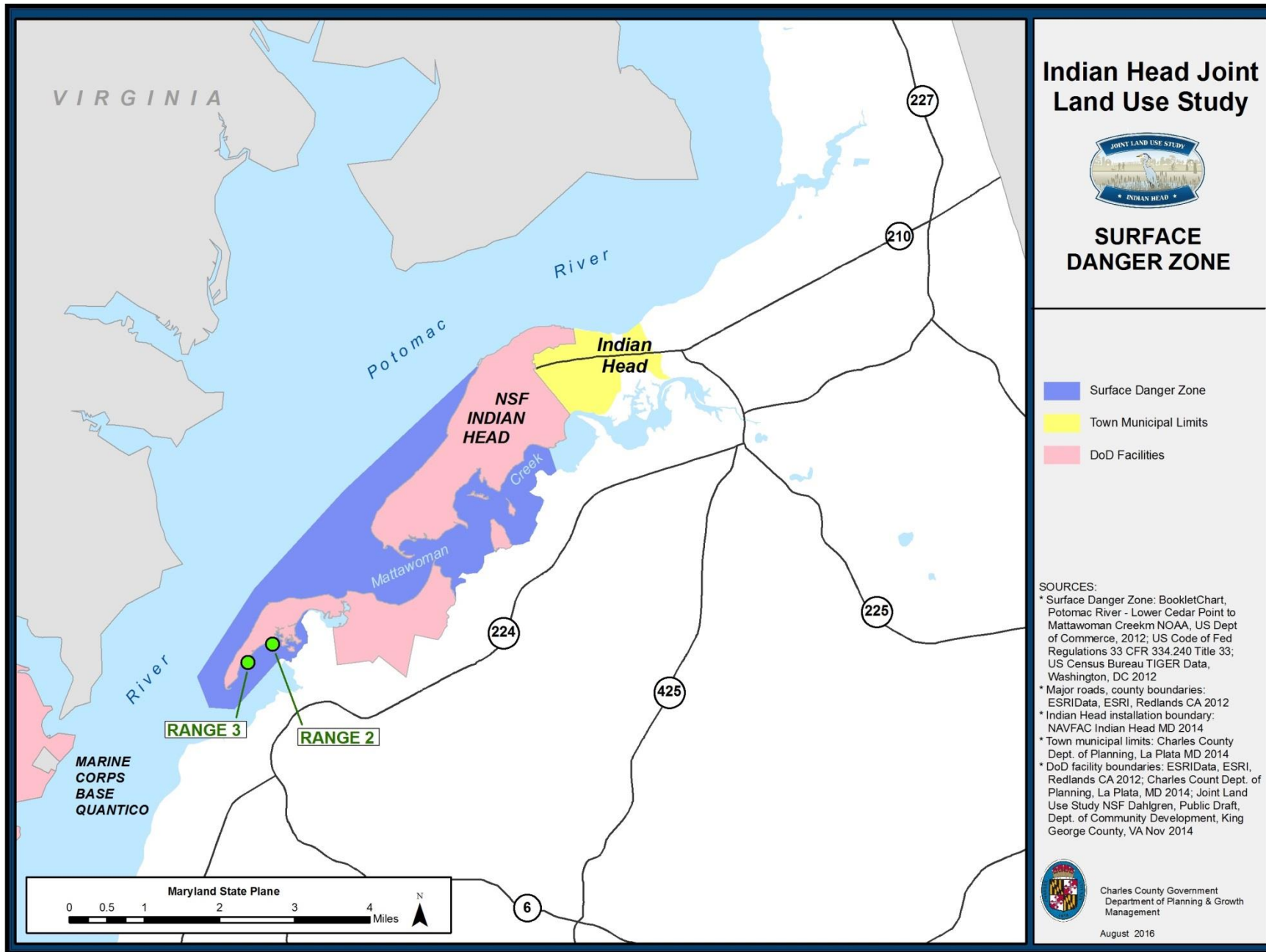


Figure 33: Surface Danger Zone

Maryland Scenic Byways is a state program in conjunction with the National Scenic Byways Program recognizing some of the most significant routes in the country based on scenery, culture, history, archaeology, and recreational opportunities. The Religious Freedom Byway is located in the study area; the Port Tobacco loop includes MD Route 6, MD Route 425, and MD Route 224.

Mount Vernon, located across the Potomac River in Fairfax County, Virginia, is the historic riverfront home of George Washington, the nation's first president. The sweeping views (or viewshed) from the historic site are an important component of the historic landmark, making it a candidate for World Heritage site designation. The focus of the Mount Vernon Viewshed Area of

Primary Concern is on encouraging development that maintains and conserves the tree canopy within the viewshed. Charles County has identified the areas of primary viewshed concern, shown in Figure 34. No incompatibility issues were identified between the community and the Navy because of the presence of historical and cultural resources, and this factor is considered a negligible concern.

Energy Compatibility and Availability

Energy compatibility and availability refers to the quality, supply, and access to the amount of energy needed to function on a day-to-day basis. New federal buildings must comply with a number of federal laws and regulations, including Executive Order (EO) 13693, *Planning for Federal Sustainability in*

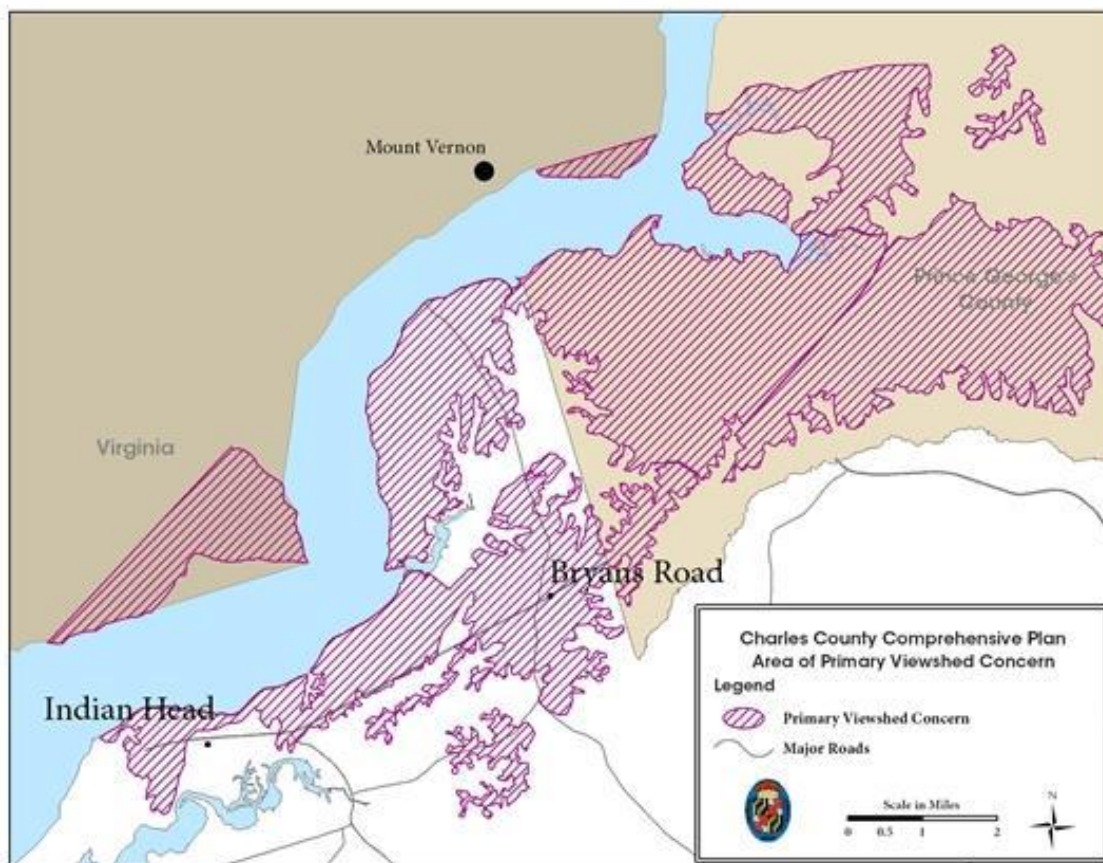


Figure 34: Areas of Primary Viewshed Concern (Charles County Comprehensive Plan, 2016)

the Next Decade; Energy Policy Act of 2005; and Energy Independence and Security Act of 2007.

Since 2009, the Navy has been focused on an energy strategy to increase energy security, promote energy efficiencies, and reduce reliance on foreign sources of fossil fuels through investments in renewable energy. Investments in energy efficiency measures, such as upgrading lighting systems and modernizing heating, ventilating, and air conditioning (HVAC) systems, help focus critical energy needs on mission-critical infrastructure. The Navy's goals include the Department of the Navy (DON) producing 50 percent of its energy from alternative sources by 2020. At some military installations, the focus on renewable energies, such as wind and solar, can have a detrimental impact on mission operations. However, the development of wind or solar facilities near NSF Indian Head is not likely to have any mission impacts.

The aging infrastructure and energy systems have contributed to increasing energy costs at NSF Indian Head. New construction is focused on the modernization of facilities. The installation has several initiatives that deal with energy conservation. To improve energy

efficiency and meet clean air regulations, NSF Indian Head recently replaced its coal-fired Goddard Power Plant with a natural gas cogeneration facility and infrastructure that will provide steam and 3.5 megawatts of electricity to meet the facility's on-site heating and process needs.

No compatibility issues were identified between the community and NSF Indian Head regarding energy. This factor is considered a negligible concern.

Natural Factors



Goddard Power Plant, the last coal-fired power facility operated by the Navy, is being replaced in a \$62 million military construction project on NSF Indian Head, MD. (U.S. Navy photo)

Natural factors are naturally occurring events that can include climate, erosion, and events such as earthquakes, floods, droughts, and storms. These can sometimes conflict with the local community and military operations. For example, a nearby fault line might

restrict the type of structures constructed and operations conducted.

The location of NSF Indian Head, surrounded on three sides by water, leads to concern about the potential impacts from climate change. Maryland completed a Climate Action Plan in 2008, which outlines concerns with sea level rise, increasing storm intensity, wind and rainfall events, and extreme droughts and heat waves.

Shoreline erosion along the Potomac River and Mattawoman and Chicamuxen Creeks is an issue at NSF Indian Head that impacts property, wildlife (both terrestrial and aquatic), and water quality. The installation has completed a large shoreline stabilization project, one of the largest in the Chesapeake

Bay (17,000 linear feet), that added 12 acres of property.

While natural factors, such as sea level rise, are an issue, there are no current Navy or community activities that lead to compatibility concerns, lending this to be listed as a minimal concern.

Chapter 5: The Way Ahead – JLUS Strategy Recommendations

Based on feedback received from the PC, the TAG, stakeholders, and the public, this chapter provides recommendations to promote land use compatibility between the local community and NSF Indian Head. Recommendations are also included to strengthen the communication and coordination between the county, Town, and installation.

The JLUS planning process includes an Implementation Plan, with monitoring, to ensure the recommendations outlined in the JLUS are accomplished. The Implementation Plan includes a list of specific actions for study participants organized by approach:

- Interagency Coordination recommendations are designed to improve coordination among participants
- Public Outreach recommendations are focused on increasing awareness of the military mission
- Military Outreach recommendations provide suggestions on improving the NSF Indian Head communication
- Business and Economic Development recommendations address how the business community can participate in addressing any issues related to encroachment
- Land Use Planning recommendations are designed to use land use and development regulations to support the military mission
- Land Conservation Efforts focus on preventing encroachment and maintaining the rural character of the community

Each listed action assigns responsibility for the task and the timeframe involved in the action:

- Short-Term (1-3 years)
- Medium-Term (4-10 years)
- Long-Term (11-20 years)

Costs are organized into cost ranges, with \$ = less than \$25,000, \$\$ = \$25,000 – \$75,000, and \$\$\$ = \$75,000 - \$1,500,000.

Recommendations are intended to be a realistic approach to planning and development in the local area that will achieve a balance between potentially conflicting interests and needs of all stakeholders. Recommendations are advisory but non-binding and result from a cooperative planning effort.

Interagency Coordination

The goal of the recommendations within this section are to improve coordination among surrounding agencies and NSF Indian Head, foster strong partnerships, and ensure open communication between all entities and the local community.

Establish a JLUS Working Group

To facilitate the implementation of this JLUS, it is recommended that an ongoing “working group,” similar to the committee that led development of this study, be established. Each of the JLUS jurisdictions would remain involved, as well as any other affected stakeholders. By meeting on a regular schedule, this group can share information on mission or land use changes, monitor implementation progress on JLUS recommendations, and revisit lower priority strategies if conditions change. To minimize the impacts on planning staff, it has been suggested that a regional working group be established.

Some other communities have expanded representation in the working group to utility providers, neighborhood groups, and landowners. In this case, including representatives from local environmental groups and tribal representatives would be appropriate.

Following completion of this JLUS, a JLUS Working Group will be formed to prepare the implementation tools for consideration by community stakeholders and leaders. It is suggested that a member representing the following groups be included in the Working Group:

- Charles County Planning
- NSF Indian Head CPO
- NSF Indian Head PAO
- Environmental community representative
- Town of Indian Head representative
- Charles County Business community
- Town of Indian Head community
- Tribal representative

Prepare a Memorandum of Understanding/Charter

A Memorandum of Understanding (MOU) establishes formal procedures for communication and collaboration among multiple stakeholders. The MOU could be used to identify primary points of contact for each stakeholder, actions requiring consultation, and roles and responsibilities for all signatories.

Integrate NSF Indian Head in Planning Processes

Integrate NSF Indian Head within the existing development review process. Include representatives of NSF Indian Head, such as the Community Planning Liaison Officer (CPO), in the county and the Town planning process. Develop procedures for this review, including project types that should be forwarded and expectations on review timeframes.

Currently, the CPO serves on the Town planning commission and it is recommended

that a similar option be explored in Charles County. Although the CPLD would not be acting as a voting member, he or she can provide information on potential concerns or encroachment issues or relay information on the local community plans to the military.

Convene Regularly to Discuss Encroachment Mitigation and Prevention

It is suggested that regular meetings be held to provide a forum for discussion of issues and concerns between the Commanding Officer, NSF Indian Head, Mayor and Town Council of the Town of Indian Head, and Charles County Board of County Commissioners. Tenant representatives should also be invited when relevant to topic discussion.

While the COMREL Council provides an opportunity for the exchange of information, it is not always conducive to open dialogue and discussions that could be accomplished in a smaller group setting. This report recommends the use of the existing COMREL Executive Board to increase awareness among the pertinent groups. Topics could center on encroachment mitigation and prevention, as well as economic growth, and may include development activities or growth in the Town and county, construction and infrastructure development on the installation, operational or mission related information, planning documents and other planning efforts underway, land preservation updates, and partnering opportunities.

Include the Maryland Tribes in Planning Efforts

The Town, county, and NSF Indian Head should establish a working relationship with the Piscataway Conoy Tribe and Piscataway Indian Nation and include members in planning efforts.

Expand and Maintain Relationships with Environmental Groups

Work with environmental groups, such as the Conservancy for Charles County, Mason Springs Conservancy, Mattawoman Watershed Society, Chesapeake Conservancy, Sierra Club, The Nature Conservancy, and Trust for Public Land; agricultural groups, including Charles County Soil Conservation District, Southern Maryland Agricultural Development Commission, and state and federal organizations; Town and county representatives; and the local tribes to identify partnering opportunities for land preservation.

Enter into Encroachment Partnering Agreements with eligible partners under the REPI program to acquire easements and purchase property from willing landowners, share information about Navy priorities with potential partners, and find areas of mutual interest. This includes potential federal partnerships, because the Department of Interior and USDA are eligible funding partners under REPI. The presence of Forest Legacy Areas, agricultural lands, and national historic trails in the region provides opportunities to partner with these federal entities.

In addition to land preservation, a Restoration Advisory Board meeting is held

every six months to discuss restoration activities related to Superfund site cleanup on NSF Indian Head. This meeting is well-attended by environmental organizations and conservation groups. It is recommended that these meetings and partnerships continue.

Coordinate with Smallwood State Park

NSF Indian Head usually schedules operations to avoid conflicts with fishing tournaments or weekend activities. Increased coordination and advance notice of the fishing tournaments would be beneficial to both the Town and installation. Therefore, it is suggested that they work with Smallwood State Park for notification of fishing

tournament event information and scheduling. In addition, it is suggested that NSF Indian Head provide Smallwood State Park with notification of future LCAC operations.

Maryland Military Installation Council (MMIC)

The MMIC works to identify public infrastructure and community support needed for the development and expansion of the military installations located within the state. As a result, both the Town and the county should continue to attend MMIC meetings and monitor the results.

Public Outreach

The goals of the recommendations within the public outreach section are to increase awareness of the military mission and ensure the local community has sufficient information on potential impacts resulting from military operations.

It was often noted that coordination between the community and NSF Indian Head has always been good. The community is overwhelmingly supportive of the installation and is willing to take steps to sustain its presence.

There are a number of options available to inform the local community about the military mission, operational impacts, and land use impacts or conflicts. Both the Town and the county have existing websites, brochures, and social media sites to provide information to the public. The Town also has a quarterly newsletter, *Smoke Signals*, for its residents, and there is a military newspaper that covers activities at NSF Indian Head and NSF Dahlgren, the *South Potomac Pilot*.

Joint Land Use Website and Brochures

Maintain a website for providing information and awareness, including applicable Town, county, and military planning documents.

Update Existing Websites and Public Outreach Information

Existing Town, county, and other stakeholder websites and public outreach materials should be amended to:

- Provide information on the JLUS and its recommendations
- Indicate points of contact at NSF Indian Head for questions and concerns

related to land use in the military focus area

Update Real Estate Disclosure(s)

Disclosure requires the release of information on possible impacts (dust, smoke, noise/vibration, air safety zones) to prospective buyers or renters as part of real estate transactions for properties close to military operations (inside the JLUS Military Awareness Area). Local governments implement this tool by adopting a local real estate disclosure ordinance and seeking the participation of real estate professionals.

The state of Maryland and Charles County requires that buyers sign a disclosure stating that premises are located near military operations and may be exposed to excessive noise levels. Although disclosures already exist, it is recommended that the language contained in the disclosure be revisited, particularly since the Goddard Power Plant has been replaced. Other edits, such as removing the focus on aircraft operations and including the hotline number, could also be included.

Consider additional disclosures

It was noted in a number of discussions that the real estate disclosures only occur at closing and during purchase of a property. To ensure all local residents are fully aware of the potential for noise, the county and the Town may want to consider including the requirement for a renter disclosure in their ordinances. It is advisable to work with state real estate boards, local real estate representatives, and the development

community to develop adequate language for the disclosure notices.

Provide Information for Boaters and Other Recreational Users

Boaters, tourists, and fishermen use the surrounding waters for outdoor recreational uses. Coordinate outreach efforts with local marinas, boat ramps, parks, and businesses (such as kayak rental shops) to ensure consistent and updated information is available to the public.

This type of communication could take many forms, such as distributing a brochure notifying boaters, tourists, and fishermen of the military presence, the installation mission, and what to do when operations occur. Alternatively, signs could be placed at boat ramps or flyers distributed to local marinas, parks, and businesses to raise awareness. Another option could be to place signs in the water near the military ranges to warn boaters of the potential for military operations.

Below is some example language:

"Warning, military operating area: keep out when sirens sound and lights flash"

"Caution: Sounding sirens and flashing lights indicate military operations are in progress. Users must vacate the area."

"The military conducts explosives testing in the area. Users may be required to vacate surrounding waters during operations and will be warned by sirens and flashing lights. For additional information, contact the NSASP Public Affairs Office at XXX-XXXX."

Military Outreach – Enhancing Communication with the Community

NSF Indian Head's long presence in the community has resulted in an ongoing positive relationship between the Town and Charles County. However, of the 42 responses to the JLUS Survey, only about 20% were familiar with test and training operations at NSF Indian Head and Stump Neck Annex. This supports the recommendation that additional outreach would be beneficial. In addition, nearly 40% of respondents were unsure of who to contact with any questions or concerns regarding the installation.

Develop Communication Plan

The Public Affairs Office (PAO) at NSF Indian Head is responsible for developing a communication plan, which can be used to implement many of the following recommendations. NSF Indian Head should continue to provide information to the surrounding community and consider including tenant organizations in their outreach efforts.

Host Regular Community Forums

Open house activities have historically been held at the installation; however, recent fiscal pressures and security restraints have discontinued these activities. NSF Indian Head has established a COMREL Council, but this is usually not open to the general public.

It is suggested that the installation partner with the Town to hold a regular community forum, on an annual or less frequent basis, to allow area residents to learn about operations and give them an opportunity to ask questions. This community forum could be held in conjunction with another community event. It is suggested that the forum include a “meet and greet” with the workforce or a panel, including sailors, marines, scientists, and leadership. Invite tenant organizations to share their mission

with the community using hands-on displays and demonstrations.

Develop Noise Notifications or Advisories

NSF Indian Head has indicated that there are plans to establish a hotline number or website to inform the community when potential noise producing operations are expected. Once complete, the availability of this notification system should be disseminated to the public. Also, consider sending noise advisories to news outlets, points of contact at local parks and marinas, and posting on social media.

Provide Information to Area Residents

Work with environmental groups and the local Soil Conservation District to encourage and inform property owners of land preservation opportunities, including easement programs and transfer of development rights. Explain the benefits of land preservation to sustaining the military mission at NSF Indian Head.

Also, provide information to landowners when applicable about their proximity to noise contours, the installation, or safety zones.

There are several existing outlets that can be leveraged to enhance communications. It is

suggested that NSF Indian Head coordinate with the Town and county to identify proper communication outlets and information of interest to the community.

There are numerous social media sites and existing websites managed by Charles County, and the Town's newsletter can be used to provide updates to the community. The Town is also encouraged to submit information on events, amenities, and other items of interest to the military newspaper, the *South Potomac Pilot*. The installation should consider distributing copies of the *South Potomac Pilot*

to newsstands at local stores, gas stations, and the library if it does not already do so.

Potential topics of interest to the community may include point of contact information for NSF Indian Head (who to call with questions or concerns), upcoming meetings or events, restoration updates, conservation partnering opportunities, safety and security notices (for example, when the Navy is conducting exercises that may cause traffic delays and the importance of these exercises), mission highlights, encroachment issues, and information regarding construction and other development activities.

Business and Economic Development

Military installations are important to the economic vitality of the surrounding community. As a result, local business organizations have a vested interest in limiting encroachment on the military installation. Stakeholders and community participants are supportive of the revitalization of the Town of Indian Head through redevelopment and infill.

Renewal will not be achieved by any single municipality. To achieve this mission of Town revitalization, the engagement of community members, the Navy, Town leadership, and the county is very important. The following recommendations support the economic development of the local community.

Town of Indian Head Economic Development

The principal goal of economic development is to bring about a strong vital Town center while developing a strong sense of community through actions that promote job creation and income growth. Policies that favor redevelopment and infill will create a supportive environment that would minimize the environmental impacts to Mattawoman Creek and allow further expansion of the focus on tourism.

Both the Town of Indian Head and Charles County can support this development by providing subsidies and financial incentives to new businesses locating in redevelopment areas. State-level incentives can also be considered.

One advantage of the Town is the local business owners that are invested in the redevelopment of the area. One possible private sector initiative would be to form a Town redevelopment group comprised of the businesses and commercial property owners in the Town of Indian Head. This group would

encompass a defined area or district wherein businesses and property owners pay an annual fee for enhanced delivery of services that meet the unique needs of that district. The redevelopment group could have authority to coordinate parking, security, beautification, and marketing, among other things. Businesses should form a membership-based organization and work together to advance their shared interests. Charles County and the Town may help by organizing or providing management support; however, this recommendation would be driven by the business community.

Economic Development Marketing

An economic marketing strategy is needed for the Town of Indian Head. The Town needs to

create an identity (or brand) that appeals to the daytime employees in the area, to the residents in the immediate retail market, and to potential customers throughout the county. The development of an economic revitalization strategy was recently completed.

Events and activities tied to the Town's new identity could include a number of events, such as farmer's markets, art and cultural events, and concerts. Options are limitless, and the residents and business owners have innovative ideas to address this.

However, as a strategy is developed, it would not be effective to target development opportunities that would have a detrimental effect on the mission at NSF Indian Head. As part of the economic strategy development, it is recommended that the Town establish economic development marketing guidelines that identify the types of industries that are compatible and incompatible with the NSF Indian Head mission.

One concern with the local economy is the lack of diversification, which makes the community vulnerable to threats resulting from impacts to the Indian Head mission and its federal funding. In addition, the proximity of larger military installations approximately 30 miles to the north in Prince George's County has drawn defense contracting firms to locate closer to those military installations. Developing a vision for a more diverse economy should also be a focus of this strategy.

Business Groups

Because of the importance of the military installation to the business community, many

State-level incentives:

Technology transfer and collaboration funding programs – provide funding for companies who wish to develop technology-based products and/or services

Direct loans from the Maryland Economic Development Assistant Authority and Fund

Loan guarantees from the Maryland Capital Access Program and Federal Agencies

Equity investment from the Maryland Venture Fund and Equity Participation Investment Program

Maryland Department of Business & Economic Development financing programs – including Community Development Block Grants, Economic Adjustment Funds, Small Business Development Financing, and Maryland Industrial Development Financing

chambers of commerce will establish a Military Affairs Committee (MAC) to support the business interests of their members.

In 2015, the Charles County Chamber of Commerce established a Military Alliance Council to serve as a liaison between the defense and civilian communities in recognition of the crucial role that the military and defense industry play in the local economy. This council could help the business groups build on their relationship with the community and further develop the character of the Town and local community.

Indian Head Defense Alliance

The Indian Head Defense Alliance was founded in 1993 to “support and articulate the military value of the core mission at Indian Head (Energetics).” The group of community and business leaders is organized to promote NSF Indian Head and to support the economic

Local Business Groups:
Charles County Chamber of Commerce
Indian Head Defense Alliance
Western Charles County Business Association
Indian Head Business Association
Business Alliance of Charles County

revitalization of the Town of Indian Head. As such, they are important participants in the economic development process.

Since Indian Head operations require the transport of larger explosives for detonation at the Blossom Point Research Facility (BPRF), it is recommended that the Indian Head Defense Alliance expand their mission to include other military installations within

Charles County.

Partner with Charles County Economic Development Department

Revitalizing the Town of Indian Head will require an ongoing effort and a cooperative approach between the Town and the county. It is recommended that Town representatives work with the Charles County Economic

Development Department and local business organizations to focus on economic development in the Town and surrounding community.

Land Use Planning

The Comprehensive Plan provides the basic policy framework to guide future land use and development decisions in a manner consistent with the desires of the community. The following recommendations reflect the community’s desire to support the military installation and maintain the important mission at NSF Indian Head.

Joint Planning and Coordination Overlay Area (Military Awareness Area)

A process for coordinated reviews for development projects should be established within a defined Joint Planning and

Coordination Overlay Area, or Military Awareness Area, as shown in Figure 35. This could take the form of an MOU between the parties, in which each would agree to inform

and solicit comments from the other parties where mutually agreed.

Within the proposed overlay area, the Town and county Planning Commissions should, at a minimum, consult with the NSF Indian Head CPLO on proposed development projects within the identified area that could potentially affect military operations or create an encroachment issue. Further, the jurisdictions may wish to agree to formally notify each other and the installation when comprehensive plan amendments, zoning changes, or special use permits are contemplated within a certain distance of the installation so joint review and comment can take place prior to a public hearing.

One approach could be to require written notices for proposed comprehensive plans or amendments, zoning changes, or special use permits within a certain distance of the installation to the CPLO for review and comment.

Another approach discussed during TAG and PC meetings was to establish a tiered review where activities within a high concern area would require a more extensive review. This process, at least initially, should be flexible, allowing for a learning curve.

Include Compatible Growth with NSF Indian Head in Comprehensive Plan

At the time of this study, the 2016 Charles County Comprehensive Plan was adopted. The adopted plan discusses military compatibility and all of the JLUS that the county has participated in, including the Indian Head JLUS.

It is recommended that Charles County continue to include land use maps and goals,

objectives, and policies that encourage compatible growth around the installation in all future land use plans.

The Town of Indian Head has a Comprehensive Plan that was adopted in 2009. It was found that the plan does not specifically reference compatibility with NSF Indian Head operations. However, the Town is in the process of developing an updated Comprehensive Plan, which discusses NSF Indian Head and the JLUS.

NSF Indian Head representatives should be included as stakeholders in all future updates of both plans.

Identify Noise Contours on Town and County Documents

In December 2009, the U.S. Army Public Health Command prepared a noise consultation to recommend which areas should be considered in the Indian Head JLUS based on computer noise modeling. The noise-producing activities of concern occur at Stump Neck Annex and include ranges used in conjunction with the mission of developing procedures for rendering safe weapons, missiles, and munitions.

Both the Charles County and Town of Indian Head Comprehensive Plans should acknowledge the potential noise impacts from Indian Head operations.

Because the county controls land use and development in the area most likely to be impacted by noise—near Stump Neck Annex—most of the recommended land planning policy changes discussed below relate to the county. Instead of establishing mandatory use restrictions, which may be difficult to finalize, the county may wish to

consider using other available tools to reduce the likelihood of noise impacts and encroachment of residential development (in particular) into noise contour areas. These would be most effective and perhaps most acceptable used in combination with each other. Clarifying the communication lines would allow the existing cooperation between the three entities to continue.

Tier Designation

The re-designation of lands near Stump Neck Annex to Tier IV will significantly reduce development in this area, which will provide greater protection from encroachment. There are Tier II areas just outside the Town that became designated as Watershed Conservation in the 2016 Comprehensive Plan; this area will also have Tier IV areas depending upon their future zoning.

Increase Incentive for TDRs

The county could also incentivize the transfer of development rights from areas contained within the planning overlay area or zone around the installation. With the transfer of development rights, the development potential, which is tied to the land on account of its zoning, can be lifted and transferred through sale to another parcel of ground elsewhere in the county where development may be more favorably accepted. When development rights are so lifted, a land conservation easement is placed on the property, ensuring that it will not be developed in the future while allowing for the continuation of agricultural and resource conservation uses. The area around Stump Neck Annex could be a designated sending area for TDRs if the properties meet the size

or soil criteria. The county could incentivize land preservation here by allowing density to be transferred from willing sellers and set down elsewhere at a much higher rate than allowed. For each TDR purchased, for example, the developer would be able to place the rights elsewhere. Land preservation in the area would also have the benefit of limiting development impacts (such as septic) in this environmentally sensitive region of the county and go a long way towards preserving the rural landscape in perpetuity. A proposal such as this would require analysis by county planners to determine its viability in practice.

Future Waterfront Development should Consider Proximity of NSF Indian Head Operations

The marina at Sweden Point, near the danger zone, is an area Charles County identified for waterfront-related development in a 1999 Waterfront Development Opportunities study, and is referenced in the 2016 County Comprehensive Plan as part of the county's policy to promote public access to the water. However, this area is currently not a priority for the county, and its location on state park land means that development other than for its use as a marina is unlikely. However, safety arcs do extend over the water, as does the danger zone, and planning documents should note this.

Cooperative Planning Processes

The county and the Town should incorporate mutual planning processes to ensure consistency across comprehensive plans and zoning ordinances.

Military Planning

Military planning efforts are not subject to the same public process as local communities. In addition, because of operational security concerns, installations may not share their growth or construction plans with the local community. However, infrastructure expansion plans can have direct impacts on the local community's growth patterns. A more inclusive process of collaboration with the Town and the county would be helpful.

It is recommended that NSF Indian Head collaborate with the county and the Town planning processes to ensure consistency across comprehensive plans and zoning ordinances and with future versions of the NSF Indian Head Master Plan.

In addition, this cooperative planning process should provide steps to ensure operational impacts on areas within the focus area are recognized and considered.

Land Conservation Efforts

Land preservation can prevent encroachment to NSF Indian Head while maintaining the rural character of the surrounding community. There are a number of programs available to property owners, the county and the Town, each with their own eligibility requirements.

Identify Partners for Conservation Easements

The state of Maryland has agreements called a Deed of Conservation Easement. This legal agreement between a landowner and a land trust restricts the future use of the landowner's property; however, you can continue to live on the property, farm the property, or sell the property. The deed does apply to all future owners. Deeds of Conservation Easement are tailored to the landowner's individual situation and are negotiated between the land trust and the landowner.

The Town of Indian Head, Charles County, and NSF Indian Head should partner with local, regional, and national conservation groups to identify and protect land in appropriate areas, particularly in the high noise concern areas.

Increase Awareness of Conservation Easement Opportunities

It is recommended that Charles County establish an education program for landowners, particularly within the medium and high noise zones, to increase awareness of conservation easement opportunities.

Consider the Use of Noise Easements

An easement is the right granted by the landowner to a third person or party to use private real property in a specified manner. An easement may be given, for example, for overhead wires; underground gas, power, sewer, or storm drain lines; and sidewalks or roads. A noise easement can be used to acquire a property right from a land owner that grants the right of military activities in proximity to the affected parcel, including the right to cause noise, vibration, or dust, etc., or restrict or prohibit certain lights, electromagnetic signals, or land uses that

could interfere with communications technology.

The easement can run in perpetuity with the deed to the property. Local governments increasingly rely on such easements to protect military operations from encroachment from nearby developing areas. Local governments, for example, may require the granting of a noise easement by the developer as a condition of development project approval in areas subject to military training impacts, such as a high noise zone.

Readiness and Environmental Protection Integration (REPI) Program

Authorized by the fiscal year (FY) 2003 National Defense Authorization Act, the DoD REPI program was established to protect the

military mission from encroachment by removing or avoiding land-use conflicts near installations and addressing regulatory restrictions that inhibit military activities. The REPI program provides that Navy funds may be used in conjunction with eligible entities (conservation organizations, local governments, non-governmental organizations, land owners, and certain federal agencies) to acquire conservation easements on private property for those areas likely to present encroachment issues for the installation. The program relies on willing sellers only. The Navy should consider coordinating with nearby property owners to see if conservation easements near Stump Neck Annex can be secured to protect the area from potential impacts.

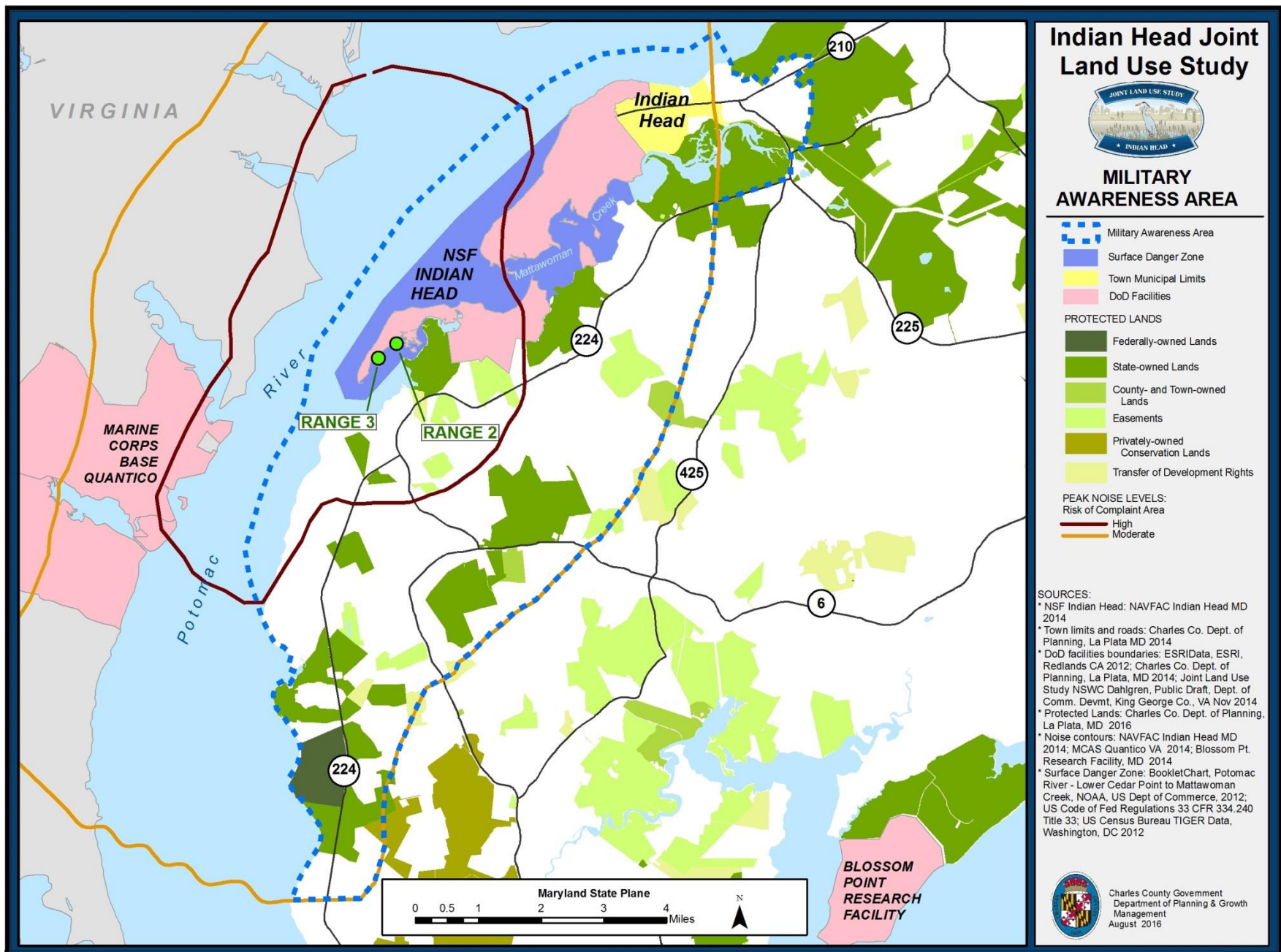


Figure 35: Proposed Military Awareness Area

September 27, 2016

JLUS Implementation Plan

Tool/Activity	Description	Responsible Party				Timeframe				Cost
		Charles County	Town of Indian Head	NSF Indian Head	Other	Short-term	Mid-term	Long-term	Ongoing	
Interagency Coordination										
JLUS Working Group	Designate a working group, based on existing JLUS committee model, to guide implementation of JLUS recommendations and ongoing planning efforts.	X	X	X		X			X	\$
Memorandum of Understanding (MOU)	Develop MOU, drafted by the JLUS Working Group, which describes coordination between organizations with respect to land use activities within the focus area.	X	X	X		X				\$
Integrated Planning Process	Include NSF Indian Head representatives in the planning process.	X	X	X			X		X	\$
Joint Meeting for Encroachment Mitigation and Prevention	Establish a joint meeting between Town, NSF Indian Head, and Charles County representatives to discuss encroachment mitigation and prevention.	X	X	X		X	X			\$
Tribal Representation	Establish a working relationship with appropriate tribal representatives and include members in	X	X	X		X			X	\$

Tool/Activity	Description	Responsible Party				Timeframe				Cost
		Charles County	Town of Indian Head	NSF Indian Head	Other	Short-term	Mid-term	Long-term	Ongoing	
	planning efforts, including membership on the JLUS Working Group.									
Environmental Conservation Groups	Expand and maintain relationships with environmental groups.	X	X	X		X			X	\$
Smallwood State Park Coordination	Obtain schedules for fishing tournaments in advance.	X	X	X					X	\$
Maryland Military Installation Council (MMIC)	Monitor and seek opportunities to participate in the efforts of the Maryland MMIC.	X	X	X			X		X	\$
Public Outreach										
Joint Land Use Website and Brochure	Maintain website for providing information and awareness, including applicable Town, county, and military planning documents.	X	X	X		X			X	\$
Existing websites and public outreach	Provide information on the JLUS and its recommendations; indicate points of contact at NSF Indian Head to relay concerns related to military operations.	X	X	X			X		X	\$

Tool/Activity	Description	Responsible Party				Timeframe				Cost
		Charles County	Town of Indian Head	NSF Indian Head	Other	Short-term	Mid-term	Long-term	Ongoing	
Real Estate Disclosures	Update Maryland and Charles County disclosures to include a point of contact with NSF Indian Head and update organizational names.	X	X	X	X	X			X	\$
Additional Disclosures	Consider including the requirement for rental agreements.	X	X		X	X			X	\$
Boater Information	Coordinate outreach efforts with local marinas to ensure consistent and updated information is available to the public.	X	X	X	X		X		X	\$
Military Outreach										
Communication Plan	Develop communication plan to address awareness and enhance communication with the local community.			X		X			X	\$
Community Forum	Host regular community forums, in conjunction with the Town of Indian Head.		X	X			X		X	\$\$
Noise Notifications or Advisories	Provide information to surrounding community about noise events; indicate points of contact at NSF Indian Head.			X		X			X	\$

Tool/Activity	Description	Responsible Party				Timeframe				Cost
		Charles County	Town of Indian Head	NSF Indian Head	Other	Short-term	Mid-term	Long-term	Ongoing	
Information Distribution	Provide information to area residents on NSF Indian Head mission and operations.		X	X			X		X	\$
Business & Economic Development										
Town Redevelopment Group	Establish a working group to assist in the redevelopment of the Town of Indian Head.	X	X		X		X		X	\$\$
Economic Development Marketing Strategy	The Town should consider potential encroachment as it implements the Economic Revitalization Strategy.		X	X	X		X			\$\$
Military Affairs Committee	Business groups should continue to use the Military Alliance Council to support business and economic interests resulting from NSF Indian Head.	X	X	X			X		X	\$
Indian Head Defense Alliance (IHDA)	Expand mission of IHDA to include other Charles County military installations in the IHDA mission	X			X	X				\$
Charles County Economic Development Department Partnering	Identify cooperative approach for economic development in the Town and surrounding community.	X	X				X		X	\$
Land Use Planning										

Tool/Activity	Description	Responsible Party				Timeframe				Cost
		Charles County	Town of Indian Head	NSF Indian Head	Other	Short-term	Mid-term	Long-term	Ongoing	
Joint Planning and Coordination Overlay area	Develop a military awareness overlay to assist in planning and increase awareness of military operations and potential noise impacts, establish areas of impact and project types that would necessitate coordination.	X	X	X			X		X	\$
County and Town Comprehensive Plans	Address compatibility with NSF Indian Head operations in Comprehensive Plans and other planning documents.	X	X				X		X	\$
Noise Contours on Planning Documents	Include noise contours on Town and county documents.	X	X				X		X	\$
Tier Designation	Clarify tier maps to show areas within the noise contours to a Tier IV designation.	X					X			\$
Transfer of Development Rights (TDR)	Use the Charles County TDR program to preserve land in areas with the potential to be impacted by military operations, such as high noise zone.	X					X			\$
Waterfront Development	Any future waterfront development around Sweden Point should note proximity of explosive safety arcs and/or coordinate with NSF Indian Head.	X					X			\$

Tool/Activity	Description	Responsible Party				Timeframe				Cost
		Charles County	Town of Indian Head	NSF Indian Head	Other	Short-term	Mid-term	Long-term	Ongoing	
Collaborative Planning Process	Incorporate mutual planning processes to allow collaboration with the county and the Town planning processes to ensure consistency across comprehensive plans and zoning ordinances.	X	X	X				X	X	\$
Military Planning Process	Ensure operational impacts on surrounding communities are recognized and considered in military planning documents, including the Master Plan.			X			X		X	\$
Climate Change Planning	Coordinate climate preparedness and resilience actions to ensure the community and NSF Indian Head are protected against flooding, extreme weather and future climate change.	X	X	X			X			\$
Land Conservation Efforts										
Coordinate with Conservation Groups	Work with local, regional, and national conservation groups to protect land.	X	X	X			X			\$\$
Establish Conservation Easement Education Program	Establish an education program for landowners, particularly within the medium and high noise zones, to increase awareness of conservation easement opportunities.	X					X		X	\$

Tool/Activity	Description	Responsible Party				Timeframe				Cost
		Charles County	Town of Indian Head	NSF Indian Head	Other	Short-term	Mid-term	Long-term	Ongoing	
Noise Easement	Establish noise easements on condition of project approval within established noise zones.	X	X				X		X	\$
DoD REPI Program	Use program to purchase and protect surrounding land.	X	X	X			X			\$\$

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Appendix B: Public Feedback Summary

This appendix provides a summary of the public input received during the Joint Land Use Study (JLUS) process. Public forums were held to inform the public about the Indian Head JLUS and to provide an opportunity for public comment and input.

Public forum notifications included a public forum announcement flyer; project website postings; community calendars (online and posted); postcard mailings to community members; advertisements published in two local newspapers (South Potomac Pilot, Maryland Independent), the Town of Indian Head electronic bulletin board, and local news websites (SOMDnews.com, thebaynet.com, Southern Maryland News Net, Charles County Cable TV, Charles County Website); and several email broadcasts to committee members and stakeholders requesting that they further disseminate announcements. In addition, a news release was distributed to local news outlets in both Maryland and Virginia.

Both public forums were recorded by Charles County and can be viewed at <http://www.charlescounty.org/apps/mediacenter/public/listEventsPublic.jsp>.

Public Forum #1 Overview: January 28, 2015

Attendees		
Committee Members/Elected Officials Attending	<u>Policy Committee (PC):</u> <ul style="list-style-type: none"> • CAPT Mary Feinberg • Dennis Scheessele • Peter Aluotto • John Hartline 	<u>Technical Advisory Group (TAG):</u> <ul style="list-style-type: none"> • Dennis Chappell • Vince Hungerford • Dave Williams • Thomas Wright • Don Fix • Commander Jeff Brancheau • Emery Nauden • Jeff Bossart • Sue Greer • Gil Bauserman • Gary Hodge
Media Attendees	<ul style="list-style-type: none"> • Zach Shelby – South Potomac Pilot • Rebecca J. Barnabi – Maryland Independent (Southern Maryland Newspapers Online) 	
Total # of Attendees	71	

The public was invited to ask questions and provide comments that were answered by the consultants and representatives from the installation and the localities. The following issues were summarized from questions/comments provided during the forum.

Attendees expressed concern about growth and development in the area; particularly, when redevelopment in the Town would be advantageous. Some concerns were expressed about water resources and the competition for water in the aquifer. A representative from the Potomac River Fisheries Commission conveyed that the Potomac River is vitally important for anadromous species (species that live in estuarine or marine environments and come back to spawn, for example, striped bass, shad and river herring). A representative from the Mattawoman Watershed Society voiced support of the Navy mission and concern about encroachment of residential development. A representative from the Friends of Chapman State Park declared support for tourism development in the area and that the preservation of Chapman State Park helped prevent encroachment on the base.

At the public forum, nine comment cards were submitted with concerns summarized as follows:

- Economic development/redevelopment in Indian Head
- Tourism Development (Rail Trail, Chapman State Park, Mattawoman Creek)
- Overdevelopment around Stump Neck Annex
- Protection of Mattawoman Creek
- Transparency of information for Indian Head
- Industrialization of area around the airport

Public Forum #2 Overview: March 25, 2015

Attendees		
Committee Members/Elected Officials Attending	<u>Policy Committee (PC):</u> <ul style="list-style-type: none"> • CAPT Mary Feinberg • Dennis Scheessele • Peter Aluotto 	<u>Technical Advisory Group (TAG):</u> <ul style="list-style-type: none"> • Amy Blessinger • Dennis Chappell • Dave Williams • Thomas Wright • Don Fix • Emery Nauden • Jeff Bossart • Gil Bauserman • Marcia Keeth
Media Attendees	<ul style="list-style-type: none"> • Joseph Norris – The BayNet 	
Total # of Attendees	49	

Two interactive exercises were administered during breaks in the presentation and were intended to spur public input and conversation. The first exercise was to rank the compatible use factors by significance of compatibility between NSF Indian Head and the surrounding community. The table below shows the average compatibility factor rankings as determined by the attendees.

Compatible Use Factor	Public Ranking
Land Restrictions	Minimal/Moderate
Community Growth	Moderate
Current and Planned Range Operations	Minimal
Noise	Minimal
Unexploded Ordnance and Munitions	Minimal
Impact from Blast Impulses	Minimal
Height Restrictions	Negligible/Minimal
Transportation of Hazardous Materials/Traffic	Minimal
Frequency Spectrum Interference	Minimal
Security (Anti-terrorism/Force Protection)	Minimal
Endangered Species/Critical Habitat	Minimal/Moderate
Water Quantity, Water Quality, Wetlands Protection	Moderate
Marine Resources	Minimal
Historic, Scenic, and Cultural Resources and Viewshed Protection	Minimal
Energy Compatibility and Availability	Minimal
Natural Factors	Minimal

Attendees were also asked to add any additional compatibility factors they felt were not included. Three additional factors were suggested:

- Town of Indian Head revitalization
- Education of community about current base mission
- Socioeconomics (crime, overcrowding in schools, etc.)

The second exercise was to provide input to the proposed strategies recommended to improve land use planning and communication to help ensure compatibility. Attendees were asked to indicate who should be

responsible for each action, when the strategies should be implemented, and if the strategies were worth including in the JLUS. The table below includes the results of the activity. There were a different number of responses for the proposed strategies, so the results are reported as the ratio of responses for each to the total number of responses (number of responses/number total).

Indian Head JLUS Draft Implementation Plan											
Category	Tool/Activity	Description	Responsible Party			Timeframe				Include in JLUS?	
			Charles County	Town of Indian Head	NSF Indian Head	Short-Term	Mid-Term	Long-Term	On-going	Yes	No
Interagency Coordination	JLUS Working Group	Designate a working group to guide implementation	16/23	15/23	17/23	9/23	0/23	1/23	14/23	20/23	1/23
	Memorandum of Understanding (MOU)	Develop MOU that describes coordination between organizations	13/22	12/22	16/22	12/22	2/22	1/22	10/22	19/22	0/22
	Include NSF Indian Head in planning processes	Include members of NSF Indian Head and the NSF Indian Head Community Planning Liaison Officer (CPLO) in the planning process	12/25	16/25	11/25	12/25	0/25	3/25	11/25	20/25	3/25
	Maryland Military Installation Council (MMIC)	Monitor and seek opportunities to participate in MMIC	9/21	7/21	10/21	4/21	4/21	2/21	8/21	12/21	2/21
Public Outreach	Joint Land Use Website and Brochure	Maintain website for providing information and awareness, including applicable Town, County, and military planning documents	14/24	8/24	8/24	4/24	2/24	2/24	20/24	19/24	0/24
	Military Outreach	Develop communication plan to address awareness in the local community, such as open house activities and operation notification hotline/website	4/25	7/25	17/25	5/25	3/25	2/25	14/25	16/25	1/25
	Boater and Recreational	Coordinate outreach efforts with local	11/25	11/25	17/25	2/25	2/25	3/25	15/25	14/25	3/25

Indian Head JLUS Draft Implementation Plan											
Category	Tool/Activity	Description	Responsible Party			Timeframe				Include in JLUS?	
			Charles County	Town of Indian Head	NSF Indian Head	Short-Term	Mid-Term	Long-Term	On-going	Yes	No
	Notices	marinas to ensure consistent and updated information is available to the public									
	Update existing websites and public outreach information	Provide information on the JLUS and its recommendations; indicate points of contact at NSF Indian Head to relay concerns related to military operations	13/25	12/25	13/25	6/25	0/25	2/25	18/25	17/25	2/25
	Town Redevelopment Group	Establish a working group to assist in the redevelopment of the Town of Indian Head	9/23	18/23	3/23	6/23	1/23	2/23	17/23	20/23	1/23
Business & Economic Development	Partnership Opportunities	Consider land exchange options and public-private partnership opportunities	15/21	11/21	8/21	3/21	4/21	3/21	14/21	15/21	0/21
	Partner with Charles County Economic Development Department	Identify cooperative approach for economic development in the Town and surrounding community	15/23	15/23	4/23	9/23	4/23	1/23	13/23	16/23	1/23
Land Use Planning	Codify planning processes between Town/County/NSF Indian Head	Coordinate with the county's designated military planner; establish areas of impact and project types that would necessitate NSF Indian Head input	18/23	16/23	16/23	7/23	2/23	0/23	14/23	16/23	2/23

Indian Head JLUS Draft Implementation Plan											
Category	Tool/Activity	Description	Responsible Party			Timeframe				Include in JLUS?	
			Charles County	Town of Indian Head	NSF Indian Head	Short-Term	Mid-Term	Long-Term	On-going	Yes	No
	County and Town Comprehensive Plans	Address NSF Indian Head compatibility	17/23	16/23	8/23	6/23	2/23	4/23	14/23	17/23	1/23
	Waterfront development	Future waterfront development around Sweden Point should note proximity of explosive safety arcs and/or coordinate with NSF Indian Head	15/24	7/24	9/24	7/24	3/24	5/24	9/24	19/24	0/24
Zoning & Regulations	Zoning Overlays/Noise easement	Develop a military awareness overlay to assist in planning processes and increase awareness of military operations	14/23	8/23	13/23	8/23	0/23	3/23	15/23	18/23	0/23
	Real Estate Disclosures	Review and update existing disclosures to clarify language, if needed	19/24	10/24	5/24	8/24	2/24	2/24	13/24	16/24	3/24
Land Conservation Efforts	Readiness and Environmental Protection Integration (REPI) Program	Use this DoD program to purchase and protect surrounding land	8/22	6/22	13/22	3/22	2/22	7/22	13/22	14/22	3/22
	Transfer of Development Rights (TDR)	Use the Charles County TDR program to preserve land in areas with the potential to be impacted by military operations	15/23	8/23	9/23	3/23	5/23	6/23	12/23	19/23	0/23
	Coordinate with conservation groups	Work with local, regional, and national conservation groups to protect	13/22	8/22	10/22	4 / 22	1/22	5/22	14/22	15/22	4/22

Indian Head JLUS Draft Implementation Plan											
Category	Tool/Activity	Description	Responsible Party			Timeframe				Include in JLUS?	
			Charles County	Town of Indian Head	NSF Indian Head	Short-Term	Mid-Term	Long-Term	On-going	Yes	No
		land. (for example, Conservancy for Charles County, Mason Springs Conservancy, Trust for Public Land, and the Nature Conservancy)									

The comments provided with the second activity are summarized below with some clarification from Charles County Planning & Growth Management.

- The Charles County Comprehensive Plan should include a chapter addressing the protection of the base.²⁴
- Bryans Road should be returned to mixed-use village.²⁵
- The Tier III area in Marbury is within the noise contour for moderate probability and complaint. The MDP questioned this area as Tier 3; this area should be downsized to Tier 4.²⁶
- County ordinances could downsize or protect in noise area.²⁷
- Add Sierra Club and Mattawoman Watershed Society to JLUS implementation.
- REPI Program is not compatible with redevelopment efforts or economic development.²⁸
- Waterfront development is a bad idea.²⁹
- Smallwood State Park should provide NSF Indian Head with the tournament schedule to aid in testing schedule.

The public was invited to ask questions and provide comments that were answered by the consultants and representatives from the base and the localities. The following issues were summarized from questions/comments provided during this session.

- An attendee expressed concern that Bryans Road development may deter reinvestment in the Town of Indian Head. In addition, there was concern about the Tier 3 designation around the Marbury area.
- The Tribal Chair of the Piscataway/Conoy Tribe of Maryland expressed a desire to be part of the group to address concerns about development and impacts to their historical tribal lands.
- An attendee expressed a desire for increased communication from the Navy, such as including news from the base in the quarterly Town newsletter.

²⁴ Chapter 3, Land Use, page 3-15 of the 2016 Comprehensive Plan discusses the military installations in the County and includes five actions to ensure compatibility. Policy 3.12 on page 3-25 says: "Protect military installations from incompatible land uses." Instead of separate chapters, it is more appropriate to refer to the JLUS for each military facility.

²⁵ This issue has been addressed as part of the adoption of the 2016 Comprehensive Plan. The direction of the plan is to reduce development in the Bryans Road area by focusing development more into a Bryans Road Village center, while rezoning vacant properties previously designated for residential growth by the Bryans Road Sub-Area Plan which are not already fully vested for development.

²⁶ This area was re-designated as Tier IV as part of the adoption of the 2016 Comprehensive Plan.

²⁷ Most of the area within the noise contours has been designated as Tier IV as part of the adoption of the 2016 Comprehensive Plan. A large part of this area is also designated as Watershed Conservation, with an accompanying density of 1 unit per 20 acres, or is protected land. The high noise contour does not overlap the Town; however, the moderate noise contour does overlap the Town.

²⁸ The REPI program can be added as another conservation tool for protecting natural resources and is unlikely to be used in areas already developed.

²⁹ The county included study sites near the Smallwood Park as possible waterfront improvement areas along with several other sites in a previous waterfront study. This site was ranked low and the county has not pursued this idea, but prioritized Benedict, Port Tobacco, and the Aqualand for possible revitalization and public access improvement efforts.

- The President of the South Hampton Homeowners Association voiced concern about increased lobbying for more subdivisions. He emphasized the need for redevelopment in Indian Head instead of additional construction in Bryans Road.
- An attendee conveyed concern about waterfront development around Sweden Point and potential encroachment for the base. In addition, the attendee stressed the importance of better coordination between the base and local governments.
- An attendee recognized the Navy for its stewardship of Mattawoman Creek and would like to see the same focus from the county.

At the second public forum, three comment cards were submitted with concerns summarized as follows:

- Include the Piscataway/Conoy Tribe in coordination.
- Local resident was unable to use a WiFi network because of signal interference from Indian Head.³⁰
- Recommend coordinating with National Park Service (NPS) as partners for land conservation. NPS is working on John Smith Trail and coordinating with local tribal community on identifying lands that are important to tribal history.³¹

Online JLUS Survey

In addition to the public forums, an online Indian Head JLUS survey was posted on the project website so the public could provide comment. As of April 8, 2015, when the survey was shut down, there were 42 responses to the survey. The following paragraphs and graphs summarize the findings.

Respondents were asked their age, as shown in Figure 36. None of the participants are currently active duty; however, 32% (13) are veterans.

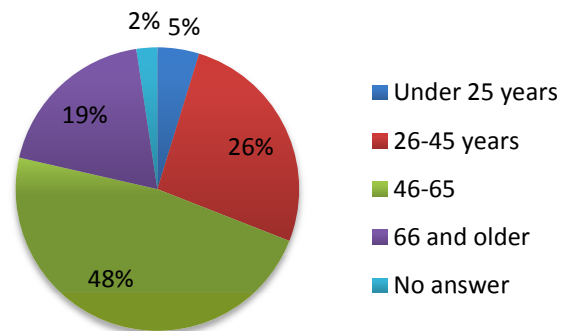


Figure 36: Age of survey respondents

³⁰ Comcast was contacted for further information and provided the following response: “We have not found any issues with interference from the base with the WiFi public band of spectrum used...this area is old military housing converted into public homes.” “We found that the WiFi issue is not due to the base communications interfering but due to the actual structure [a lot of the structures used old antenna wiring that ran through the walls] of some of these homes, particularly the ones with the additions built on to them. The problem is more prevalent when a wireless signal has to pass through the original outside wall to connect to a device in the addition area.”

³¹ The JLUS supports continuing and expanding partnerships with environmental organizations, including federal entities such as the Department of Agriculture and Department of Interior, which includes NPS.

Figure 37 shows the distribution of the respondent's home, the majority living in Indian Head, MD. Figure 38 shows the length of time lived at the current address.

The majority, 50% (20), of respondents live between 1 and 5 miles of the base, with 18% (7) of respondents living between 5 and 10 miles, and 32% (13) living more than 10 miles away.

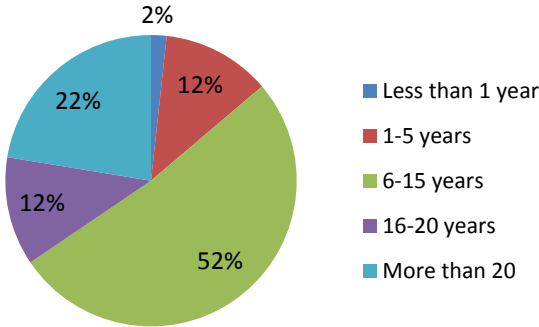


Figure 38: Length of time at current address

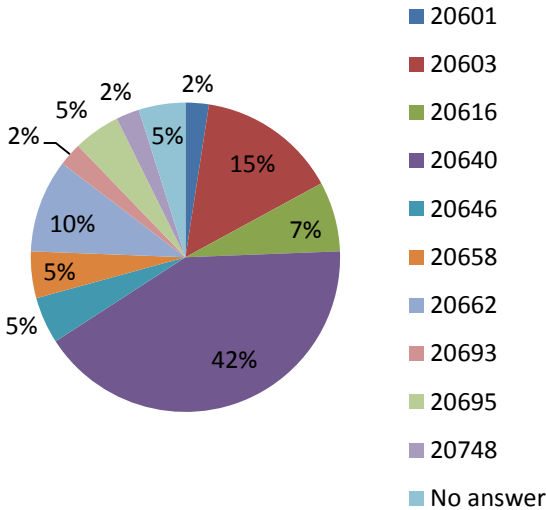


Figure 37: In what ZIP code is your home located?

Figure 39 shows the location of the respondent's workplace. The majority (37% - 15) did not share their location.

When asked how long they had worked at their current location, 13% (5) of respondents indicated that they had worked there less than a year, 13% (5) indicated that they had worked between 2 and 5 years. 26% (10) of respondents had worked at their location between 6 and 15 years. 16% (6) had worked for more than 15 years at their location. 31% (12) of respondents indicated that they did not work.

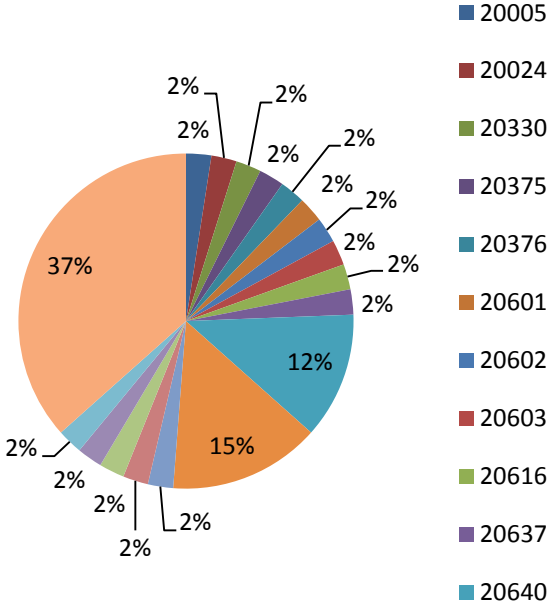


Figure 39: In what ZIP code do you work?

None of the respondents worked at NSF Indian Head or Stump Neck Annex. When asked if they were familiar with test and training conducted at NSF Indian Head, 21% answered yes, 63% answered somewhat, and 16% answered no. Respondents were less familiar with the test and training conducted at Stump Neck Annex; 19% answering yes, 51% answering somewhat, and 30% answering no. Respondents were asked where they

got most of their information about NSF Indian Head and Stump Neck Annex with the results shown in Figure 40.

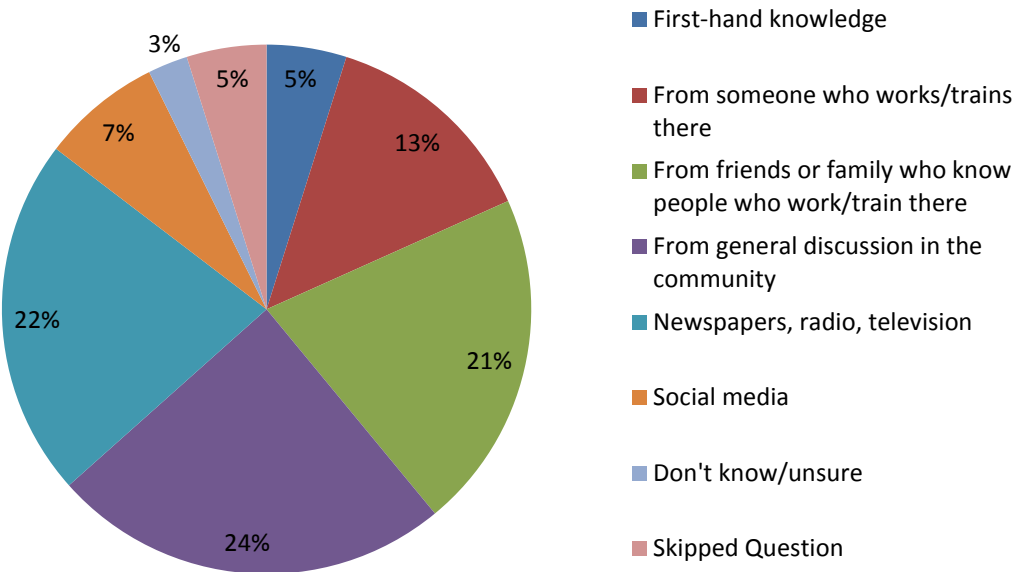
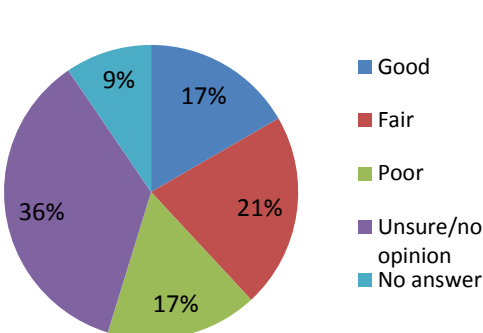


Figure 40: Where do you get information about NSF Indian Head and Stump Neck Annex?



Respondents were asked if they knew who to contact at NSF Indian Head in case of a question or concern. 26% (10) indicated yes, while 42% (16) indicated no. 32% (12) indicated that they have not needed to contact the installation. When asked to characterize the communication between the installation and the community, respondents answered as shown in Figure 41.

Figure 41: How do you characterize communication between NSF Indian Head and the community?

Survey participants were asked about the impacts from noise from operations at NSF Indian Head and Stump Neck. When asked how often they heard noise from their residence, respondents answered as shown in Figure 42.

Respondents were asked to characterize the noise impacts that they experience. 27% (10)

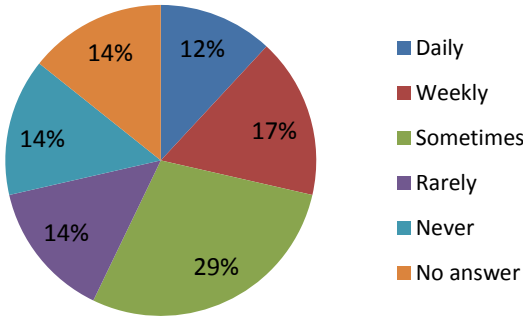


Figure 42: How often do you hear noise from operations at NSF Indian Head and Stump Neck at residence or property?

of respondents don't experience any noise. 40% (15) notice the noise, but do not find it disruptive. 30% (11) find the noise mildly disruptive; however, 3% (1) found the noise impacts so bad that they wish they could move.

Respondents were asked if they felt unsafe due to their proximity of residence to NSF Indian Head and Stump Neck Annex. 5% (2) felt unsafe often, 30% (11) felt unsafe sometimes, and 54% (20) never felt unsafe. Some additional comments provided were:

- A long-time resident noted that the noise from testing is mild/minimal and has been going on for years, without any serious or dangerous impact to the community. Respondent has never felt that family was in any danger from testing and storage activities at the base and concerns of those who do are based largely on misinformation.
- Concerns were raised about the possibility of dangerous material, such as mercury, in the ground or ground water; also, there seems to be many cancer cases in the Indian Head area. Another minor concern is the possibility of attacks due to its proximity to DC.
- Sometimes it is difficult to tell if the noise and frequent repercussions that shake the entire house to its foundation are produced by NSF Indian Head, Stump Neck, Dahlgren, or even Blossom Point.
- Concern was expressed about helicopter flights at all hours.

Respondents were asked if they felt concerned about the environmental impacts from operations at NSF Indian Head and Stump Neck Annex. 11% (4) felt extremely concerned, 19% (7) felt very concerned, 14% (5) felt moderately concerned, 40% (15) felt slightly concerned, and 16% (6) were not at all concerned. Some additional comments provided were:

- Respondent noted that the base has greatly increased its efforts to prevent pollution and contamination from activities and mitigate existing contaminated sites. In addition, the new gas-fired power facility will serve to greatly reduce adverse environmental impacts. As a result, the respondent does not believe that the base poses any serious threat to the environment, and its activities are compatible with and not detrimental to Mattawoman Creek, the Potomac River, or the Chesapeake Bay.
- Concern was noted about environmental impacts from historic operations. The Navy is commended for the shoreline stabilization and the net zero building.
- Concern was raised about what might be underground from previous years of testing, prior to today's more stringent environmental standards and public disclosure. Also, what other potential hazardous material may be in the older buildings.

Respondents were asked to rate the amount of vehicle traffic in the area surrounding NSF Indian Head. 92% (34) indicated that traffic was acceptable, somewhat acceptable, or was neutral. 8% (3) found the traffic to be somewhat unacceptable or unacceptable. A commenter expressed concern that new development in the western section of the county has created increased traffic and new proposed development will exacerbate it further. However, a resident that had lived in the area for over 50 years indicated that the amount of traffic generated by the base is minimal and, is greatly

reduced from the levels experienced in the 60s, 70s, and 1980s. Another commenter supported more encouragement for foot traffic and the use of bicycles.

Respondents were asked how important they believed NSF Indian Head was to Charles County. 92% (34) felt that the installation was very important or important. 3% (1) indicated the installation was not very important or not important at all. 5% (2) were unsure.

Respondents were asked how important the test and training operations that occur at NSF Indian Head and Stump Neck Annex to the community. 78% (29) indicated the operations were very important or important. 11% (4) indicated that they were not very important or not important at all. 11% (4) were unsure.

Respondents were asked how strongly they agreed with this statement: The local community must take action to ensure that NSF Indian Head's contributions to our economy are sustained and enhanced. 73% (27) strongly agreed with the statement and 19% (7) agreed. 8% (3) were either neutral or unsure and no respondents disagreed with the statement.

Respondents were asked how frequently they visited the Town of Indian Head. 30% (11 individuals) visited the Town daily, 38% (14) visited about one to three times per week, and 30% (11) visited no more than once per month. Reasons for visiting the Town were as follows:

- To work in the Town or at NSF Indian Head (10.8%)
- To visit family or friends (5.4%)
- For recreational reasons (10.8%)
- For shopping, dining, or to visit a business (29.7%)
- I live in the Town of Indian Head (18.9%)

Respondents were asked how frequently they used the businesses in the Town of Indian Head. 10% (4) visited daily, 37% (14) visited about one to three times per week, and 26% (10) visited no more than once per month. The remaining respondents 26% (10) do not use the businesses or can't remember the last time they visited. Reasons for not using the business were as follows:

- Lack of options compared to other places (65%)
- Too far away (10%)
- Unfamiliar with the Town of Indian Head and the businesses there (3%)

Rate whether you think more or less of the following are needed in the area of Indian Head.					
Answer Options	More	Fine as is	Less	No opinion/Don't know	Response Count
Restaurants	28	7	0	2	37
Retail shops	30	4	1	1	36
Single-family homes	8	18	5	1	32
Multi-family dwellings	3	15	13	1	32
Bicycle paths	20	14	1	1	36
Parks/open spaces	20	15	0	0	35
Water access	24	12	0	0	36
Grocery Stores	32	2	1	1	36
Pedestrian Facilities	23	6	0	3	32
Other (please specify)					7
Skipped Question					5
<p>Additional Comments:</p> <ul style="list-style-type: none"> • Don't build new, replace or repair the existing buildings. • SCHOOLS in all of Chas Co • Less liquor stores, bad Chinese places and dollar stores. • Mixed use buildings, penalize blight owners • Indian Head is similar to Point Lookout in St. Mary's County. Since there is nothing else beyond that point, it is best left as being a beautiful open area. • Businesses • Need independent movie theater that serves dual a purpose with current black box theater. Need ice skating rink during winter for public use, invite investors from India, China and South Korea, need a crafts beer facility, a German style bakery and high skill training facility. 					

Respondents were provided the opportunity to offer additional comments, as summarized below:

- Move District 2 back to Indian Head.
- Prioritize the development of the Tech park site for business, commercial & industrial purposes to benefit the Airport facility and provide employment opportunities for Charles County residents.
- Provide additional family recreation or activities in western Charles County other than the Rail Trail.
- Ensure land use does not encroach unfavorably on NSF Indian Head.

- Indian Head has tried to provide self-propelled watercraft access to Mattawoman Creek and the Potomac River for over 20 years. A small beach landing for a rest stop on Mattawoman Creek and at Stump Neck may aid this endeavor.
- Stop development in nearby Bryans Road and redevelop Indian Head, MD
- From an outside perspective need more of the following:
- Great communication between the NSF Indian Head, the Town, and Charles County
- Need for more opportunities for contractor support outside the gate, consistent with security requirements
- Need for NSF Indian Head to promote businesses and other opportunities to employees, including removing competitor services that businesses in the Town could supply

Project Emails

In addition to comments received during the public forums and from the survey, two emails were received via the Indian Head JLUS website. Names and contact information have been withheld for privacy reasons. One expressed concern about a rumor that the base was closing. The second expressed concern about the noise at Stump Neck and the effects on their dog. They indicated that it would be helpful if the testing could be announced ahead of time.

Comments via Telephone

County staff received a telephone call from a resident who said she could not attend the forum, but wanted to offer the following comments. She said that her home experiences vibration from testing: the windows rattle and the basement foundation has hairline cracks, so she wonders how much damage is being caused to the house. She said the vibrations were worse in the past. She wondered whether the land itself was vibrating, or were there only vibrations in the air.

Media Coverage

The media coverage of the public forums is summarized below by day of publication.

Date	Title	Source	Link
8/29/14	Community gets filled in on Navy base issues: Hoyer makes plea for defense funding at meeting	Gazette.net Maryland Community News Online	http://www.somdnews.com/article/20140829/NEWS/140829039/1043&source=RSS&template=gazette
9/24/14	Land use study to bring county, town, base closer: Consultant gathering data for later public input	Gazette.net Maryland Community News Online	http://www.somdnews.com/article/20140924/NEWS/140929881/1043&source=RSS&template=gazette
12/22/14	Jan. 15 Indian Head Joint Land Use Study Public Forum Canceled	Southern Maryland Online	http://somd.com/news/headlines/2014/18943.shtml
1/8/15	Indian Head Joint Land Use Study Public Forum Rescheduled	The BayNet	http://www.thebaynet.com/articles/0115/indian-head-joint-land-use-study-public-forum-rescheduled.html
1/19/15	Indian Head Joint Land Use	Charles County	https://twitter.com/charlesco

Naval Support Facility Indian Head
Joint Land Use Study

	Study Public Forum Rescheduled for Jan. 28	Government Twitter	md/status/557251627389054976
1/20/15	Indian Head Joint Land Use Study Public Forum	Southern Maryland Online	http://somid.com/calendar/index.cgi?day=28&year=2015&month=1&session_file=&calendar=&view_item=66577
1/27/15	Upcoming Events: Joint Land Use Study Public Forum	Town of Indian Head website	http://www.townofindianhead.org/
2/4/15	Officials share results of Navy land use study with public County, town working with base on Indian Head issues	Southern Maryland Newspapers Online	http://www.somdnews.com/article/20150204/NEWS/150209760/1055/officials-share-results-of-navy-land-use-study-with-public&template=southernMaryland
2/5/15	Citizens Discuss Joint Land Use Study in Indian Head	Charles County Government News Release	http://www.charlescountymd.gov/news-releases/citizens-discuss-joint-land-use-study-indian-head
2/6/15	Indian Head residents participate in JLUS	dcmilitary.com Comprint Military Publications online	http://www.dcmilitary.com/article/20150206/NEWS07/150209948/indian-head-residents-participate-in-jlus
2/8/15	Citizens discuss joint land use study in Indian Head	The BayNet	http://www.thebaynet.com/articles/0215/citizens-discuss-joint-land-use-study-in-indian-head.html
3/9/15	Preliminary Recommendations of Indian Head Joint Land Use Study to be Discussed at March 25 Public Forum	Charles County Government News Release	https://www.charlescountymd.gov/news-releases/preliminary-recommendations-indian-head-joint-land-use-study-be-discussed-march-25
3/11/15	Preliminary Recommendations of Indian Head Joint Land Use Study to be Discussed at March 25 Public Forum	Southern Maryland News Net Smnewsnet.com	http://smnewsnet.com/archives/239975/preliminary-recommendations-of-indian-head-joint-land-use-study-to-be-discussed-at-march-25-public-forum/
3/29/15	Indian Head citizens hear Joint Land Use Study's findings	The BayNet	http://www.thebaynet.com/articles/0315/indian-head-citizens-hear-joint-land-use-studys-findings.html
4/1/15	Recommendations from Indian Head Joint Land Use Study Discussed	Southern Maryland Online	http://somid.com/news/headlines/2015/19259.shtml
4/1/15	Recommendations from Indian Head Joint Land Use Study Discussed	Charles County Government News Release	http://www.charlescountymd.gov/news-releases/recommendations-indian-head-joint-land-use-study-discussed

Appendix C: Stakeholder Interviews

Interview Date	Name	Title	Organization
26 Jun 14	Dennis Scheessele	Mayor, Town of Indian Head	Town of Indian Head
	Ed Rice	Vice-Mayor, Town of Indian Head	
	Ryan Hicks	Town Manager	
	Richard Parks	Zoning Administrator	
9 Jul 14	Kwasi Holman	Director	Economic Development Department, Charles County
	Marcia Keeth	Business Development Manager for Retention & Expansion	
	Debra Jones	Business Development Manager for Attraction & Recruitment	
9 Jul 14	Peter Aluotto	Director	Department of Planning and Growth Management, Charles County
	Steven Ball	Planning Director	
	Charles Rice	Environmental Programs Manager	
10 Jul 14	CAPT Pete Nette	Commanding Officer, outgoing	NSF Indian Head
	CAPT Mary Feinberg	Commanding Officer, incoming	
21 July 14	Debra Davis	Charles County Commissioner	Charles County
21 July 14	Reuben B. Collins, II, Esq.	Commissioner Vice President	Charles County
24 July 14	Candice Quinn Kelly	Charles County Commissioner President	Charles County
6 Aug 14	Betsy Burian	President/CEO	Charles County Chamber of Commerce
	Sue Greer	President Elect Chair, Economic Development Committee	Charles County Chamber of Commerce
	Paula Martino	Government Affairs Director	Southern MD Realtors Association

Interview Date	Name	Title	Organization
11 Aug 14	CDR Jeffrey Brancheau	Public Works Officer	NSA South Potomac
	Jeffrey Bossart	Installation Environmental Program Director	NSF Indian Head
	Thomas Wright	Natural Resource Specialist	NSF Indian Head
11 Aug 14	Larry Kijek	Explosive Safety Officer	NSF Indian Head
12 Aug 14	Dan Bragunier	IHEODTD Infrastructure Director	NSWC IHEODTD
12 Aug 14	Jose Frontanes	Infrastructure and Facilities Branch Manager	NSWC IHEODTD
12 Aug 14	Ashley Johnson	Technical Director	NSWC IHEODTD
12 Aug 14	Ray Geckle	Safety Director	NSWC IHEODTD
18 Aug 14	Keith Plumadore	EOD Department Head	NSWC IHEODTD
18 Aug 14	Karen Burrows	Executive Director	Naval Ordnance Safety and Security Activity (NOSSA)
19 Aug 14	Lt. Col. Vincent Lumalcuri	Executive Officer	Chemical Biological Incident Response Force (CBIRF)
19 Aug 14	Joe Anderson (for Darren Krivitsky)	Energetics Manufacturing Department	NSWC IHEODTD
20 Aug 14	Ken Hastings	Board Member	Mason Springs Conservancy
	Lynne Wheeler	Board of Directors	Conservancy for Charles County
	Jim Long	Founder/President	Mattawoman Watershed Society
	Bonnie Bick	Member	Sierra Club, Maryland Chapter
20 Aug 14	Gary Hodge	President, Regional Policy Advisors	Consultant/Town of Indian Head
21 Aug 14	Pam Hundley	Owner, Dale's Smokehouse	Indian Head Business Association
	Kay Cotton	Owner, Hope You Dance	Indian Head Business Association
	Ken Gould	President/CEO	Business Alliance of Charles County

Interview Date	Name	Title	Organization
25 Aug 14	Dennis Chappell	President	Indian Head Defense Alliance
	Dave Williams	Member	
	Don Fix	Consultant	
26 Aug 14	Dr. Ruth Doherty	Department Head, RDT&E Department	NSWC IHEODTD
26 Aug 14	Steve Duboyce	Regional Encroachment Liaison	Naval District Washington
5 Sep 14	Dave Gailey	Regional Forester, Southern Region	MD Department of Natural Resources
5 Sep 14	Jeron Hayes	Public Affairs Officer (PAO)	NSF Indian Head
15 Sep 14	Vince Hungerford	President	Western Charles County Business Alliance
15 Sep 14	Mark Belton	County Administrator	Charles County
17 Sep 14	Gil Bauserman	Owner/Operator	Maryland Airport
18 Sep 14	Steve Bunker	Chair, Planning Commission	The Nature Conservancy Charles County
22 Sep 14	Crystal Hunt	Public Information Officer	Charles County
	Scarlett Mower	Director, Citizen's Liaison Office	

Appendix D: Public Outreach Materials



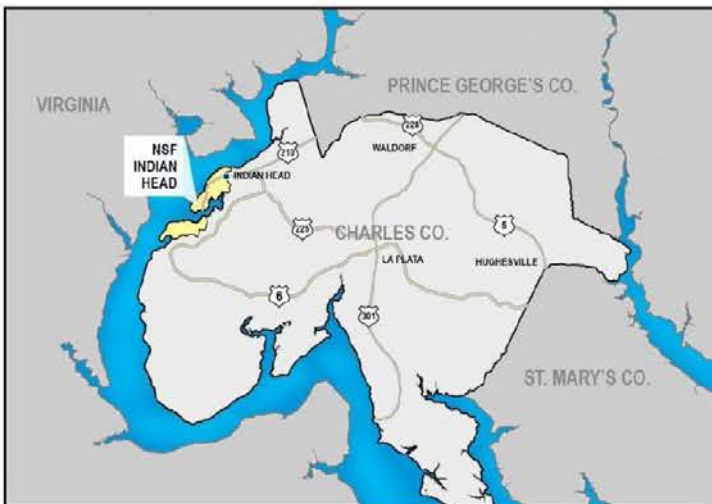
Joint Land Use Study (JLUS) Program Objectives:

- *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 mission of the installation; and*
- *To seek ways to reduce the military operational impacts on adjacent land.*

What is Compatibility?

Compatibility is a term, when used in the context of the Joint Land Use Study (JLUS), to refer to the coexistence of military operations and the surrounding community with minimal conflict. Military bases and their host communities can have a strong, mutually beneficial relationship and the JLUS provides the opportunity for future-oriented planning to promote compatibility and/or resolve incompatibilities if present. Military operations can be loud and present safety and other concerns for surrounding communities. On the other hand, land use development can put pressure on the operational mission of an

active military base. In addition, the extent of negative impacts affecting the base may determine the future viability of the installation.



Study Area:

The study area for the JLUS includes Charles County; the Town of Indian Head, MD; and Naval Support Facility (NSF) Indian Head, to include Cornwallis Neck (or Mainside), Stump Neck Annex, Bullit's Neck, Marsh Island, and Thoroughfare Island.

The study also considers any potential impacts extending along and beyond the Potomac River in the vicinity of the installation.

Common Compatible Use Issues:

The JLUS planning process considers the following military mission compatible use factors:

- Airspace and land restrictions
- Airborne noise
- Community growth
- Frequency spectrum interference
- Endangered species and critical habitat
- Water quantity, water quality, and wetlands protection
- Historic, scenic, and cultural resources and viewshed protection
- Unexploded ordnance and munitions
- Marine resources
- Energy compatibility and availability
- Security (antiterrorism/force protection)
- Current and planned range operations
- Height restrictions
- Impact from blast impulses and possible damage from shaking ground and other vibration
- Transport of hazardous materials

Indian Head Joint Land Use Study

Working Together for Continued Success



The Public Forum is held to provide information, address questions, and gather feedback from local residents about the project. Please use the questions below to spark discussion. You can also visit www.indianheadjlus.com to provide comment and visit <https://www.surveymonkey.com/s/indianheadjlus> to take our survey.

General Questions for Discussion:

- A.) Are you familiar with the operations at NSF Indian Head and/or Stump Neck Annex?
- B.) Do you work at NSF Indian Head or Stump Neck Annex? Do you live in the community? Do you use the area for recreation?
- C.) Do you know whom to contact for more information or if you have concerns?
- D.) How do operations at NSF Indian Head and/or Stump Neck Annex impact you?
- Do you hear noise or feel vibrations? If so, do they bother you?
 - To what extent, if any, do you feel unsafe due to proximity to the installation?
 - Do operations impact your ability to use the waters surrounding the installation (Potomac River, Mattawoman Creek, Chicamuxen Creek)?
 - Does the transport and storage of explosives and hazardous materials concern you?
 - Have increased security requirements affected you?
- E.) What impact does the community have on the installation?
- Is the mission at NSF Indian Head and/or Stump Neck Annex impacted by land use in the vicinity? How so?
 - Are there zoning, environmental, or other regulations that constrain or negatively impact the mission?
 - Does the use of the waters surrounding the installation create workarounds or delay operations?
 - Do the residential areas outside the fence line cause an increased security concern? Does the use of the waters surrounding the installation cause an increased security concern?
 - Does the Navy alter operations to minimize impact to the community?
 - Does traffic or road construction impact the transport of explosives and hazardous materials?
 - Could the availability of water impact operations?
- F.) Do you have any concerns regarding the environmental impact of operations (on fish & wildlife, land, air, or water)? If so, what are they?
- Are you concerned with the availability of clean water?
 - Are you concerned about access to energy (including the natural gas line)?
- G.) In your view, are community growth and the military mission compatible?
- What type of development, zoning, or restrictions, if any, would be beneficial?
 - Are there opportunities for the Navy and the community to better work together?
- H.) What do you see as potential solutions to any of the compatibility issues identified or how would you resolve these conflicts?

Indian Head Joint Land Use Study

Working Together for Continued Success



Indian Head Joint Land Use Study (JLUS) Program Objectives:

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

The JLUS Process



Common Compatible Use Factors:

The JLUS planning process considered the following compatible use factors:

- Land restrictions
- Community growth
- Current and planned range operations
- Noise
- Unexploded ordnance and munitions
- Impact from blast impulses (vibration)
- Height restrictions
- Transportation and traffic
- Frequency spectrum interference
- Security (anti-terrorism/force protection)
- Endangered species and critical habitat
- Water quantity, water quality, and wetlands protection
- Marine resources
- Historic, scenic, and cultural resources and viewshed protection
- Energy compatibility and availability
- Natural factors

Recommendations and Implementation Plan:

The JLUS process includes drafting an Implementation Plan to provide a suggested approach for addressing compatible use issues. The overall goal of this plan is to achieve a balance between the needs of NSF Indian Head and the needs of the neighboring community. In working towards this balance, several guidelines are being followed, including:

- The Draft Implementation Plan is being 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 NSF Indian Head to resolve compatibility and encroachment issues, in order to minimize the number and effect of new policies and/or regulations.

The Draft Implementation Plan includes a list of specific actions for study participants organized by category and identifying the responsible party and preliminary timeframes.

Your feedback is an important part of the JLUS. Please tell us what you think by filling out the following comment tables and returning prior to the end of tonight's public forum.



Compatible Use Factor Comment Table

How compatible are the factors in the table with relation to community land use and NSF Indian Head operations?

Please rank the compatible use factors in the table below by significance using the following ranking scheme:

- 1 – **Negligible:** There are no compatibility concerns.
- 2 – **Minimal:** There are some minor compatibility concerns but this issue is well-managed.
- 3 – **Moderate:** There are compatibility concerns but this issue is generally well-managed.
- 4 – **High:** There are significant compatibility concerns and this issue is not adequately addressed.

Keep in mind that this is not a ranking of importance, as each factor is important. Here the focus is to determine the significance of compatibility between NSF Indian Head and the surrounding community for each factor taking into account current and future growth. List any factors not identified in the blank spaces at the bottom of the table.

Compatible Use Factor	Ranking
Land Restrictions	
Community Growth	
Current and Planned Range Operations	
Noise	
Unexploded Ordnance and Munitions	
Impact from Blast Impulses	
Height Restrictions	
Transportation of Hazardous Materials/Traffic	
Frequency Spectrum Interference	
Security (Anti-terrorism/Force Protection)	
Endangered Species/Critical Habitat	
Water Quantity, Water Quality, Wetlands Protection	
Marine Resources	
Historic, Scenic, and Cultural Resources and Viewshed Protection	
Energy Compatibility and Availability	
Natural Factors	

Indian Head JLUS Draft Implementation Plan Comment Table

The table below has a listing of proposed strategies recommended to improve land use planning and communication to help ensure compatibility. Please tell us if you believe these strategies are worth exploring by putting a Y for “Yes, I would like this included in the JLUS” or N for “No, it should not be included in the JLUS.” If there are any other compatibility tools that you believe should be considered for inclusion in the JLUS, please note them below the table.

Each strategy will designate responsibility and have a timeline for implementation. Please tell us when you would like to see these strategies implemented, using one of four timeframes: short-term (1-3 years), medium-term (4-10 years), long-term (11-20 years), or on-going and who should be responsible for each action.

Indian Head JLUS Draft Implementation Plan											
Category	Tool/Activity	Description	Responsible Party			Timeframe				Include in JLUS?	
			Charles County	Town of Indian Head	NSF Indian Head	Short-Term	Mid-Term	Long-Term	On-going	Yes	No
Interagency Coordination	JLUS Working Group	Designate a working group to guide implementation									
	Memorandum of Understanding (MOU)	Develop MOU that describes coordination between organizations									
	Include NSF Indian Head in planning processes	Include members of NSF Indian Head and the NSF Indian Head Community Planning Liaison Officer (CPLO) in the planning process									
	Maryland Military Installation Council (MMIC)	Monitor and seek opportunities to participate in MMIC									
Public Outreach	Joint Land Use Website and Brochure	Maintain website for providing information and awareness, including applicable Town, County, and military planning documents									
	Military Outreach	Develop communication plan to address awareness in the local community, such as open house activities and operation notification hotline/website									
	Boater and Recreational Notices	Coordinate outreach efforts with local marinas to ensure consistent and updated information is available to the public									
	Update existing websites and public outreach information	Provide information on the JLUS and its recommendations; indicate points of contact at NSF Indian Head to relay concerns related to military operations									

Indian Head JLUS Draft Implementation Plan											
Category	Tool/Activity	Description	Responsible Party			Timeframe				Include in JLUS?	
			Charles County	Town of Indian Head	NSF Indian Head	Short-Term	Mid-Term	Long-Term	On-going	Yes	No
Business & Economic Development	Town Redevelopment Group	Establish a working group to assist in the redevelopment of the Town of Indian Head									
	Partnership Opportunities	Consider land exchange options and public-private partnership opportunities									
	Partner with Charles County Economic Development Department	Identify cooperative approach for economic development in the Town and surrounding community									
Land Use Planning	Codify planning processes between Town/County/NSF Indian Head	Coordinate with County's designated military planner; establish areas of impact and project types that would necessitate NSF Indian Head input									
	County and Town Comprehensive Plans	Address NSF Indian Head compatibility									
	Waterfront development	Future waterfront development around Sweden Point should note proximity of explosive safety arcs and/or coordinate with NSF Indian Head									
Zoning & Regulations	Zoning Overlays/Noise easement	Develop a military awareness overlay to assist in planning processes and increase awareness of military operations									
	Real Estate Disclosures	Review and update existing disclosures to clarify language, if needed									
Land Conservation Efforts	Readiness and Environmental Protection Integration (REPI) Program	Utilize this DoD program to purchase and protect surrounding land									
	Transfer of Development Rights (TDR)	Utilize the Charles County TDR program to preserve land in areas with the potential to be impacted by military operations									
	Coordinate with conservation groups	Work with local, regional, and national conservation groups to protect land. (i.e. Conservancy for Charles County and Mason Springs Conservancy, Trust for Public Land, and the Nature Conservancy)									

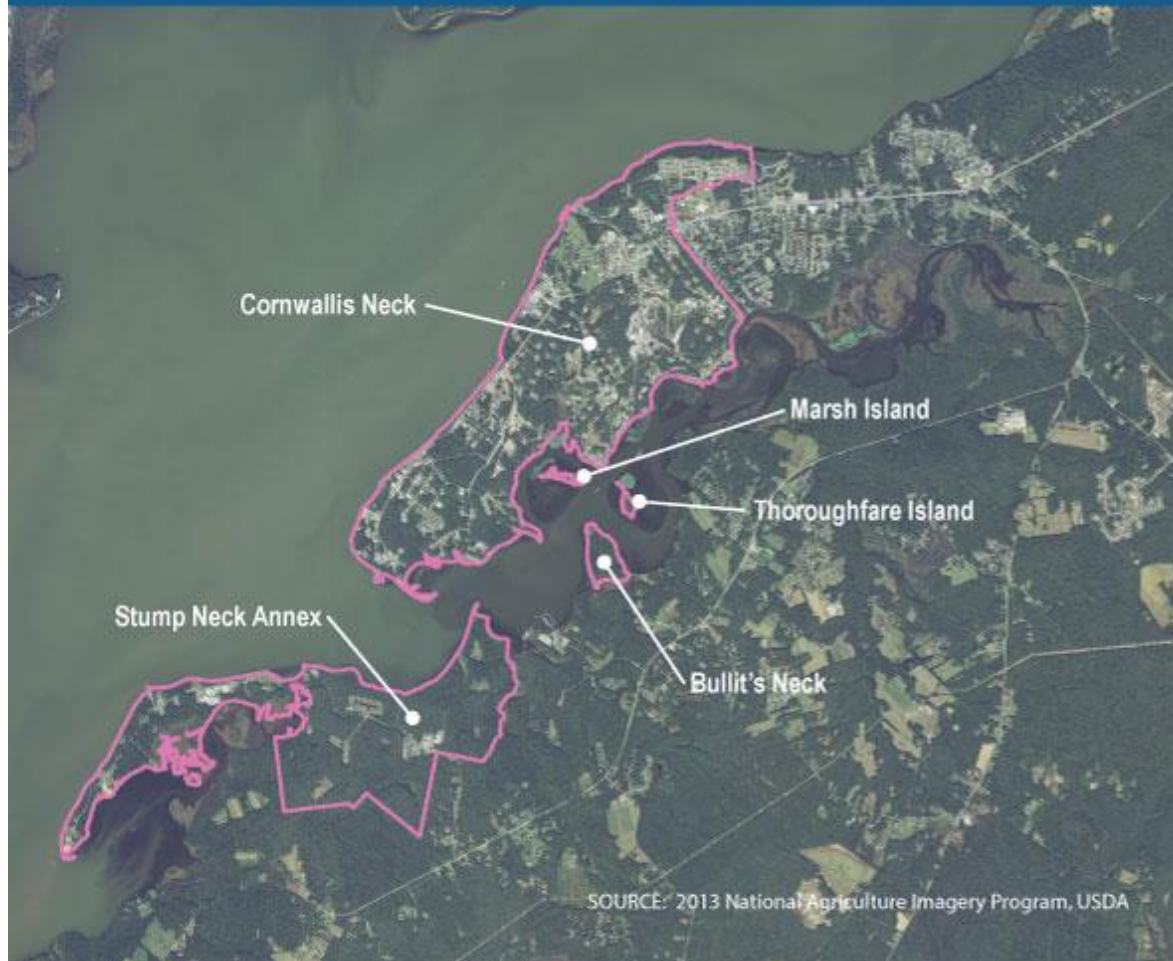
Comments:



Indian Head Joint Land Use Study

Naval Support Facility Indian Head

Naval Support Facility Indian Head Mission and Operations



SOURCE: 2013 National Agriculture Imagery Program, USDA

Naval Support Facility (NSF)
Indian Head is part of Naval Support Activity South Potomac, headquartered in Dahlgren, VA. NSF Indian Head is comprised of five separate parcels of property.

Home to more than five major tenant commands, the installation supports the military mission through a diverse range of operations that include, energetics research, development, and testing; explosive ordnance program support; and various other programs. The work conducted at NSF Indian Head not only supports energetics research and development, but also deployed U.S. Forces engaged in operations across the globe.



Charles County Government
Department of Planning & Growth Management

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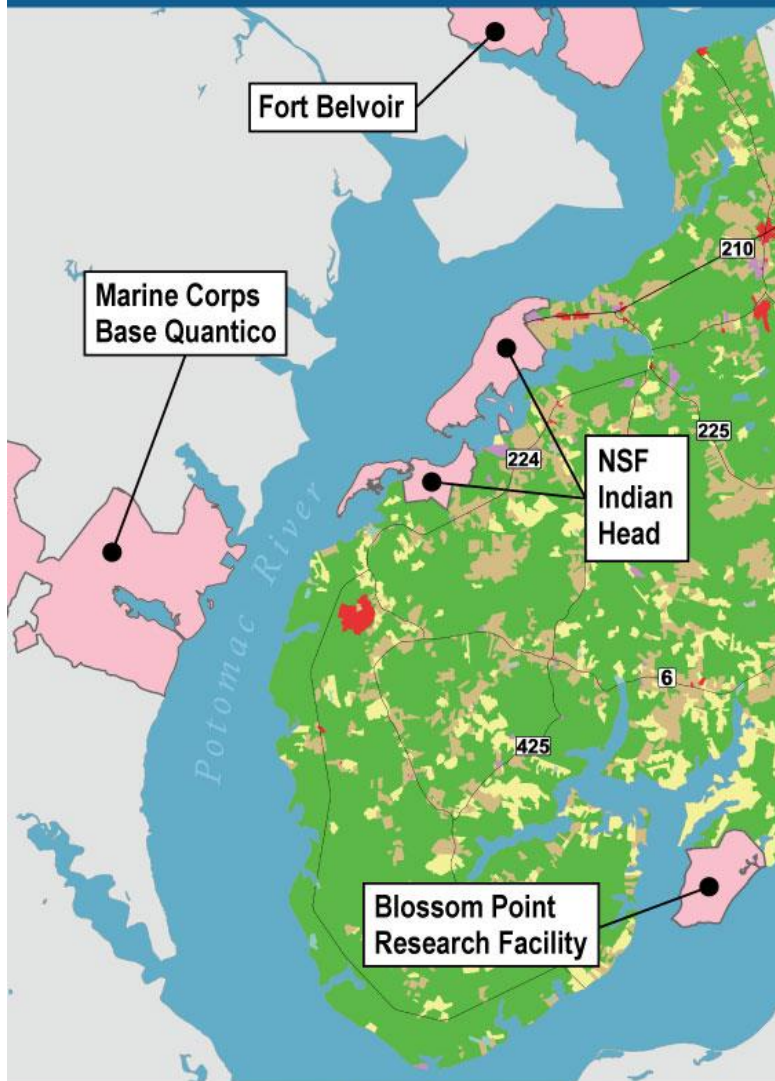
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Indian Head Joint Land Use Study

Naval Support Facility Indian Head

2010 Land Use & Land Cover



The objectives of the JLUS are to encourage cooperative land use planning between military installations and the surrounding communities so that future growth and development are compatible with the training and operational missions of the installation, as well as seek ways to reduce operational impacts on adjacent lands.

The Indian Head JLUS will study and evaluate various impacts of current and future land use decisions with respect to the community and NSF Indian Head. The planning process is designed to jointly identify issues confronting both the community and the military installation.



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Indian Head Joint Land Use Study

Naval Support Facility Indian Head

Protected Lands and Targeted Ecological Areas



Legend

- | | |
|-----------------------|--|
| Military Installation | Easements, Transferrable Development Rights & Privately Owned Conservation Lands |
| Federal Lands | Targeted Ecological Areas |
| State Lands | |
| County & Town Lands | |

SOURCE: Charles County Protected Lands, 2014, Maryland Department of National Resources, Virginia Department of Conservation and Recreation

The JLUS will explore various alternatives to land preservation, conservation, and growth management, through the use of, conservation easements, transfer of development rights, land acquisition and other land management tools.

Maryland has identified Targeted Ecological Areas, which are the most ecologically valuable areas in the state, to focus conservation efforts. The Navy also partners with state and local groups to preserve lands that benefit military readiness, neighboring communities, and the environment through the Department of Defense Readiness and Environmental Protection Integration (REPI) Program.



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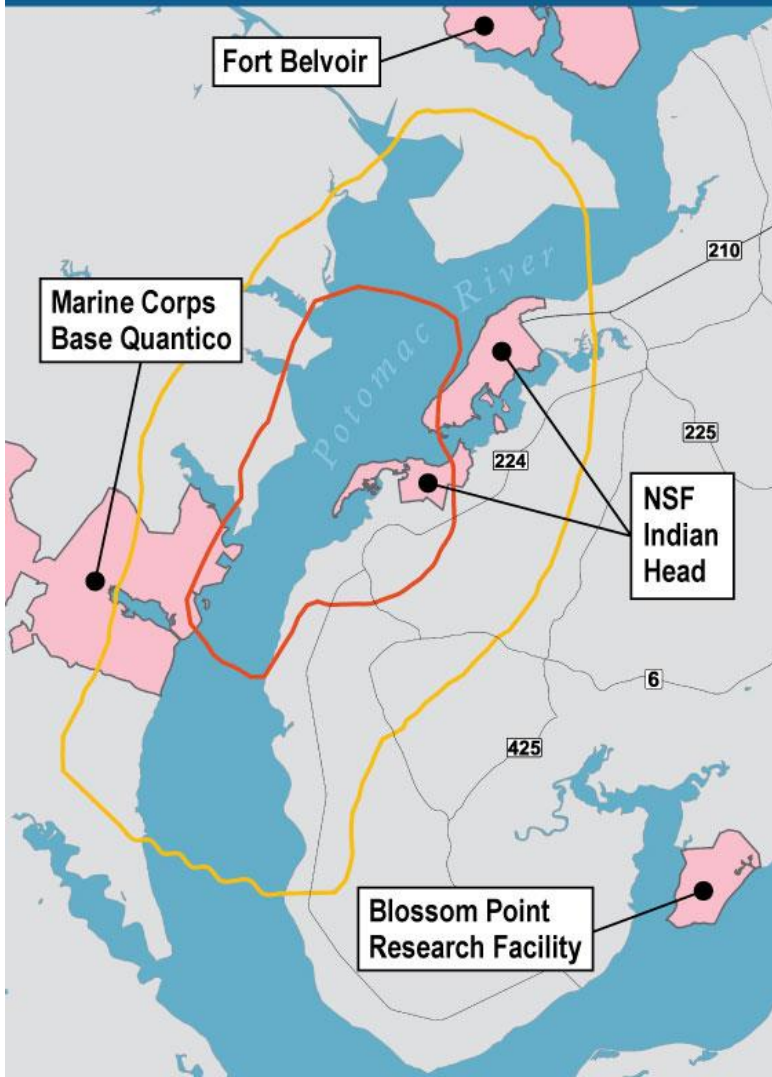
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Indian Head Joint Land Use Study

Naval Support Facility Indian Head

Noise Impacts to the Surrounding Community



Legend

- Moderate Risk of Complaint Area
- High Risk of Complaint Area

SOURCE: Naval Support Activity South Potomac, 2009

Residents in communities surrounding NSF Indian Head may be impacted by infrequent but loud noise from Navy operations at Stump Neck Annex.

Sound pressure levels are measured in decibels (dB). Within the moderate risk of complaint area, peak levels can range from 115 to 130 dB, as might be expected at a rock concert. Within the high risk of complaint area, noise levels may reach peaks greater than 130 dB, the equivalent of a gunshot or firework.



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Appendix E: Danger Zone Description

Potomac River, Mattawoman Creek and Chicamuxen Creek; U.S. Naval Surface Weapons Center, Indian Head Division, Indian Head, Md.

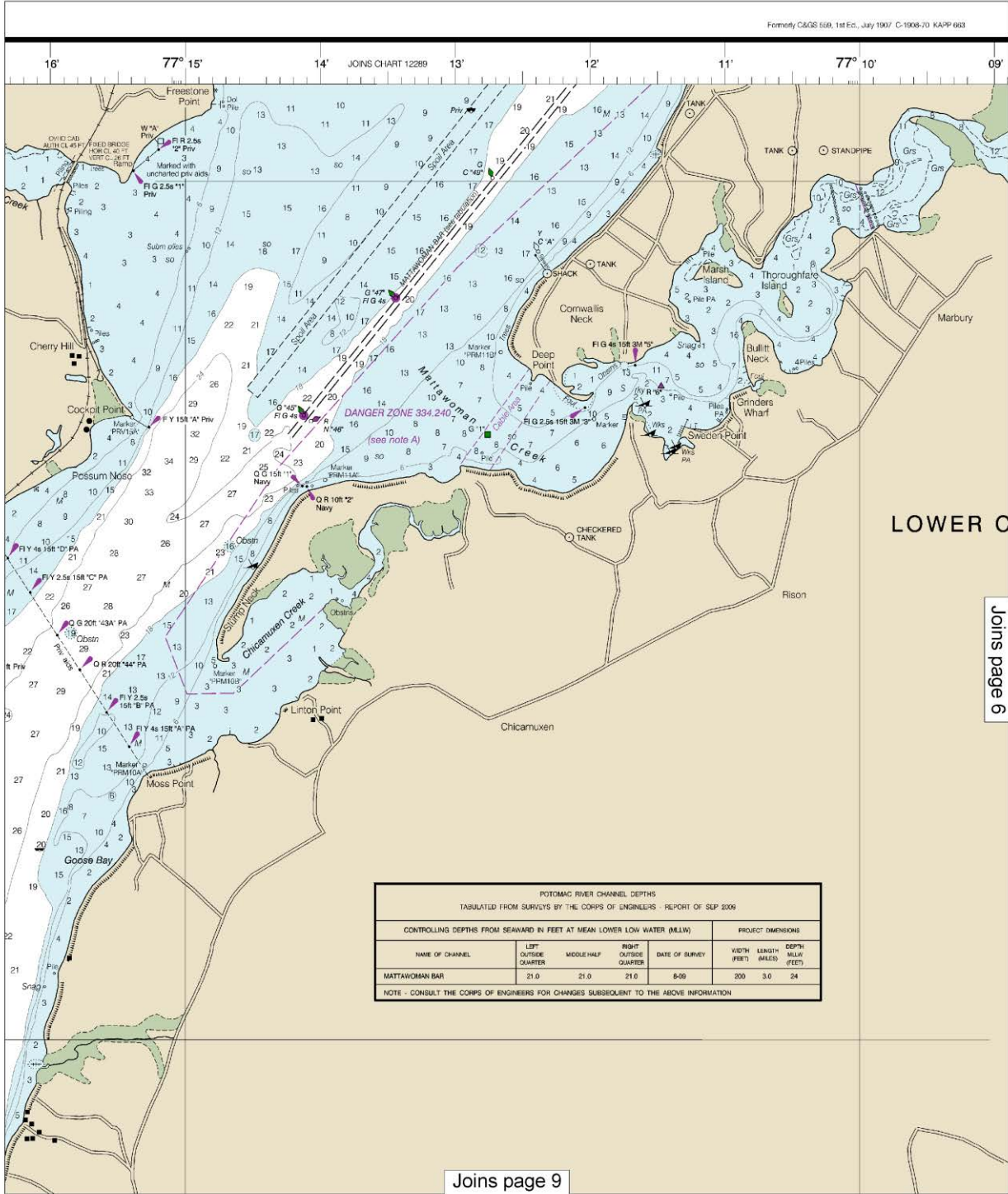
(a) The danger zone. Beginning at a point on the easterly shore of the Potomac River at latitude 38°36'00", longitude 77°11'00"; thence to latitude 38°34'30"; longitude 77°13'00"; thence to latitude 38°33'20", longitude 77°14'20"; thence to latitude 38°32'20", longitude 77°15'10"; thence to latitude 38°32'00", longitude 77°15'00"; thence to latitude 38°32'30", longitude 77°14'00"; thence to latitude 38°32'30", longitude 77°14'00"; thence upstream along the easterly shoreline of Chicamuxen Creek to its head thence downstream along the westerly shoreline of Chicamuxen Creek to the southernmost point of Stump Neck; thence northeasterly along the shoreline of Stump Neck to the mouth of Mattawoman Creek; thence along the southeasterly shore of Mattawoman Creek to the pilings remaining from the footbridge connecting the left bank of the creek to the Naval Surface Warfare Center, Indian Head Division; thence along the northwesterly shore of Mattawoman Creek from the pilings remaining from the footbridge to the mouth of the creek; thence in a northeasterly direction along the easterly shore of the Potomac River to the point of beginning.

(b) The regulations. (1) Firings consisting of controlled explosions within the danger zone, and controlled shore operations, or accidental explosions, hazardous to vessel traffic within the limits of the danger zone, may take place at any time of the day or night and on any day of the week. (2) Flashing red lights, horns, and signs established at appropriate points will warn vessels of impending tests or operations considered to

Firings consisting of controlled explosions within the danger zone, and controlled shore operations, or accidental explosions, hazardous to vessel traffic within the limits of the danger zone.

be hazardous to vessels within the danger zone. (3) No persons or vessels except vessels of the United States or vessels authorized by the enforcing agency shall enter or remain in the danger zone while lights are flashing, when warning horns are in operation, or when warned or directed by a patrol vessel. (4) Nothing in this section shall prohibit the use of Mattawoman Creek or Chicamuxen Creek as a harbor of refuge because of stress of weather. (5) Except as prescribed in paragraph (b)(3) of this section, persons and vessels may enter and proceed through the danger zone without restriction. However, accidental explosions may occur at any time and persons and vessels entering the area do so at their own risk. (6) Fishermen operating in the danger zone when warning signals are sounded shall evacuate the area immediately. (7) The regulations in this section shall be enforced by the Commanding Officer, U.S. Naval Surface Warfare Center, Indian Head Division, Indian Head, Maryland.

[26 FR 9748, Oct. 17, 1961, as amended at 48 FR 54598, Dec. 6, 1983. Redesignated at 50 FR 42696, Oct. 22, 1985, as amended at 62 FR 17552, Apr. 10, 1997]



Danger zones and restricted area-The Potomac River and its tributaries are used extensively by the military establishments for testing operations and gunnery practice. (Limits and regulations for these areas are given in 334.230, 334.240, and 334.250, chapter 2.)