ACCOMACK COUNTY

JLUS

JOINT LAND USE STUDY

FINAL REPORT
MAY 2015

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What is a joint land use study (JLUS)?

There are many positive interactions between a military installation and the local jurisdiction. However, the activities of either can have unintended impacts on the other. Changes in military operations may increase noise, dust or safety concerns on the surrounding areas, while new residential or commercial development may restrict the military's ability to operate or train. Determining compatible development patterns on and around the installation is needed to protect the long-term, viable relationship between the installation and the local community.

A Joint Land Use Study (JLUS) is a project that brings local officials, military installation officials and the community together, in a collaborative effort, to discuss current and future needs, and to identify and promote compatible land use development patterns that are mutually beneficial to the military installation, the county and towns, and the citizens. Their findings, results, and recommendations are produced in a JLUS report.

Why was the Accomack County, VA JLUS initiated?

In 2010, the Navy conducted an internal encroachment study for Navy missions and operations at NASA Wallops Flight Facility (WFF) in Accomack County, Virginia. The study was conducted to determine if any non-Navy activities were impeding the performance of Navy operations. The study recommended that a JLUS be undertaken to further explore existing and future land use compatibility issues associated with Navy missions at the WFF. As JLUS initiatives typically involve communities around military installations, this JLUS is unique, as it involves Navy and other Department of Defense (DOD) organizations that operate as tenants at WFF, a NASA (non-DOD) facility.

Funding for the JLUS was provided by the DOD Office of Economic Adjustment (OEA) with the purpose to engage NASA, the Navy and Accomack County in ongoing collaborative efforts to preserve the mission capabilities of the Surface Systems Combat Center (SCSC) in its current strategic location as a primary tenant onboard WFF. NASA, Navy, and other DOD and Federal agencies onboard or operating from WFF are valuable assets to Accomack County, just as there is great value in the location and facilities of WFF for the federal agencies. The partnership between NASA and the Navy has a particularly long history, and it is the desire of NASA, the Navy, and Accomack County to continue and preserve this arrangement.

The encroachment study also noted the lack of an Air Installation Compatible Use Zone (AICUZ) study for the Navy's use of the WFF airfield. The AICUZ Program is a planning tool developed and used by DOD to assist in compatible development analysis with respect to potential impacts from noise and accident potential. While the AICUZ Program is not formally applicable to other federal agencies such as NASA and consequently Wallops Flight Facility, its applicable APZ layout and noise zones were among several factors considered for this study, since the majority of current flight operations at WFF are DOD.

What are the primary goals of this JLUS?

The outcome of the collaborative efforts involved in development of this JLUS is to provide a planning tool for Accomack County. This planning tool includes recommended actions and strategies to inform future County policy-making decisions regarding compatible land use in order to accomplish the following primary goals:

- Protect the health, safety, and welfare of Accomack County residents living or working in potentially impacted areas surrounding the installation.
- Sustain the economic vitality of the Accomack County community.
- Promote a cooperative land use planning process where Accomack County collaborates with NASA, Navy and other DOD and Federal agencies onboard or operating from WFF to safeguard their mission capabilities, and in doing so, retain their critical economic value to the County.

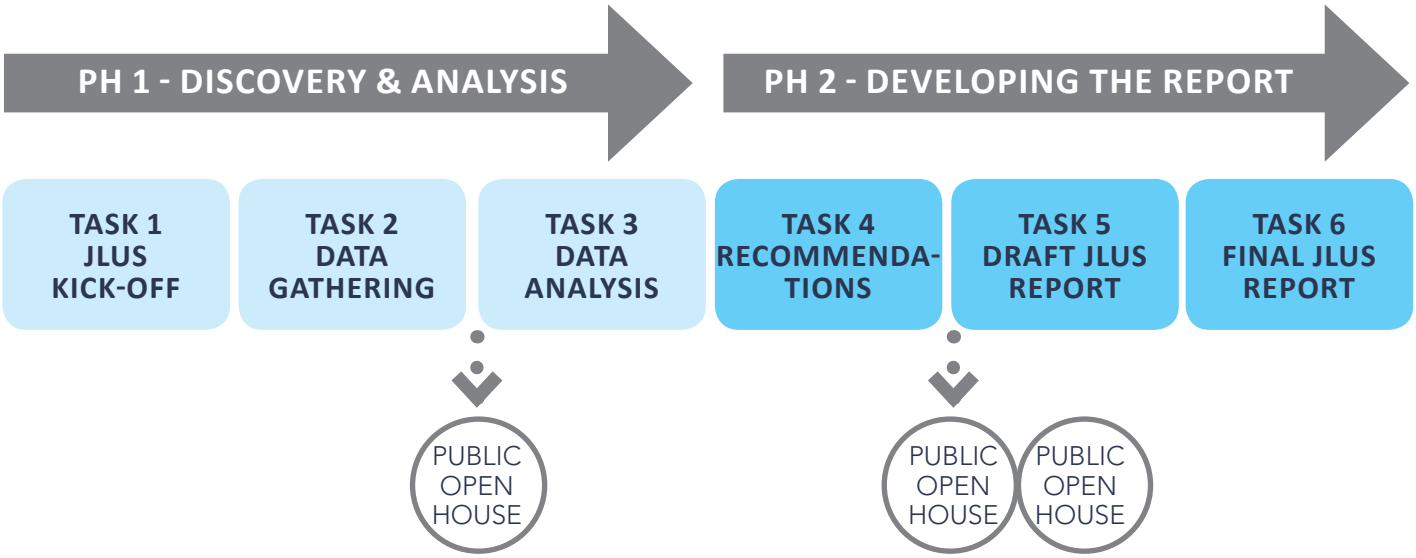

Figure. ES.1 - JLUS Development Process

- Ensure engagement of local private property owners in the land use planning process.

How was this JLUS conducted and who was involved?

Figure ES.1 depicts the JLUS development process.

A wide range of participants represented various stakeholder organizations and agencies as follows:

- Elected officials, Planning Commissioners, and staff for Accomack County and the Town of Chincoteague
- The Navy/SCSC and other DOD officials (including OEA representatives) and military installation personnel
- NASA WFF officials
- Local, regional, and state planning regulatory agencies, as well as land and water management agencies
- Environmental advocacy organizations
- Non-governmental organizations (e.g., Eastern Shore Defense Alliance)
- Other special interest groups
- Public landowners and other interested persons

Guiding committees included the Policy Steering Committee (PSC) and the Technical Advisory Committee (TAC). The PSC, comprised of various executive-level personnel, provided overall direction for the development of the JLUS (including approval of recommendations and the Draft and Final JLUS Reports) and is ultimately responsible for the document. The TAC consisted of local subject matter experts in installation planning and operations, local planners, community staff, local business and professional representatives, town and neighborhood representatives and others. This committee worked closely with the consultant, providing expertise in the development of the JLUS documentation.

The Accomack County community was brought into the process by means of three public information meetings, the JLUS website, and three published brochures. Those brochures are:

- An Informational Brochure to engage the public early in the JLUS process
- A Findings Brochure, identifying the incompatible land use issue discovered of the project team's research and the analysis results

- A Recommendations Brochure, identifying proposed solutions and strategies to address existing and potential future incompatible land uses

What are the primary findings of this study?

As joint land use studies have been conducted in recent years, approximately 24 potential impact factors/issues have been identified, not all of which apply to each specific study. Of the broad range of potential issues, the Accomack JLUS project team identified a total of five for exploration and analysis, plus general recommendations. These five issues, plus general recommendations, are depicted by the following icons:

Three of the analyzed issues helped shape the overall operational footprint, where the potential conflicts exist between WFF operations and the surrounding Accomack County communities. Figure ES.2 depicts this WFF overall operational footprint, reflecting the three predominant issues - Aircraft Accident Potential Zones, Aircraft Noise Zones, and Rocket Range Hazard Area.

- **Aircraft Accident Potential Zones**

The Department of Defense (DOD) provides guidance for land use and population density at its air installations and in communities surrounding these installations. Considering public safety with respect to the potential for an accident, this guidance suggests land uses considered compatible with aircraft operations. Accident Potential Zones (APZs) are the areas where the greatest potential for aircraft accidents exists based on historical accident data, and the type and mission of the aircraft in use. See Figure ES.3, where the clear zones (shown in red), located immediately beyond the runways present the highest risk. Further from the end of the runway the risk diminishes in APZ 1 (orange) and diminishes further in APZ 2 (yellow). It is important to note that while APZ mapping is based on statistical evidence for the specific aircraft and mission, accidents can occur outside the mapped APZs. The latest APZ mapping reflects changes since the publication of the 2008 Accomack County Comprehensive Plan. The clear zones have remained virtually unchanged; however the APZ1 & APZ2 zones have increased and cover just over 2,000 additional acres. This is due to the 2013 addition of Navy E2/C2 aircraft operations since the current APZ mapping is based on aircraft-specific data. Accomack County will ultimately determine if it wishes to adopt DOD APZ guidance.

Since the completion of the existing land use analysis phase of this study in May, 2014, site clearing and roadway construction at the WRP commenced and is nearing completion. This has the effect on the Existing Land Use mapping (*refer to Appendix "F"*) of changing some areas shown as "Forestry" to "Undeveloped". However, since no buildings or structures have been completed at this time, the effect on the analysis with respect to land use compatibility is negligible.

- **Aircraft Noise Zones**

The DOD air installation guidance also covers aircraft noise. Noise is unwanted sound measured in decibels. Noise contours, or the areas of various noise levels are described in "decibels DNL." DNL is a term to represent the average sound level generated by all aviation-related operations during a 24-hour period. Below the threshold of 65 decibels DNL, noise is considered relatively low. For example residential uses are not suggested in areas where aircraft noise is expected to exceed 65 decibels DNL, while recreational activities are not discouraged unless the noise exceeds 75 decibels DNL. Warehousing, agriculture, forestry, and fishing are considered compatible. The mapping of expected noise levels shown in Figure ES.4 is based on acoustic modeling. However, given variables such as weather, actual flight paths, etc., actual noise levels/locations may vary. Accomack County will ultimately determine if it wishes to adopt DOD aircraft noise guidance.

- **Rocket Range Hazard Area**

The rocket launches at WFF Wallops Island are not only a major catalyst to bring Government, academia and industry business and economic development to the Wallops area, but are also an attraction for both tourists and residents alike. Yet, these types of operations are inherently hazardous. As such, NASA develops and implements

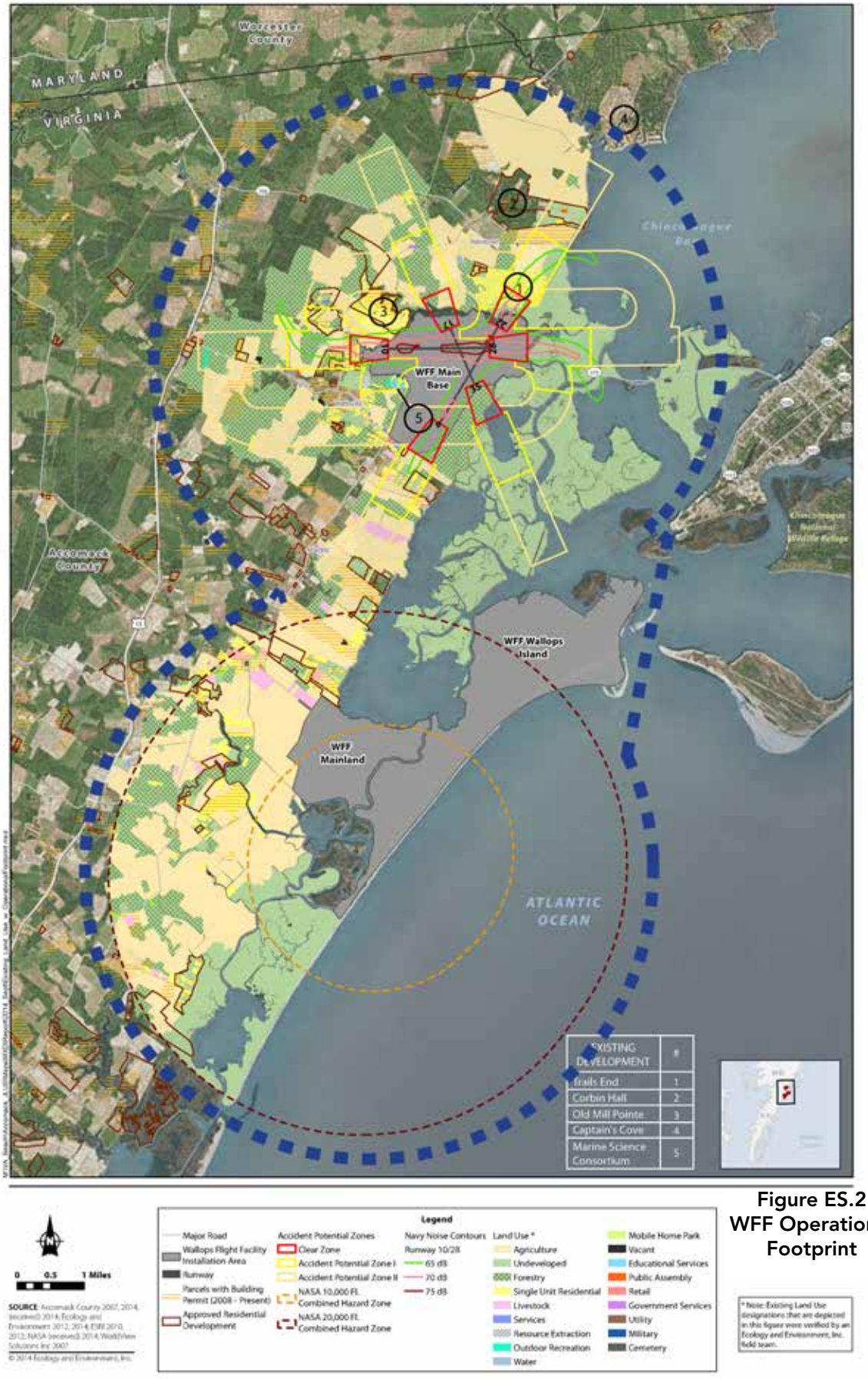

Figure ES.2
WFF Operational Footprint

Figure. ES.3 - WFF Accident Potential Zones

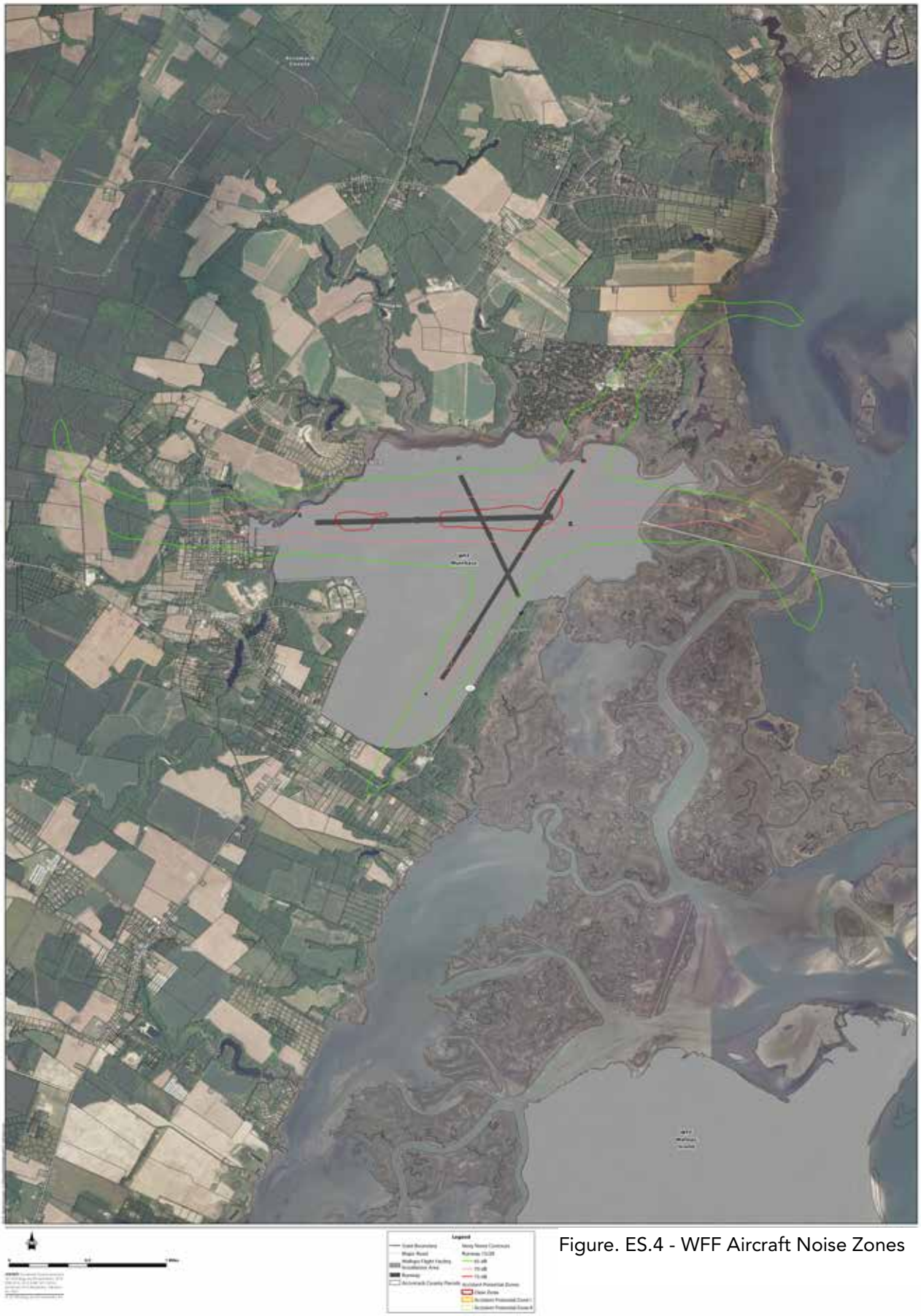

Figure. ES.4 - WFF Aircraft Noise Zones

Figure. ES.5 - WFF Rocket Range Hazard Area

mission-specific safety plans to ensure the protection of both members of the public and their property for all of its launches. As shown in Figure ES.5, the Rocket Range Hazard Areas consist of concentric rings (arcs) centered on the two current and one future planned orbital launch pads. The smaller arc, at 10,000 feet, is NASA's planning level estimate for the area potentially requiring the most stringent controls, including clearing the zone of all people prior to launch, to protect the safety of the public and for the ability to launch. The actual hazard area requiring clearance is defined for each launch based on the specific hazards of that launch and historically have not exceeded 9,000 feet for Antares and Minotaur launches. The larger arc, at 20,000 feet, depicts an area that may be susceptible to range hazards that are largely dictated by atmospheric conditions on launch day. In contrast to the 10,000 foot arc, the 20,000 foot arc would not likely require complete clearance, rather select areas within it could require special consideration, such as ensuring that large groups of people are not present or that building occupants are not in front of single-pane windows at launch. NASA coordinates all hazard area information with local law enforcement officials, and those officials are responsible for any notification and evacuations that may be necessary to protect the safety of the public. The 10,000 and 20,000 feet arcs depict NASA's best estimate of the extent of launch hazard areas required for current planned and future missions. Recently the validity of these areas and the hazards experienced have been verified by the actual events and lessons learned from the ORB-3 rocket mishap October 28, 2014.

What are the Recommendations deriving from this study?

The following 15 recommendations and strategies were endorsed by the project leadership to address the five land use issues facing Accomack County, the Navy and NASA. They address both existing and future potential incompatible land uses.

SHORT TERM RECOMMENDATIONS

Establish an Accomack-Wallops Working Group.

Amend/Update the Accomack County Comprehensive Plan to incorporate information contained in this study.

Pursue available grants and/or supplemental funding sources for JLUS recommendations implementation.

Establish a process for mitigating existing incompatibilities within the WFF aircraft clear zones.

Establish a collaborative review process for requests relating to development of commercial wind turbines, cell towers, radio frequency emitters or structures.

NASA and/or Navy notify Accomack County and Working Group of offshore energy development to identify potential operational interference.

SHORT-TO-MID-TERM RECOMMENDATIONS

Establish a Rocket Range Hazard notification area and provide notifications of hazards associated with rocket launches.

MID TERM RECOMMENDATIONS

Establish a WFF Aircraft Operations Overlay District and amend the Accomack County Zoning Ordinance and Subdivision Ordinance for compatible land use in Clear Zone, APZ 1, and APZ 2, and other affected areas.

Adopt measures for early and full real estate disclosure with respect to properties located within aircraft accident potential and noise zones.

Pursue Commonwealth of Virginia legislation to amend 55-517/55-519 (Required disclosures) to include military aircraft operations on non-military airfields.

Provide information regarding incentives for retrofits to windows on existing buildings within the Rocket Range Hazard Area.

Encourage the application of noise attenuation measures within the aircraft noise zones as part of the permitting process for new construction.

LONG TERM RECOMMENDATIONS

Develop a plan for mitigating and/or accommodating the effects of recurrent flooding, storm surge events, and sea level rise for the Navy, NASA, and Mid-Atlantic Regional Spaceport (MARS)/VCSFA facilities on WFF Wallops Island.

Develop a plan for mitigating and/or accommodating the effects of recurrent flooding, storm surge events, and sea level rise for the coastal areas of Accomack County within the study area.

ON-GOING RECOMMENDATIONS

Provide an annual update to the Accomack County Board of Supervisors regarding JLUS implementation progress.

Update the Accomack County GIS database with JLUS Report data following adoption by the County Board of Supervisors.

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TABLE OF CONTENTS

Chapter 1 establishes the who, what, why, when,and where of this document. It introduces the definition of a Joint Land Use Study (JLUS), explains why this Accomack County JLUS is being conducted, and identifies the goals, methodology, and people involved in this initiative.

1.1 WHAT IS A JOINT LAND USE STUDY?

As growth or change in a military installation's operations may adversely impact safety and quality of life for a surrounding community, community development near a military installation may adversely impact the installation's ability to perform its missions. Military installations can have a substantial positive impact on the local economy, and are often the most significant source of higher-paying jobs and housing demand within the surrounding community. As a result, development pressures often exist near military installations due to convenience to employment centers.

A JLUS is a collaborative planning initiative between local officials, military installation officials and the community. The goal of a JLUS is to identify and address land use conflicts, or potential land use conflicts and enter into a working relationship for developing compatible land use solutions that are mutually beneficial. Compatibility is assessed on the basis of several factors, which may impact the community and/or the installation.

COMPATIBILITY FACTORS

Impact on Community:

Noise
Safety Hazard Zones
Height Restrictions
Environmental Pollution
Natural Habitat
Wildlife
Transportation Infrastructure

Impact on Installation:

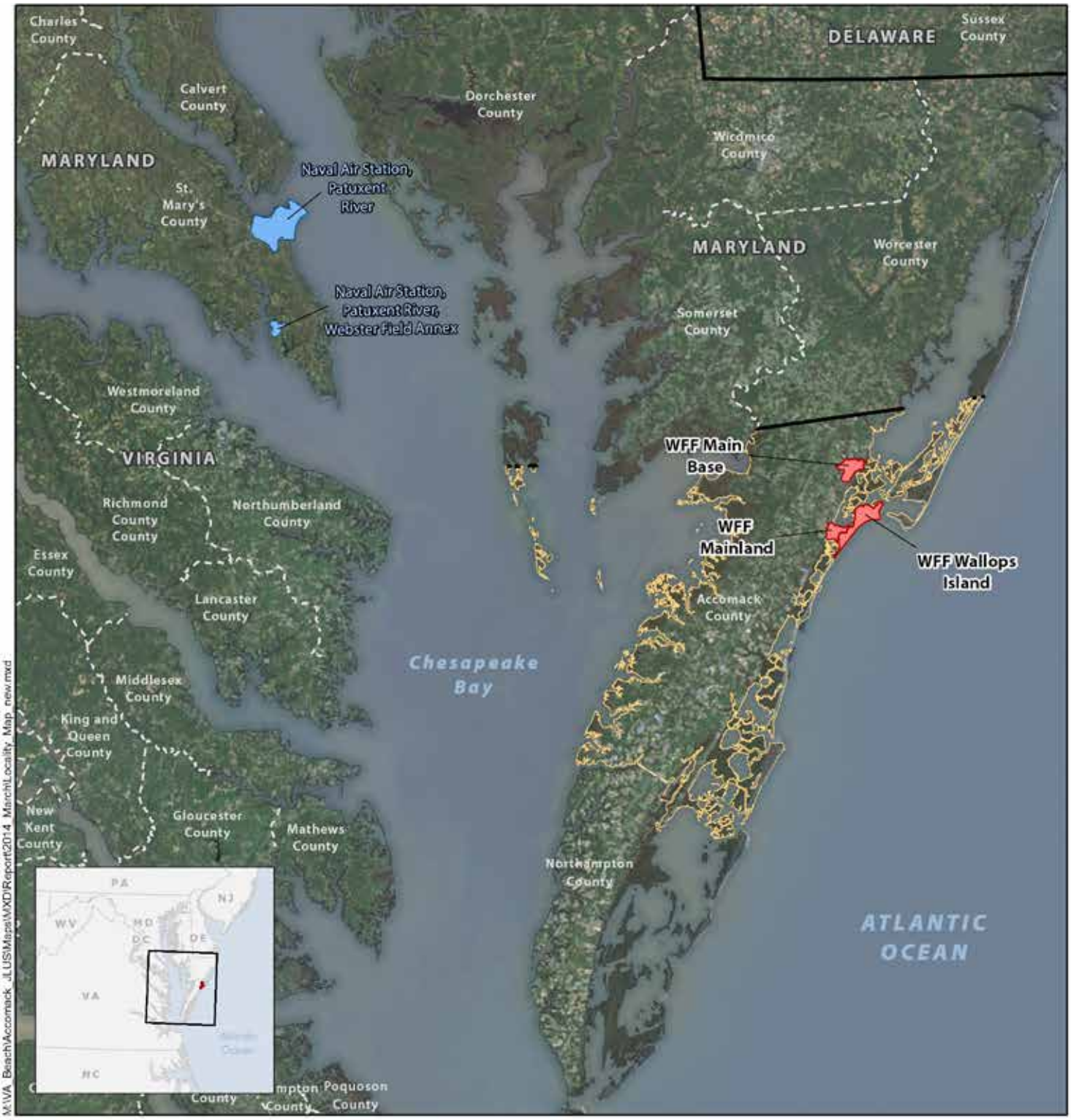
Existing Development
Planned Development
Transportation Infrastructure
Electromagnetic Interference
Light Pollution
Coastal Resiliency
Natural Habitat
Wildlife

1.2 WHY WAS THIS JLUS INITIATED?

The Navy's Surface Combat Systems Center (SCSC) is located on the National Aeronautics and Space Administration's (NASA) Goddard Space Flight Center's Wallops Flight Facility (hereafter referred to as WFF) in north-eastern Accomack County, Virginia (see Figure 1.1). The Navy completed an internal encroachment study for Navy missions at WFF in 2010. This study identified the unique nature of Navy missions and operations at WFF Wallops Island. Encroachment concerns for SCSC were highlighted during the study. The SCSC is co-located with NASA at WFF where NASA is the landowner and SCSC is a tenant command. This partnership is the product of both agencies' long history on the Eastern Shore.

"In 1941, the Navy commissioned the Chincoteague Naval Air Station on the present site of the WFF Main Base and established the Naval Aviation Ordnance Test Station on Wallops Island. In 1958, the Navy ceased operations at the Chincoteague Naval Air Station [sic] *and National Aviation Ordnance Test Station. The same year, the National Advisory Committee for Aeronautics (NACA) was absorbed by the National Aeronautics and Space Administration (NASA). NASA acquired the naval facilities as part of their initial planned expansion. The Navy returned to WFF Wallops Island in the early 1980s to start construction and development of the Surface Combat Systems Center. Today the joint partnership of NASA, NOAA (National Oceanic and Atmospheric Administration) , and the USCG (United States Coast Guard) and Navy, has developed capabilities at the WFF that will extend far into the future to make the WFF a leading competitor in state of the art technologies." (Military.com;* recte: Naval Auxiliary Air Station Chincoteague, since the Air Station was always an auxiliary of Naval Air Station Norfolk*)*

The Navy defines encroachment as "...primarily any non-Navy action planned or executed that inhibits, curtails or possesses the potential to impede the performance of Navy activities. Additionally, the lack of action by the Navy to work with local communities and to monitor development plans, or to adequately manage our facilities and real property can also impact the Navy's ability to meet its mission requirements and result in encroachment." (Chief of Naval Operations (OPNAVINST 11010.40 - 2007)).



0 5 10 Miles

Legend

- State Boundary
- County Boundary
- Accomack County Boundary
- Wallops Flight Facility Installation Areas
- Naval Air Station Patuxent River Areas

Figure 1-1
Locality Map,
Joint Land Use Study,
Accomack County, Virginia

SOURCE: ESRI 2010, 2012; WorldView Solutions Inc 2007.

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The Navy's 2010 internal encroachment study recommended that a JLUS be undertaken to further explore existing and future land use compatibility issues associated with Navy missions at the WFF. The Department of Defense (DOD) Office of Economic Adjustment (OEA) provided funding assistance for this JLUS initiative to engage NASA, the Navy and Accomack County in ongoing collaborative efforts to preserve the mission capabilities of SCSC in its current strategic location as a primary tenant on the NASA-owned and operated facility. NASA, Navy, and other DOD and Federal agencies onboard or operating from WFF are valuable assets to Accomack County, just as there is great value in the location and facilities of WFF for the federal agencies. The partnership between NASA and the Navy has a particularly long history, and it is the desire of NASA, the Navy, and Accomack County to continue and preserve this arrangement.

The Navy's internal encroachment study also noted the lack of an Air Installation Compatible Use Zone (AICUZ) analysis for the Navy's use of the WFF Main Base airfield as another reason for conducting a JLUS. The AICUZ program is a planning tool developed and used by the DOD air installations to assist in compatible development analysis with respect to potential impacts from noise and accident potential. Whereas typical JLUS initiatives involve military installations and their surrounding communities, this JLUS is unique as SCSC and other DOD organizations that operate at WFF are tenants on a NASA (a non-DOD entity) facility. While the AICUZ Program is not formally applicable to other federal agencies such as NASA and consequently Wallops Flight Facility, its applicable APZ layout and noise zones were among several factors considered for this study, since the majority of current flight operations at WFF are DOD.

1.3 WHAT ARE THE GOALS OF THIS JLUS?

This JLUS is a collaborative effort between local government officials, the community, NASA, the Navy, and other WFF officials to identify and analyze existing and potential land use conflicts between community development and WFF operations. The resulting document, the Final JLUS Report, does not establish policy; rather it serves as a planning tool for Accomack County to inform future policy-making decisions. It also provides strategies to mitigate identified conflicts and recommends alternative solutions that accomplish the following primary goals:

- Protect the health, safety, and welfare of Accomack County residents living or working in potentially impacted areas surrounding the facility.
- Sustain the economic vitality of the Accomack County community.
- Promote a cooperative land use planning process where Accomack County collaborates with NASA, Navy and other DOD and Federal agencies onboard or operating from WFF to safeguard their mission capabilities, and in doing so, retain their critical economic value to the County.
- Ensure engagement of local private property owners in the land use planning process.

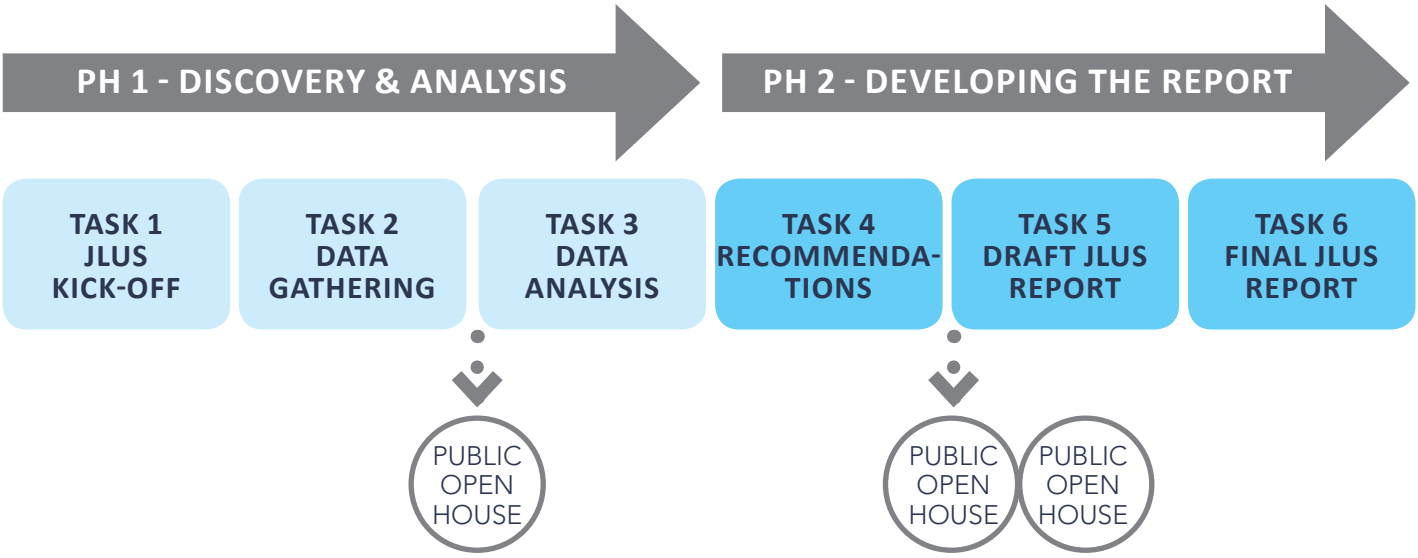


Figure. 1.2 - JLUS Development Process

1.4 METHODOLOGY: HOW IS THIS JLUS BEING CONDUCTED AND WHO IS INVOLVED?

1.4.1 Process for this JLUS Initiative

The process for developing the Accomack County JLUS was designed with two primary phases that incorporated six basic tasks, as follows (see Figure 1.2):

- Phase 1 began with establishing a work plan (including a public participation plan) and objectives that were presented and discussed in a JLUS Kick-off Meeting (Task 1). The effort then proceeded to the gathering and organizing of all pertinent data (Task 2), and concluded with the identifying and analyzing the most significant challenges to compatible land use between the county and WFF.

- Data gathering involved research, field investigation, stakeholder interviews and working meetings with pertinent county, Navy, NASA, other WFF officials, and officials from various agencies with a vested interest in the outcome of the JLUS.

- With the findings and conclusions of the first phase approved, Phase 2 began with developing critical recommendations for promoting compatible land use between the county and WFF (Task 4). Once consensus was achieved regarding the viability and usefulness of these recommendations, the complete Draft JLUS Report was prepared, presented, reviewed and refined as a Final JLUS Report document for publication and consideration by the Accomack County Board of Supervisors.

1.4.2 Stakeholders

To promote a successful outcome, this JLUS initiative brought together a wide range of participants. The following is a list of stakeholders that participated in the JLUS process, though not all-inclusive:

- Elected officials, representatives, and staff for Accomack County and the Town of Chincoteague

- The Navy and other DOD officials (including OEA representatives) and military installation personnel

- NASA WFF officials

- Local, regional, and state planning regulatory agencies, as well as land and water management agencies

- Organizations concerned with the natural environment (e.g., United States Fish and Wildlife Service (USFWS)

- Non-governmental organizations (e.g., Eastern Shore Defense Alliance)

- Other special interest groups

- Public landowners and other interested persons in the community

1.4.3 Guiding Committees – Roles and Responsibilities

- *Policy Steering Committee*

The Policy Steering Committee (PSC) was established to provide direction for the development of this JLUS. The PSC provided guidance on the development of the JLUS through periodic reviews of research materials, findings and recommendations generated by the project Technical Advisory Committee (TAC) and the consultant team. The PSC provided final direction and approval of policy recommendations, draft and final written reports, and implementation monitoring of adopted policies.

Local representation on the PSC included members of the Accomack County Board of Supervisors, the County Administrator, the Town of Chincoteague's Mayor and Town Manager, and Chair of the Accomack County Planning Commission. Representation from the Navy and SCSC included The Commanding Officer and Executive Officer. WFF was represented by the Assistant Director of Management Operations.

- *Technical Advisory Committee*

The TAC consisted of local subject matter experts in installation planning and operations, local planners, community staff, local business and professional representatives, town and neighborhood representatives, and others. The TAC was established to:

Report to the PSC and assist in identifying the technical issues involved in development of the JLUS

Provide the technical expertise within their professional area of interest as it related to development of the JLUS

Formulate draft policy recommendations, alternatives, and strategies

Local representation on the TAC included: Town of Chincoteague Director of Planning, Accomack County Planning Commission members and Director of Planning and Community Development, SCSC Facilities Engineer and Special Projects Manager, NASA Environmental Planning Lead, US Navy Mid-Atlantic Regional Community Plans & Liaison Officer, Joint Expeditionary Base (JEB) Little Creek-Fort Story Community Plans & Liaison Officer, Director of The Nature Conservancy's (TNC) Virginia Coast Reserve (VCR), USFWS representatives, OEA Military Liaison, and OEA JLUS Project Manager.

1.4.4 Public Participation Plan

The Public Participation Plan for the Accomack County JLUS involved a pursuit of public involvement throughout the JLUS development process. In order to optimize public participation, the following measures were implemented:

- *Informational Brochure*

An Informational Brochure was published and made available to the public early in the JLUS development process and later revised. The brochure provided information on the nature, need, goals, and expected outcomes of the study. Copies were made available at the Department of Planning and Community Development offices, the County Administrative offices, the Eastern Shore Public Library, and at private businesses throughout the County whose owners were amenable to distributing the brochures. Additionally a copy of the Informational Brochure is available on the JLUS Website (www.accomackcojlus.com).

- *Press Releases*

Press releases were used to announce public meetings, introduce the JLUS initiative and the nature and purpose of the meetings and identify where further information about the JLUS could be obtained.

- *Stakeholder Interviews*

Interviews were initially conducted first with internal stakeholders (public and government officials) and were later conducted with external stakeholders. A list of these

stakeholders is included in Appendix E. These interviews represented outreach for engaging a broad a spectrum of parties with vested interests during the JLUS development process.

- *JLUS Website*

A website was established for the purpose of presenting information and providing an email forum for receiving public comments and questions regarding the study. The website was regularly updated to enable reporting of current project data and progress, points of contact for various issues and announcements of scheduled meetings that were open to public attendance. All information was reviewed and approved by the TAC prior to incorporation.

Following the completion of the Final JLUS Report, the JLUS website will continue to be employed for communicating updated status and news regarding JLUS implementation initiatives. At the conclusion of the project, the website will be transferred to the County's web server, with links to it from both the Accomack County home page and the Planning and Community Development's web page. The County will then be responsible for maintaining the website and its content as the study's recommendations and implementation move forward.

- *Public Information Meetings*

A total of three public information meetings were conducted to provide current information regarding the study and to receive feedback from the public. The proceedings and public comments were documented for project team review and response. The three meetings took place as follows:

Public Information Meeting #1 (June 27, 2013): At the inventory phase - allowed public review and input on the mapping and project data collected, and introduced the purpose, need and goals for the study.

Public Information Meeting #2 (January 27, 2015): At the draft recommendations phase - allowed public review and input on preliminary JLUS recommendations.

Public Information Meeting #3 (February 2, 2015): At the draft JLUS report phase - allowed public to offer comments on the Draft JLUS Report.

- *Findings And Recommendations Brochure*

A Findings and Recommendations Brochure was prepared and published in conjunction with the second and third Public Open Houses following TAC, PSC and Navy Public Affairs Officer approval. This brochure was made available to the public to encourage widespread and well-informed participation in finalizing the study and moving forward with implementation of the recommendations after the completion of the study.

The final version of the brochure, produced following review and comment on the Draft JLUS Report, essentially represents, in brevity, the executive summary of the JLUS Report.

1.4.5 Principles/Guidelines

In seeking to both promote the missions of SCSC and the other organizations and protect the county's well-being, this Accomack County JLUS was developed with guiding principles in mind:

- Communications must be clear and broad based, ensuring an open forum approach to gaining an understanding of the issues and how they impact the SCSC and other WFF missions and the well-being of the community. This requires a proactive pursuit of broad-based public awareness, education and participation in discussions from the Navy, WFF and community points of view.

- The effort must be collaborative. For the JLUS effort to be successful, a cooperative working relationship must be cultivated. This relationship forms the basis for a collaborative planning effort between the stakeholders, including county officials, NASA, the Navy, other WFF officials, various organizations, and private residents. This requires a proactive public outreach program.

- JLUS recommendations must be implementable, providing an array of mutually supported strategies and actions that local jurisdictions, agencies, NASA, the Navy, and other WFF officials can effectively use to for executing JLUS-developed recommendations in support of compatible land use planning.

Chapter 2 presents profiles of Accomack County, the Navy, other WFF tenants and partner organizations hosted by NASA, which owns and operates WFF.

First, the notable characteristics of Accomack County are discussed including natural environment, demographics, economics (including WFF impact on the local economy), zoning and subdivision ordinance, land use, and infrastructure. Then follows a description of the missions and operations of the Navy, NASA, and other WFF tenant and partner organizations, including identification of "operational footprint," where land use conflicts exist (or potentially exist) between the county and the mission operations.

The chapter concludes by describing the existing conditions of the particular portions of Accomack County that are located within the WFF operational footprint, setting the stage for discussion of compatibility issues.

2.1 ACCOMACK COUNTY PROFILE

2.1.1 General Description

Accomack County is one of two counties comprising the Eastern Shore of the Commonwealth of Virginia. The two counties comprise a 70-mile-long peninsula (part of the Delmarva Peninsula) and are separated from the rest of the Commonwealth of Virginia by the Chesapeake Bay. Geographically, Accomack County is the largest county in Virginia, covering a total area of 1,310 square miles. Established in the Virginia colony in 1634, Accomack County's name comes from a Native American word meaning "the other shore." The name was changed to Northampton in 1642 and divided into two counties in 1663. The northern county acquired the name Accomack, and the southern county retained the name Northampton.

The county's vast shoreline on both the Atlantic Ocean and Chesapeake Bay provide one of the world's largest unspoiled wetlands habitats. As such, Accomack County attracts many visitors for recreational activities, such as boating, swimming, and fishing. Among its quaint small towns, Accomac and Onancock have been designated State Historic Districts for their restored colonial architecture, and the town of Chincoteague has become a popular East Coast tourist destination for its beach, marine, and nature activities.

2.1.2 Natural Environment

Accomack County's natural resources are an integral part of its local economy and physical character. The county's natural heritage, including its diverse habitats and wildlife species, provides opportunities for fishing, hunting, and nature watching. Tourism is essential to the quality of life of county residents. The county's barrier islands and coastal marshes, together with the neighboring Northampton

County coastline, make up one of the longest undeveloped stretches of the U.S.'s Atlantic coast (Virginia Institute of Marine Science [VIMS 2014]). The county's barrier islands are part of the larger Atlantic coast barrier island network that provides important breeding habitat for shorebirds, seabirds, wading birds, waterfowl, and raptors and critical stopover sites for thousands of migrating shorebirds. Inland, the county's natural areas include an extensive network of forest lands and upland fields, wetlands, and streams. The county's working forests and agricultural fields also provide wildlife habitat and open spaces that reflect the county's agrarian roots.

To manage and preserve the region's natural resource systems, the county has been working in partnership with the USFWS, NPS, state agencies (such as Virginia Department of Game and Inland Fisheries [VADGIF] and Virginia Department of Conservation and Recreation [VADCR]), non-governmental organizations (such as The Nature Conservancy [TNC] and the Virginia Eastern Shore Land Trust), and local landowners. These agencies manage their land holdings (see Figure 2.1) according to their mission statements listed on page 8.

AGENCY MISSIONS

- *U.S. Fish and Wildlife Service. The USFWS manages the national wildlife refuge system, of which a number of refuges are located within Accomack County. Of significance to this study due to its location and size is the Chincoteague National Wildlife Refuge (NWR), which includes more than 14,000 acres primarily on the Virginia side of Assateague Island (USFWS n.d.). The NWR is a designated Globally Important Bird Area and is known as one of the National Audubon Society's top ten birding "hotspots". In addition to providing important habitat for migratory and shore birds, the NWR is home to threatened and endangered species such as the Delmarva Peninsula fox squirrel and piping plover as well as the Chincoteague ponies. The Chincoteague NWR is "one of the most visited refuges in the nation, with approximately 1.4 million visits a year" (USFWS n.d.).*

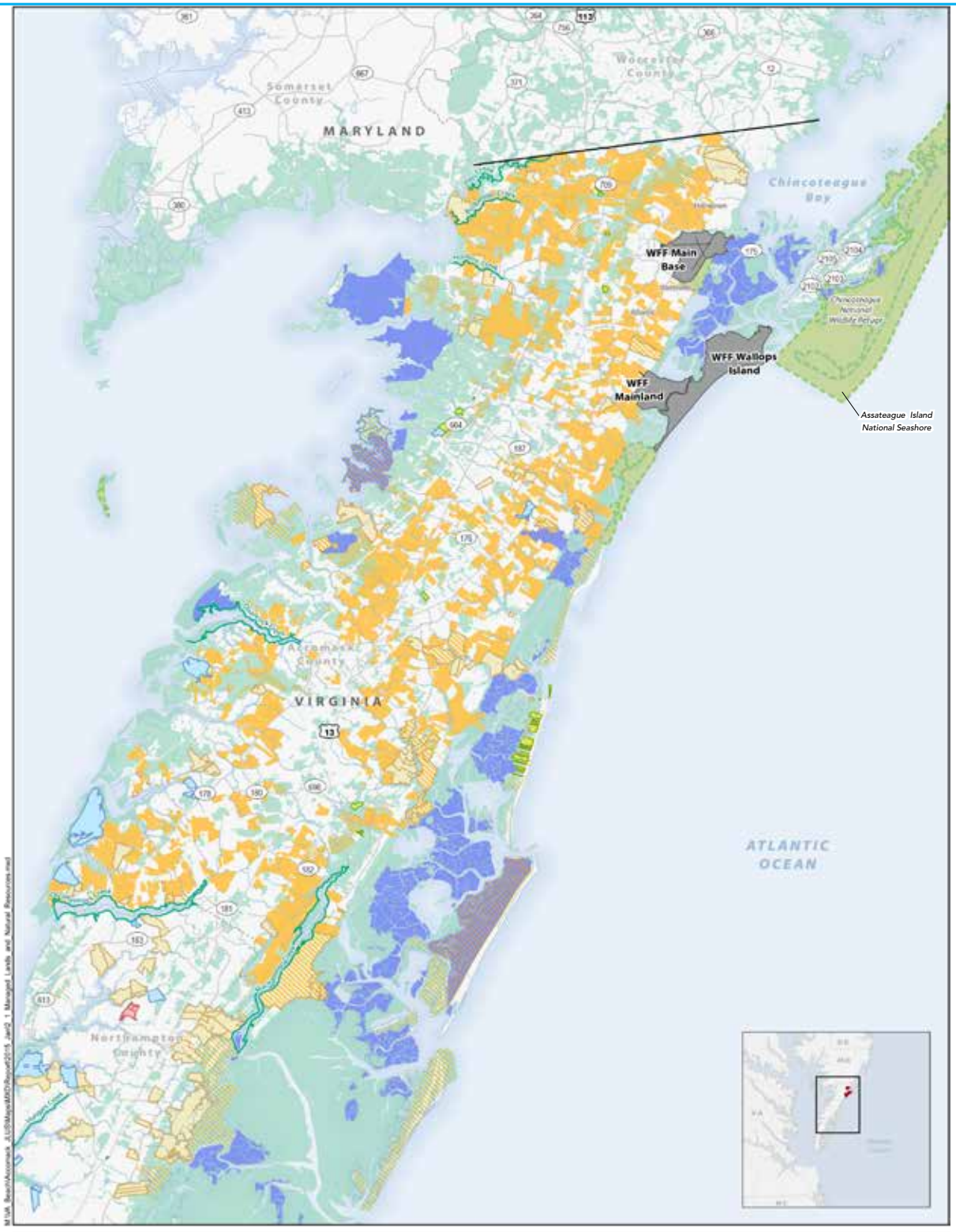
- *National Park Service. The NPS partners with the USFWS to administer the Assateague Island National Seashore in Virginia and Maryland, which stretches along five miles of Assateague Island beaches (USFWS n.d.). The Virginia district of the national seashore is open to visitors year round. The NPS is in the process of preparing a new general management plan for the Assateague Island National Seashore; this includes developing multiple alternative management plans for the national seashore and comparing these in an environmental impact statement, which is now under development. The NPS has stated that climate change will be a major factor in the agency's long-term management of the national seashore. The NPS is relocating infrastructure such as parking lots and other visitor facilities inland to avoid damage from coastal storms and sea level rise and is developing larger management strategies to address climate change as part of the general management plan process (NPS 2010; NPS n.d.; NPS 2014).*

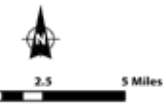
- *Virginia Department of Game and Inland Fisheries. The VADGIF is responsible for managing the state's inland fisheries and wildlife populations, and to provide for recreational boating, hunting, and fishing opportunities. VADGIF manages natural areas within Accomack County, such as the Saxis Wildlife Management Area, predominantly a tidal marshland, which is available for hunting, wildlife viewing, hiking, and camping activities.*

- *Virginia Department of Conservation and Recreation. The VADCR manages, protects, and provides access to state parks and natural area preserves, including scenic rivers, byways, and greenways. In addition, VADCR protects and manages the state's water and soil resources through programs for erosion and sediment control and stormwater management. The agency works with local governments to ensure zoning ordinances, regulations, and comprehensive plans comply with the Chesapeake Bay Preservation Act.*

- *The Nature Conservancy. TNC is a global non-governmental environmental organization. TNC works through chapters at the state level to achieve conservation of land and water through the help of partners, including individuals, governments, local nonprofits, and corporations. TNC's Virginia Coast Reserve protects fourteen undeveloped barrier islands that help buffer Virginia Eastern Shore communities from recurrent flooding and storm activity. This project, begun in 1969, includes fourteen barrier islands and associated salt marshes, tidal mudflats, and shallow bays that comprise the longest expanse of coastal wilderness remaining on the east coast important for migrating and nesting shorebirds and seabirds. Within Accomack County, the islands of the VCR include Parramore, Revels, Sandy, Metompkin, Cedar, and Dawson Shoals. The VCR project has also worked to create living shorelines within the Mid-Atlantic seascape which includes establishing oyster reefs and sanctuaries, planting eelgrass, and reintroducing juvenile scallops to the region.*

- *Virginia Eastern Shore Land Trust (VES Land Trust). The VES Land Trust, founded in 2003, is a community-based, non-profit organization that promotes voluntary land protection to preserve prime farm and forest land, scenic byways, historic resources, and traditional land development patterns within Accomack County. Land protection can be achieved through conservation easements and other land protection tools in working with landowners, their families, public agencies, and local communities. As of 2013, the VES Land Trust has preserved 13,400 acres within Accomack County, and neighboring Northampton County (VES Land Trust n.d.).*





SOURCE: Accomack County (received) 2014; ESRI 2010, 2012; The Nature Conservancy (received) 2014; The Nature Conservancy of Virginia 2003; USFWS 2010;VA-DCR 2014; VA-DCR-DSWC 2012; Worldview Solutions Inc 2007.

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Figure 2.1
Existing Natural Resources and Managed Lands, Joint Land Use Study,
Accomack County, Virginia

The Chincoteague NWR has a comprehensive conservation plan currently under development. This plan is intended to provide long-range guidance and management direction (over a 15-year planning horizon) and will evaluate three alternative strategies for managing wildlife, recreational uses, and other activities on the refuge (USFWS 2014).

Natural resources, in addition to providing goods and services that contribute to the local economy and culture, affect how land can be developed or used for human activities. For example, coastal lands may be flooded during storms or high tides or eroded by waves, which can damage buildings and infrastructure along the coastline; certain soil types may be suitable for supporting agriculture or buildings, or may not, depending on their drainage and other characteristics; and the quality and quantity of water available for human use may determine what types of industrial uses can be locally supported or how fast a community expands. Accomack County's 2008 Comprehensive Plan provides an in-depth discussion of the County's natural resources and how these have shaped, and will continue to shape, the physical development of the county.

2.1.3 Demographics

According to the United States Census Bureau (Census 2010), Accomack County's predominantly rural population was estimated to be 33,164 residents in 2010. This population included 15,299 households, a median annual household income of $41,372, and a median age of 44.7 years. The overall population density in 2010 was 73 people per square mile. The Weldon Cooper Center for Public Service (WCC) at the University of Virginia estimates the July, 2014 population of Accomack County at 33,870 residents in its Population Estimates released in January, 2015.

As a primarily rural area, the county's population substantially increases during the summer months with the influx of tourists. As an example, the town of Chincoteague's permanent population is estimated as 2,941 residents; however, during the summer tourist season, the town's population expands to over 15,000 with the addition of seasonal residents and visitors (Chincoteague 2010).

Overall, the county's permanent population is expected to experience marginal growth through 2040. Future population projections for the Commonwealth of Virginia were released in October, 2012 by the WCC. Table 2-1 shows those projections for Accomack County.

The 2030 projection released by the WCC reflects a less significant growth rate than is projected in the 2008 Accomack County Comprehensive Plan (46,500). Another notable demographic feature presented in the WCC was that of an aging population in Accomack County, as the projected number of residents age 55 and over is increasing (WCC 2012; Accomack County 2008).

2.1.4 Economics

Historically, Accomack County's economy has been primarily based on agriculture, seafood production, manufacturing (such as the Perdue and Tyson poultry processing plants), services, and public administration.

The WFF has also significantly contributed to the local economy over the years, providing a stabilizing effect on the economies of both Accomack County and the region. As one of only three commercial launch facilities in the United States, the WFF is expected to continue to grow its mission, technological influence, and economic impact on the county and region.

The Town of Chincoteague continues to promote tourism, which is the town's primary economic engine. Additionally, Chincoteague is committed to development and redevelopment in support of the tourism industry.

Table 2.1 Population Growth Projections

2010 CENSUS	2020 WCC PROJECTION	2030 WCC PROJECTION	2040 WCC PROJECTION
33,164	33,432	33,568	33,661

Source: US Census Bureau - Census 2010 / Weldon Cooper Center

A comprehensive discussion of overall Eastern Shore economic development, including Accomack County, can be found in the Eastern Shore of Virginia Comprehensive Economic Development Strategy (CEDS) adopted in 2012 by the Accomack-Northampton Planning District Commission's (A-NPDC) Economic Development Committee. The CEDS identified seven industry clusters on the Eastern Shore:

- Agriculture/Food Processing
- Aerospace
- Tourism
- Seafood/Aquaculture
- Education/Research
- Studio Businesses
- Retiree Services

Representative of these clusters are the employment figures shown by sectors listed in Table 2.2.

To better understand WFF's economic impact on Accomack County, an Economic Value Study was conducted by the Business, Economic, and Community Outreach Network (BEACON) at Salisbury University in 2011. The study pointed to three primary sources of annual economic impact: WFF business operations, consumer spending generated by the WFF employees, and tourism generated by WFF. According to the study, the overall estimated economic impact of WFF operations and activities on Accomack County alone was valued at $78.8 million. This is in addition to impacts on Northampton County and the southern-most counties of Maryland. Approximately 1,206 jobs were estimated to be supported by WFF. This includes direct employment as well as jobs indirectly resulting from WFF activities, whether full-time, part-time, or temporary (BEACON 2011).

It is anticipated that the WFF operations and activities will only grow in the future, further benefiting the economies of Accomack County and surrounding counties. An example of WFF growth and local support is reflected in the following excerpt from the Eastern Shore's economic development strategy: "Support NASA's efforts to provide an adequately-sized Unmanned Aerial Systems (UAS) airstrip on north Wallops Island that would be capable of supporting the testing and deployment of existing and future UAS and UAS-based scientific instruments at the Wallops Flight Facility" (Accomack-Northampton Planning District Commission 2012)

Table 2.2 Accomack County Employment Figures

EMPLOYMENT FIGURES BY SECTOR	
Manufacturing	29%
Healthcare & Social Assistance	17%
Retail Trade	15%
Accommodations & Food Services	11%
Professional, Scientific & Technical Services	6%
Construction	6%
Other Services	4%
Finance & Insurance	3%
Administrative Support & Waste Management	3%
Wholesale Trade	2%
Forestry, Fishing, & Hunting	<1%
Other	5%

Source: CEDS

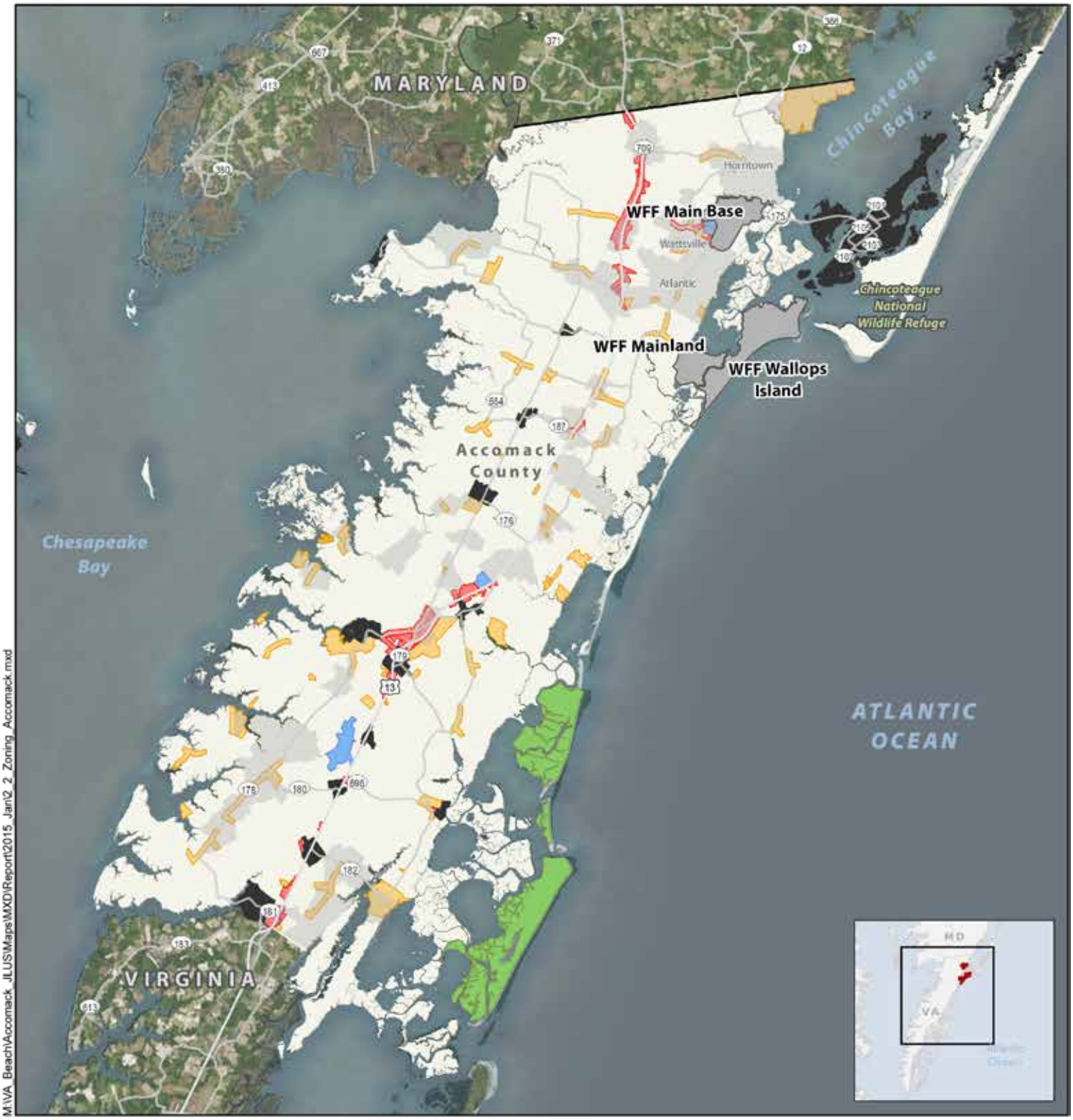
2.1.5 Zoning and Subdivision Ordinance

The Accomack County zoning ordinance provides regulated districts for which the County has identified types of land use that are permitted by-right or those that require approval from the County.

Accomack County consists of 14 incorporated towns and unincorporated county land. Zoning categories within the unincorporated areas include Agricultural, Residential, General Business, and Industrial (see Figure 2.2). As the map indicates, Accomack County's predominant zoning category is Agricultural, with smaller clusters of Residential and linear zones of General Business located along transportation routes.

The primary zoning categories are broad and allow a variety of uses permitted by-right. For example, the agricultural district allows low density residential development, while both the agricultural and residential districts allow recreational, religious and educational facilities.

There are several sub-districts including Village Residential, a transitional zoning district between towns and villages and surrounding agricultural land, and Limited Business, a less intensive commercial zoning for adjacencies



Legend

State Boundary	Accomack County Zoning
Major Road	Barrier Island
Wallops Flight Facility Area	Agricultural
Incorporated Place	Residential
Incorporated Town	General Business
	Industrial

Figure 2.2
Accomack County Zoning
Joint Land Use Study
Accomack County, Virginia

SOURCE: Accomack County (received) 2014; ESRI 2010, 2012; WorldView Solutions Inc 2007.

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to residential areas. The Planned Unit Development zoning category provides for variety and flexibility in design and the efficiencies of unified development.

2.1.6 Land Use

- *Land Use - Existing*

Accomack County contains 455 square miles of land, or 291,200 acres, primarily comprised of farmland, forests, and marshland, and interspersed with towns, villages, and hamlets. Incorporated towns and census designated places account for 10,944 acres in Accomack County, the largest of which is the town of Chincoteague.

Agriculture and forestry are the dominant land uses in Accomack County and make up 35% and 39%, respectively, of the total land area (see Figure 2.3). Over the last few decades, the amount of land in crop production has remained stable. Forestry land use increased by one-third in the decade between 1991 and 2001. Approximately 13%, or 40,000 acres, of county land is under conservation ownership and 11,002 acres in conservation easement (*Accomack County 2008*).

Residential land use is primarily concentrated in and around population centers where public facilities and services are provided. However, there is an emerging trend towards more dispersed residential land use and lot creation away from towns, villages, and hamlets (Accomack County 2008). Residential land use makes up almost 6%, or 17,669 acres, of total land area in Accomack County. The county experienced a significant increase in subdivision applications prior to the 2008 economic downturn. During the four-year period from 1997 through 2000, 200 lots were recorded within 22 subdivisions, compared to an almost three-year period between January 2005 and August 2007 in which 2,174 lots were recorded within 63 subdivisions. There are 21,017 housing units located in Accomack County, according to the 2010 census, and detached single-unit homes are the predominant housing type (13,728). Mobile home or trailer units (4,512) comprise 21.5% of the housing units, and multi-unit homes account for only 3.4%. The population per household has remained steady at 2.27 residents per occupied dwelling according to the United States Census Bureau (*Census 2010*).

Industrial land use makes up only 1.0% of total land area in Accomack County, while Commercial land use accounts for only 0.2%. Growth in commercial development remains slow, but steady. Commercial and industrial land uses are primarily sited adjacent to Route 13, the Eastern Shore's primary transportation corridor.

- *Land Use - Future*

Future land uses are brought about by both state and local land use policies implemented through the Accomack County's Comprehensive Plan, zoning and subdivision ordinances, and by the actions of landowners and developers. Looking forward, the key challenge for Accomack County is supporting economic growth while preserving the rural small town character and pristine natural resources.

The primary constraints on where development takes place include flood hazard, shoreline erosion, soil

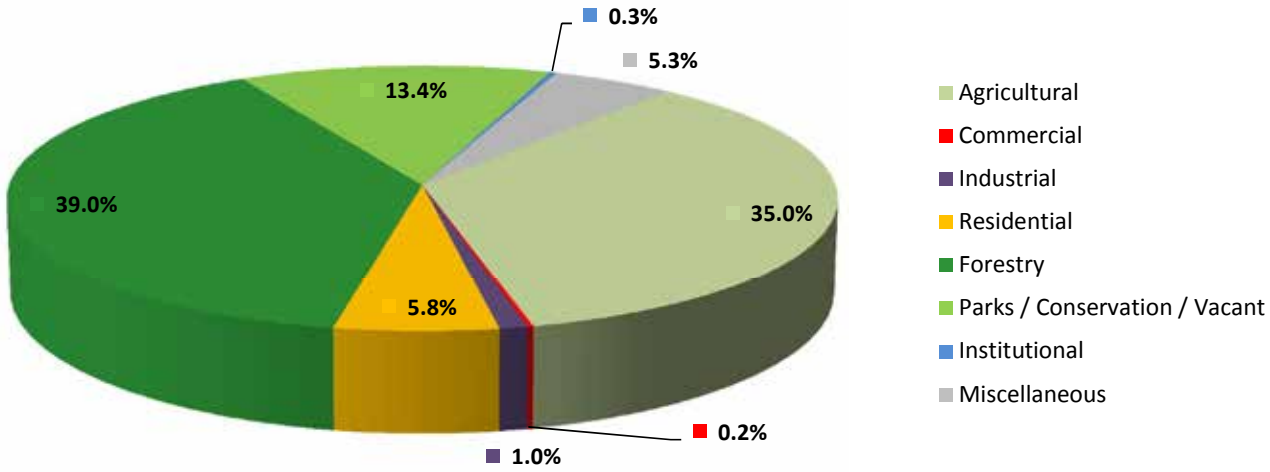

Figure 2.3 - Accomack County Existing Land Use (Accomack 2008)

Sources: Accomack County Comprehensive Plan - Land Use on pg 3-8 references Accomack Northampton Planning District Commission 1989, Satellite Land Use Imagery 1996)

SOURCE: Accomack County 2012, (received) 2014, 2014; ESRI 2010, 2012; WorldView Solutions Inc 2007.

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Figure 2.4
Comprehensive Plan Future Land Use, Joint Land Use Study
Accomack County, Virginia

suitability for structures, and water quality, as discussed in Section 2.1.2. In response to these challenges and constraints, Accomack County's Future Land Use Plan (see Figure 2.4) encourages more compact development around populated centers, and locates 75% of new residential growth in town and village areas. The "Village Development Areas" in the Future Land Use Plan allow a mix of residential and commercial uses in keeping with traditional small town development, with an average housing density of 0.5 to 1 dwelling unit per acre (Du/Ac) (Accomack County 2008).

Long-range growth and land development strategies for the county include focusing growth near existing infrastructure systems that will support future development. Generally, these utility infrastructure systems exist in previously developed areas. This strategy would not only be logistically sound, but would also foster the well-being of established business in those areas. Significant economic development in Accomack County outside of the primary Route 13 corridor and established town and village areas would most likely be a result of the growth in the aerospace industry at the WFF.

It is the County's long-term goal to prohibit new development in conservation areas, and to minimize new non-farm development in agricultural areas by use of zoning regulations, agricultural and forestal districts, cluster and conservation development, and conservation easements.

- *Enterprise Zones*

The Commonwealth of Virginia has designated parts of Accomack and Northampton counties as "enterprise zone." The Commonwealth provides tax incentives to encourage development in enterprise zones, which are economically distressed areas for which local governments apply for the enterprise zone designation. Accomack and Northampton counties' joint enterprise zone designation expired on December 31, 2014 (Virginia Department of Housing and Community Development 2014), but has been replaced and revised for 10 years beginning January 1, 2015 in order to continue the tax incentives program.

Three distinct areas located within the enterprise zone include the Accomack Main Enterprise Zone area, Wachapreague-Quinby Enterprise Zone area, and Chincoteague Enterprise Zone area. Part of the Accomack Main Enterprise Zone is located southwest of the WFF Main Base, surrounding the community of Wattsville and extending along Chincoteague Road (Route 175) (see Figure 2.4). Development of the enterprise zone, which includes the planned Wallops Research Park, will allow Accomack County to capitalize on the economic opportunities provided by NASA's programs as well as growth in commercial space programs at the WFF and Mid-Atlantic Regional Spaceport (MARS), while also improving services provided to NASA, private businesses, and their employees.

The WFF, MARS, and private development associated with programs at both facilities represent a substantial economic opportunity for Accomack County. The Accomack County Comprehensive Plan notes that "the existing infrastructure at NASA's Wallops Flight Facility provides maximum leverage for any new capital investment which targets [the emerging market for commercial space activity]" (Accomack County 2008). The WFF employs a highly skilled workforce. Providing infrastructure and establishing policies that will sustain and support the growth of the WFF and attract more WFF employees to reside in Accomack County will improve the county's tax base and generate indirect economic benefits through consumer demand and additional job creation.

2.1.7 Infrastructure

- *Transportation – Existing*

Route 13 (Lankford Highway/Charles Lankford, Jr. Memorial Highway) is Accomack County's primary north-south artery and the central transportation system for all Eastern Shore accessibility (see Figure 2.5). This federal highway extends the entire north/south length of the Virginia Eastern Shore and connects Accomack and Northampton counties with the Hampton Roads area of Virginia to the south via the Chesapeake Bay Bridge Tunnel. To the north, the highway connects Accomack County directly with the state of Maryland, with continued access to Delaware. In addition, Route 13 serves as the major intra-peninsula connector, linking the many towns and small communities in Accomack and Northampton counties. Thus, this highway is vital to the Accomack County economy, providing access for tourism and a distribution route for the poultry and seafood industries and county-grown produce. Much of the county's commercial activity is located along this corridor, and 15% of highway traffic consists of commercial truck traffic (Accomack County 2008).

The road network within Accomack County consists of state-maintained highways and roads, and private residential streets that are maintained by property owners. As a result, all public roads constructed within the county must be constructed to Virginia Department of

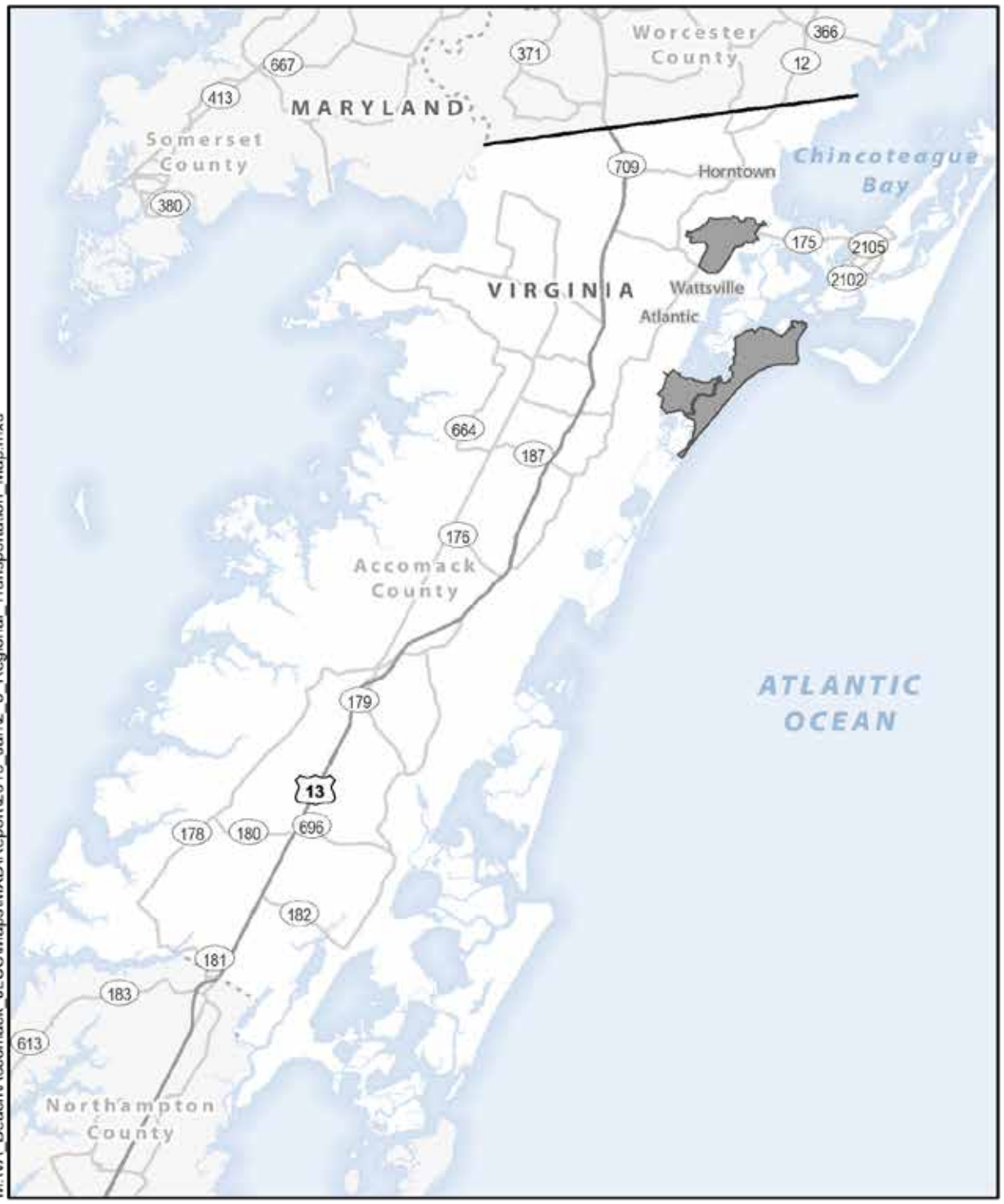

Figure 2.5
Regional Transportation, Joint Land Use Study,
Accomack County, Virginia

SOURCE: ESRI 2010, 2012; WorldView Solutions Inc 2007.

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Transportation (VDOT) standards and then dedicated to the system after completion and inspection. Private roads are allowed within the county and may be constructed to less-than-minimum VDOT standards. Minimum standards for these streets are provided in the Accomack County subdivision ordinance.

- *Transportation – Future*

The 2035 Regional Long-Range Transportation Plan (Accomack-Northampton Planning District Commission 2011), a component of VDOT's VTrans 2035, is focused on the Route 13 Eastern Shore Corridor and presents the following findings:

- The projected levels of service along this sector are acceptable;
- However, safety issues have been identified with multiple high crash locations existing throughout this sector. "Access management issues, multiple driveways, multiple crossovers, and a lack of turn-lanes have been offered by the two counties as possible reasons for high-crash rates along the Eastern Shore."

Strategies proposed by the plan seek to improve safety, mobility, and capacity along the corridor and include better access management, discouragement of all but cluster development directly along Route 13, and a shift from trucks to barges for product distribution.

- *Utilities – Existing Capacities*

Sewer and water for Accomack County residents are primarily provided through private on-site septic and well connections. Since less than half of the soil in the county is suitable for septic system use, large sections of the county are virtually undevelopable without provision of appropriate septic systems to treat wastewater. The County maintains water lines and a tower, as well as sanitary sewer lines and a lift station in the airport industrial park area. The town of Onancock receives and treats the effluent. The County maintains a similar system in the industrial zoned land adjacent to the WFF Main Base, home to the Marine Science Consortium and the future Wallops Research Park. Lines are provided and maintained by the County; however, treatment services are provided at centers on the WFF Main Base.

The towns of Chincoteague, Onancock, Onley, and Parksley have municipal systems to provide potable water to their citizens. Only Onancock and Parksley have sanitary sewerage systems. Private package systems treat several of the larger industries in the county, and the residential community of Captain's Cove, located in the northeastern section of the county, has a private waste package plant operated by Hearne & Berkley Associates of Baltimore, Maryland.

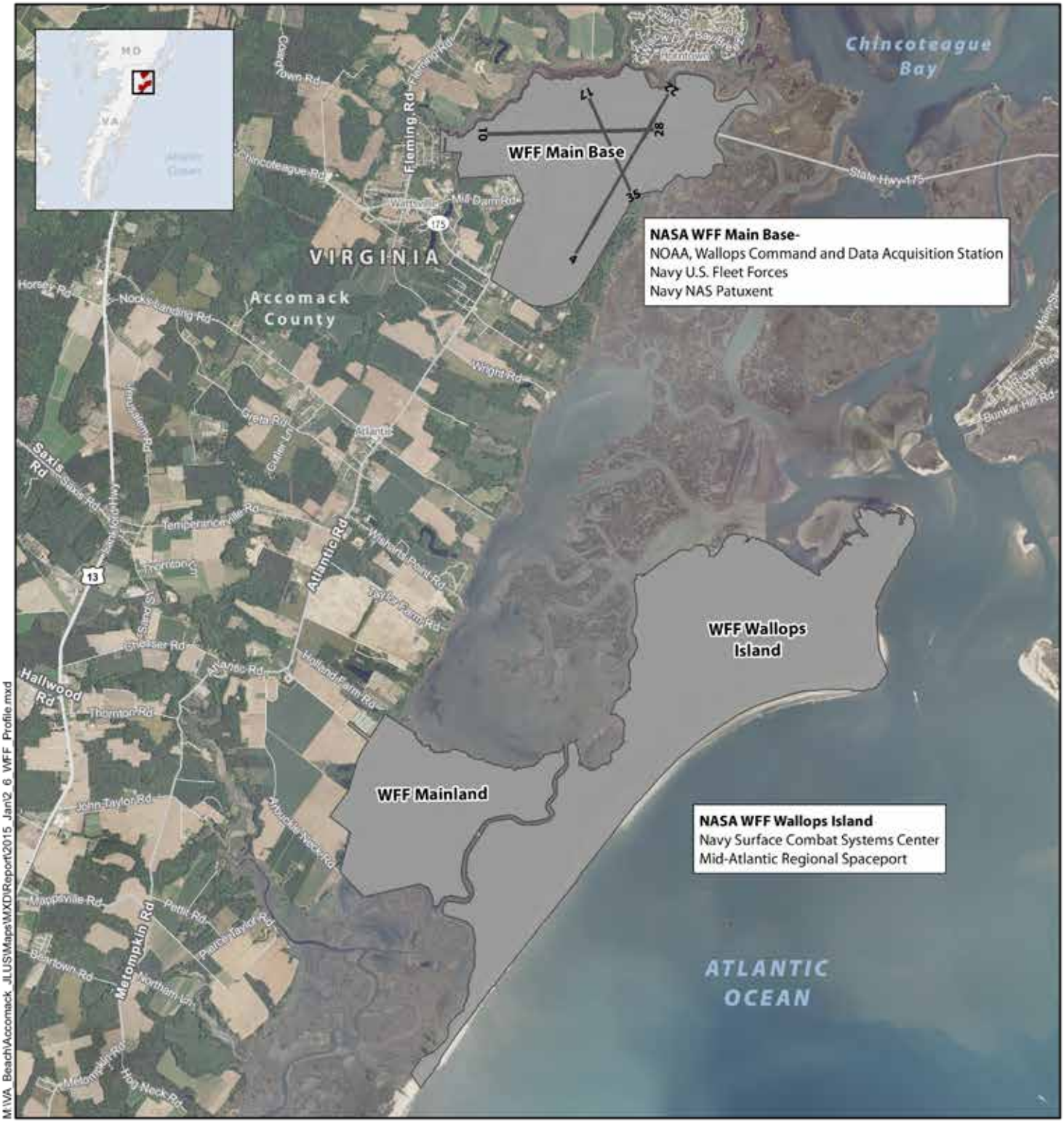
Electric power is distributed throughout the county by A & N Electric Cooperative (ANEC). ANEC purchases its power from Delmarva Power and distributes the energy throughout Accomack and Northampton counties.

- *Utilities – Planned Improvements*

Since Accomack County Public Works has limited utility services, planned improvements are limited to the industrial development areas that are currently capable of accommodating anticipated users. The town of Chincoteague has conducted multiple engineering studies to explore the feasibility of a wastewater treatment facility (WWTF).

Telecommunications: In 2008, the Eastern Shore of Virginia Broadband Authority was jointly established by Accomack and Northampton counties for the construction of a fiber optic network on the Eastern Shore from the Bay Bridge Tunnel along Route 13 to the southernmost area of Maryland. The network 'backbone' has been completed with grants from the Commonwealth of Virginia and the federal government. Connections to the backbone for internet and cellular telephone service are being pursued by Accomack County and the county's incorporated towns.

Natural Gas: An extension of an underground natural gas pipeline from the Maryland state line into Accomack County, as far south as the Town of Accomac, is under consideration. The proposed underground pipeline would be buried within the existing rights-of-way along Route 13. Pipeline construction is expected to bring additional jobs to the area.



0 0.5 1 2 Miles

Legend

- Major Road
- Local Road
- Wallops Flight Facility Area
- Runway

Figure 2.6
WFF Profile,
Joint Land Use Study,
Accomack County, Virginia

SOURCE: ESRI 2010, 2012; NAIP 2012; WorldView Solutions Inc 2007.

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2.2 SCSC AND OTHER MISSION PROFILES

WFF is one of the oldest active launch ranges in the continental United States and is owned and operated by NASA Goddard Space Flight Center. WFF hosts SCSC, located on WFF Wallops Island, along with the operations of several other tenants and partners. WFF occupies three parcels totaling approximately 6,000 acres including WFF Main Base (approximately 1,900 acres), WFF Wallops Island (approximately 3,000 acres), WFF Wallops Mainland (approximately 100 acres), and approximately 1,000 acres of marshland (see Figure 2.6). This section provides brief mission descriptions for SCSC and the other tenants and partners whose mission operations are supported at WFF. Figure 2.7 and Figure 2.8 show the locations of various tenants at WFF Wallops Island and WFF Main Base, respectively.

2.2.1 Navy Surface Combat Systems Center

SCSC, located at WFF Wallops Island, is a special use area of Joint Expeditionary Base Little Creek – Fort Story located in Virginia Beach, Virginia. SCSC provides facilities that replicate Navy fleet ships for purposes of training and technology validation and is a critical mission support facility to the Naval Sea Systems Command Program Executive Office for Integrated Warfare Systems.

SCSC is unique to the Navy worldwide. There are no other installations that provide the training environment, operational team, and systems/platforms to perform the missions assigned to SCSC. The physical setting at WFF, adjacent to the Virginia Capes Operating Area (VACAPES OPAREA), provides an unobstructed and uninterrupted operational setting to conduct the various engineering, testing and warfare training exercises. This capability could only be replicated with the use of an operational battle group at sea.

The SCSC mission is to provide live and simulated warfare capabilities in a maritime environment and to develop, test, evaluate, and conduct fleet operations and training for the warfighter. SCSC provides live radars and sensors, data links, and multiple Navy combat systems in actual maritime and near-shore environments. SCSC requires direct access to offshore operational areas and clear line of sight for radar and communications with aircraft and ships operating offshore.

Primary tenants and partners at WFF include:

- *Navy Surface Combat Systems Center*
- *National Oceanic and Atmospheric Administration*
- *Mid-Atlantic Regional Spaceport*

Fig. 2.7 Wallops Island Launch Facilities

The three primary SCSC mission support facilities (located on WFF Wallops Island) are the Aegis Engineering and Training Complex, which supports fleet Aegis cruisers and destroyers; the Ship Self-Defense Facility (SSDS), which supports amphibious ships and aircraft carriers; and Wallops Island Engineering Test Center (WIETC), which supports multifunction radar and volume search radar testing for the next generation destroyer and aircraft carrier. The SCSC workforce includes over 400 military, civilian, and contractor personnel (see Figure 2.8).

2.2.2 NASA WFF

Established in 1945, the WFF has a staff of over 1,000 full-time civil service and contractor employees engaged in aeronautical research, science technology, and education. WFF supports research, science technology, and education by providing access to resources such as special use airspace, runways, and launch pads. The WFF provides launch support directly or through MARS, a commercial spaceport located at WFF, and facilitates DOD research and development and training missions.

Flight programs and projects supported by WFF include the following (See Figures 2.7 and 2.8):

- Small sounding rockets
- Unmanned scientific balloons
- Unmanned aerial systems (UAS)
- Manned aircraft
- Test and experimental aircraft
- Orbital tracking
- Next-generation launch vehicle development
- Expendable launch vehicles (ELV)
- Target and missile launches
- Aircraft development
- Small and mid-size orbital launch spacecraft

Operations are program and project-driven and can change from year to year as missions evolve or change.

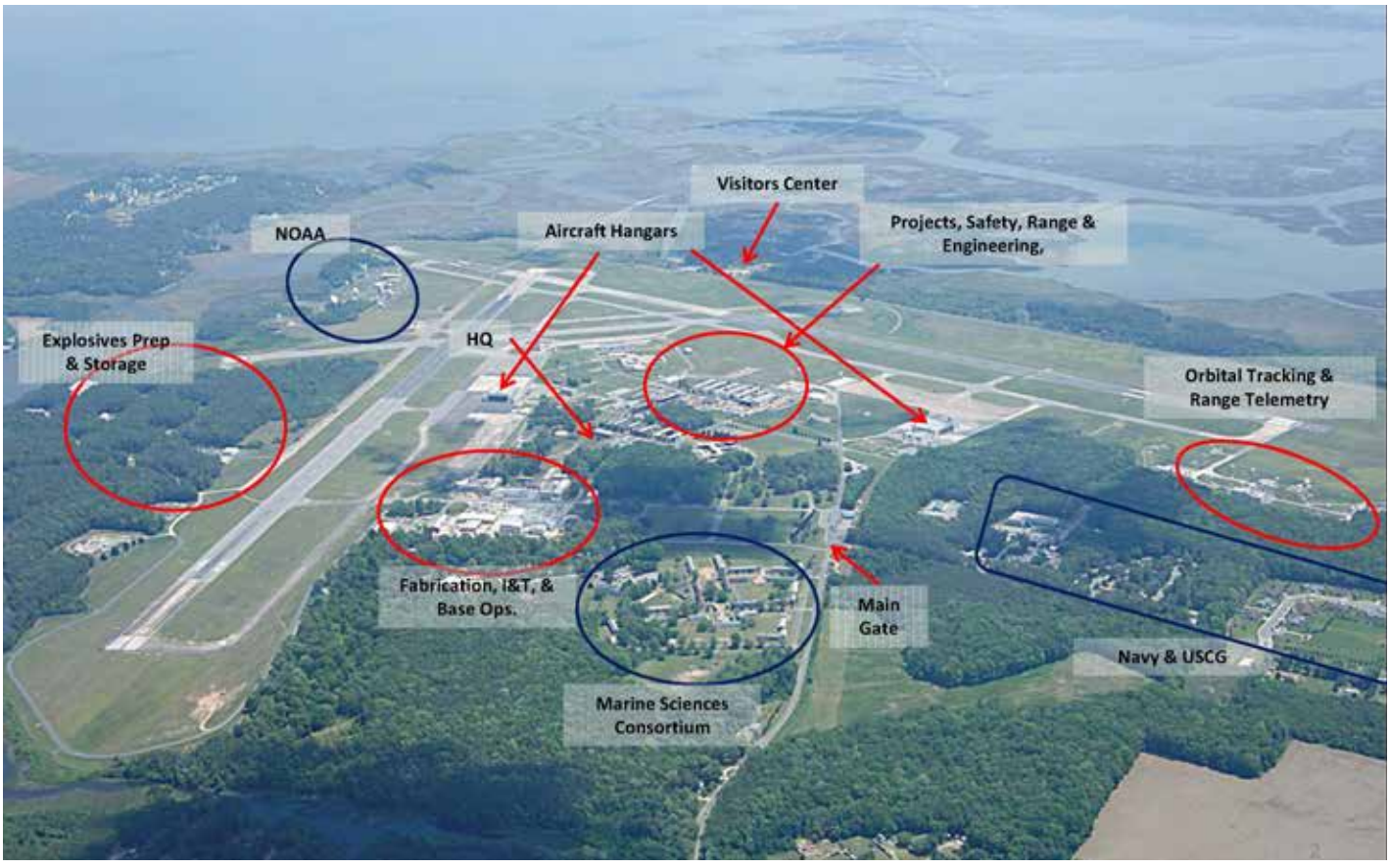


Fig. 2.8 Wallops Main Base Aerial Photograph

2.2.3 National Oceanic and Atmospheric Administration

The National Environmental Satellite, Data, and Information Service (NESDIS), informally known as NOAA Satellite and Information Service, acquires and manages operational environmental satellites, operates NOAA National Data Centers, provides data and information services, and conducts research. The NOAA Satellite and Information Service operates the Wallops Command and Data Acquisition Station located at WFF Main Base. The station is responsible for acquiring, maintaining, and distributing meteorological satellite data through both geostationary (orbiting 23,000 miles above the equator) and polar orbiting operational environmental satellites. Satellite information is used for short-term weather forecasting, severe storm event warning/tracking, continuous monitoring of global weather, climate data, and air quality monitoring. The military relies on NOAA satellite data for accurate weather models, mission planning, and real-time situational awareness. The Wallops Station has 12 receiving antennas, 5 transmitting antennas, and works in conjunction with their sister station located in Fairbanks, Alaska.

2.2.4 Mid-Atlantic Regional Spaceport

The Virginia Commercial Space Flight Authority was created to promote commercial space activity, economic development, and aerospace research within the Commonwealth of Virginia. MARS was established at WFF in 1997 through an agreement with NASA (Reimbursable Space Act Agreement). MARS operates two launch facilities (one mid-class and one small-class) located at WFF Wallops Island and provides access to support facilities to facilitate Federal Aviation Administration (FAA) licensed launches of payloads into space for NASA, DOD, and the commercial space industry. Due to the distinct location and natural setting of WFF on the eastern shore of Virginia, the launch range is able to provide unique launch capabilities not achievable at other ranges.

2.2.5 Virginia Capes Operating Area

The VACAPES OPAREA encompasses a large offshore training area and special use airspace in the mid-Atlantic region of the United States. It is located off the coasts of Delaware, Maryland, Virginia, and North Carolina on the eastern seaboard of the United States, near Norfolk, Virginia, one of the primary homeports for the United States Atlantic Fleet. It includes designated target areas as well as surface, subsurface, and airspace to allow for a full range of activities which include bombing exercises, gunnery exercises, tactical combat training, sonar training, shipboard evaluation, aircraft maneuvers, and research, development, testing and evaluation. The VACAPES OPAREA is a principal location for portions of United States Atlantic Fleet major training exercises and provides training infrastructure and operations originating out of Navy installations located in Delaware, Maryland, Virginia, and North Carolina, and additionally supports training by other installations and services. The WFF is situated to allow for important unencumbered access to the VACAPES OPAREA for the Navy, NASA and other users of the facility (see Figure 2.6).

2.2.6 U.S. Fleet Forces

U.S. Fleet Forces (USFF), based in Norfolk, Virginia, is responsible for operational training and mission readiness for the U.S. Atlantic Fleet. As part of this mission, Navy C-2A Greyhound, E-2C Hawkeye, and E-2D Advanced Hawkeye squadrons operating from Naval Station Norfolk (NSN) Chambers Field conduct Field Carrier Landing Practice (FCLP) at WFF through an agreement between the Navy and NASA's Goddard Space Flight Center. FCLP commenced at WFF in November 2013, and can result in up to 45,000 additional annual flight operations. Including baseline airfield operations for WFF established in 2004, annual airfield operations projected for WFF total 61,000.

2.2.7 Naval Air Station Patuxent River (NAS PAX)

The Naval Air Warfare Center Aircraft Division (NAWCAD), from Patuxent River, Maryland, also maintains facilities and personnel at WFF and regularly utilizes the range for missile launches and aircraft development testing. Aircraft based at NAS PAX use the WFF Main Base in route to the VACAPES OPAREA and as an emergency divert field. Additionally, NAWCAD utilize radar and telemetry data from WFF. NAWCAD Atlantic Targets and Marine Operations Division has historically launched aerial targets from WFF to support fleet training in the VACAPES OPAREA.

2.3 EMERGING MISSIONS

The 2014 Quadrennial Defense Review (QDR) is a legislatively-mandated review of DOD strategies and priorities. The QDR assesses threats and challenges facing the United States and determines strategies, capabilities, and mission requirements for the United States Armed Forces at large. The QDR is updated every four years. The current DOD strategy is focused on three objectives: homeland defense, global security, and counterterrorism. In particular, the 2014 QDR looks at the need to rebalance defense efforts in light of difficult economic challenges (spending cuts and caps, sequestration, and a likely base realignment and closure [BRAC] process). As U.S. forces are rebalanced, key capabilities to support will be cyber operations; missile defense; long-range strike capabilities; undersea warfare; precision strike technology; and intelligence, surveillance and reconnaissance training. (QDR 2014)

Joint operations will continue to remain an important mission requirement. The emphasis on joint training reflects the fact that military operations are cooperative, and forces must train accordingly. The need and requirement for joint training is projected to increase in the coming years. DOD mission requirements and objectives are met through emerging platforms and systems capable of serving multiple missions. There remains an ongoing requirement to support training for readiness and surge capability (i.e., the ability to quickly deploy additional assets in response to real-world events).

While Congress has denied previous requests for BRAC over the past two years, DOD is likely to request Congress for another BRAC round in 2017 to focus on reducing infrastructure, troop decreases, and a smaller workforce. With government fiscal realities (shrinking budgets), DOD must still be capable of fulfilling the defense strategy. However, as budget cuts and BRAC decisions are made in the future, certain planned programs and emerging technologies can be put on hold or canceled as priorities evolve. Currently, new missions/platforms with direct relevance to WFF are as follows:

- *Electromagnetic (EM) Railgun.*

A long-range weapon that fires projectiles through the use of electricity, as opposed to chemical propellants. Due to increased velocity and extended range, the overall goal of the railgun is to provide the Navy with multi-mission capability. The Navy will be able to conduct precise naval surface fire support or land strikes, ship defense, and surface warfare (Office of Naval Research July 2012). The EM railgun platform is quickly proceeding from an emerging mission to an active one. In May, 2014, the Navy completed the Environmental Assessment for construction of the testing facilities on Wallops Island. The preferred alternative includes the installation of an EM railgun, as well as a 5" powder gun to test hypervelocity projectiles (*Navy 2014*).

- *Broad Area Maritime Surveillance (BAMS).*

A complementary system to the P-8A aircraft, providing maritime reconnaissance support to the Navy. It will be equipped with electro-optical/infrared sensors, can remain airborne for 30 hours, and fly at approximately 60,000 feet (U.S. Department of the Navy May 2012).

- *Expendable Launch Vehicle Launch Pad.*

A new launch pad constructed at WFF to host increasing launch activity and larger launch vehicles planned for use. Construction could include a pad access ramp, launch pad, and water deluge system for launch vibration suppression.

- *Expansion of Restricted Airspace.*

NASA currently owns and operates Class D airspace that encompasses the area from the surface to 2,500 feet above the airfield operating area out to a 9.25 kilometers (5 nautical miles) radius around the center of the airfield. NASA also owns and operates restricted airspace R6604A/B, which covers the entire Island region and part of the northern portion of runway 4/22, one of the three existing runways on the Main Base. NASA is proposing to expand R-6604A/B by adding new designated airspace R-6604C, which would incorporate the airspace from 700 feet up to, and including, 3,500 feet. This expanded airspace would be linked to R-6604A/B and would extend through and beyond the Class D airspace. The expansion is considered a risk mitigation measure that would help protect general aviation from hazards associated with experimental flight tests. This proposal would close the airspace to non-participating aircraft when in use (NASA 2013).

2.4 IDENTIFICATION OF OPERATIONAL FOOTPRINT

The operational footprint identifies where the WFF operations and county land uses overlap and potentially conflict. This was determined based on the nature and extent of mission operations performed at WFF. Figures 2.9a and 2.9b depict the operational footprint which includes noise and accident potential zones (APZ) associated with airfield operations at WFF Main Base, range hazard area arcs associated with rocket launches at WFF Wallops Island, and additional considerations related to operations conducted by NAS Patuxent River.

2.4.1 WFF Main Base Airfield Operations

The operational footprint includes WFF Main Base airfield operations. The two primary airfield related mission compatibility factors evaluated include the aircraft APZs and the noise zones.

- *Aircraft APZs*

Installations and airfields often experience increased development and residential population growth near their boundaries. Development of businesses and residential neighborhoods near an installation allows the neighboring community to provide services to the installation and its personnel and allows personnel to live near their workplace. However, development near an installation or airfield may present risks to the surrounding community and be incompatible with aircraft and other operations. The DOD established the AICUZ Program to assist local governments and communities in identifying and planning for compatible land use and development near military installations. The goal of the program is to protect the health, safety, and welfare of civilians and military personnel and preserve an installation or airfield's operational capabilities.

One land use planning component utilized within the AICUZ Program is the designation of APZs. APZs are designated areas where the Navy encourages land uses which are compatible with aircraft operations in order to minimize the risk to the public in the unlikely event of an aircraft mishap (NAVY 2008).

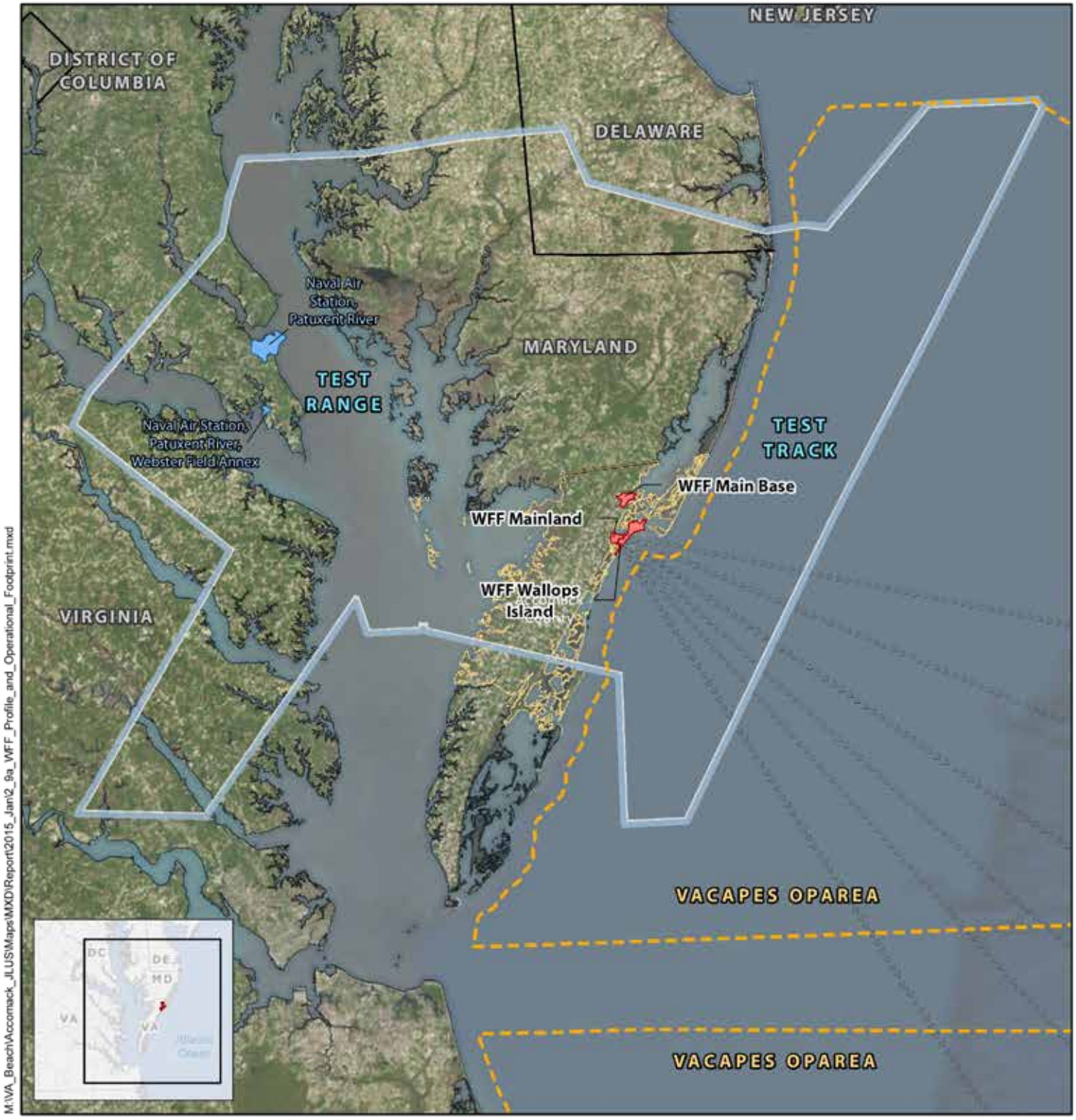
WFF Main Base is publicly owned and operated by NASA. As such, the APZs have been developed by NASA, in coordination with and per DOD/Navy guidance for this study. The APZs are not part of a formal AICUZ analysis, rather, developed to aid land use planning.

- *Comparison of 2008 APZs and 2014 APZs*

Accomack County's 2008 comprehensive plan depicts APZs developed by NASA to communicate mission related hazards in the proximity of its airfield. NASA initially developed these APZs to encourage the County to "…find a proper balance between the public interest, economic development supported by the WFF and public safety" (Accomack County 2008).

The APZs developed by NASA in 2008 account for aircraft operations occurring at NASA's WFF Main Base airfield at that time. These APZs followed general DOD guidance (DODINST 4165.57 - 2002); per this guidance, the locations of APZs are driven by the types of aircraft and types and number of aircraft operations that occur at the airfield (Navy 2014). Until recently, the number of aircraft operations conducted at WFF was relatively limited at an estimated 13,000 total annual operations for civilian and military aircraft. In November 2013, the Navy began conducting E-2/C-2 FLCP at WFF, which could add up to 45,000 additional annual aircraft operations at WFF. As a result of this and other changes in WFF flight operations, total annual aircraft operations could increase up to 61,000. This expansion of activity resulted in changes to both the operation type and the number of operations conducted at WFF – two key factors that guide the placement of APZs around airfields.

To accommodate these operational changes, in 2014 NASA developed new APZs in coordination with the Navy. NASA's voluntary action reflects an important element of DOD policy regarding APZs which is to "promote education and engagement with communities affected by military operations at air installations" (DODINST 4165.57 - 2011). The shape of these new APZs has changed to reflect the circular, or "race-track", flight pattern associated



Legend

- Accomack County Boundary
- Wallops Flight Facility Areas
- SCSC Viewshed
- VACAPES Operating Area
- Atlantic Test Range (NAS Patuxent River)
- Naval Air Station Patuxent River Areas

0 10 20 Miles

SOURCE: Ecology and Environment 2014; ESRI 2010, 2012; NAS Patuxent River 2006; US Fleet Forces Environmental Information Management System (received) 2014; WorldView Solutions Inc 2007

Figure 2.9a
WFF Profile and Operational Footprint, Joint Land Use Study,
Accomack County, Virginia

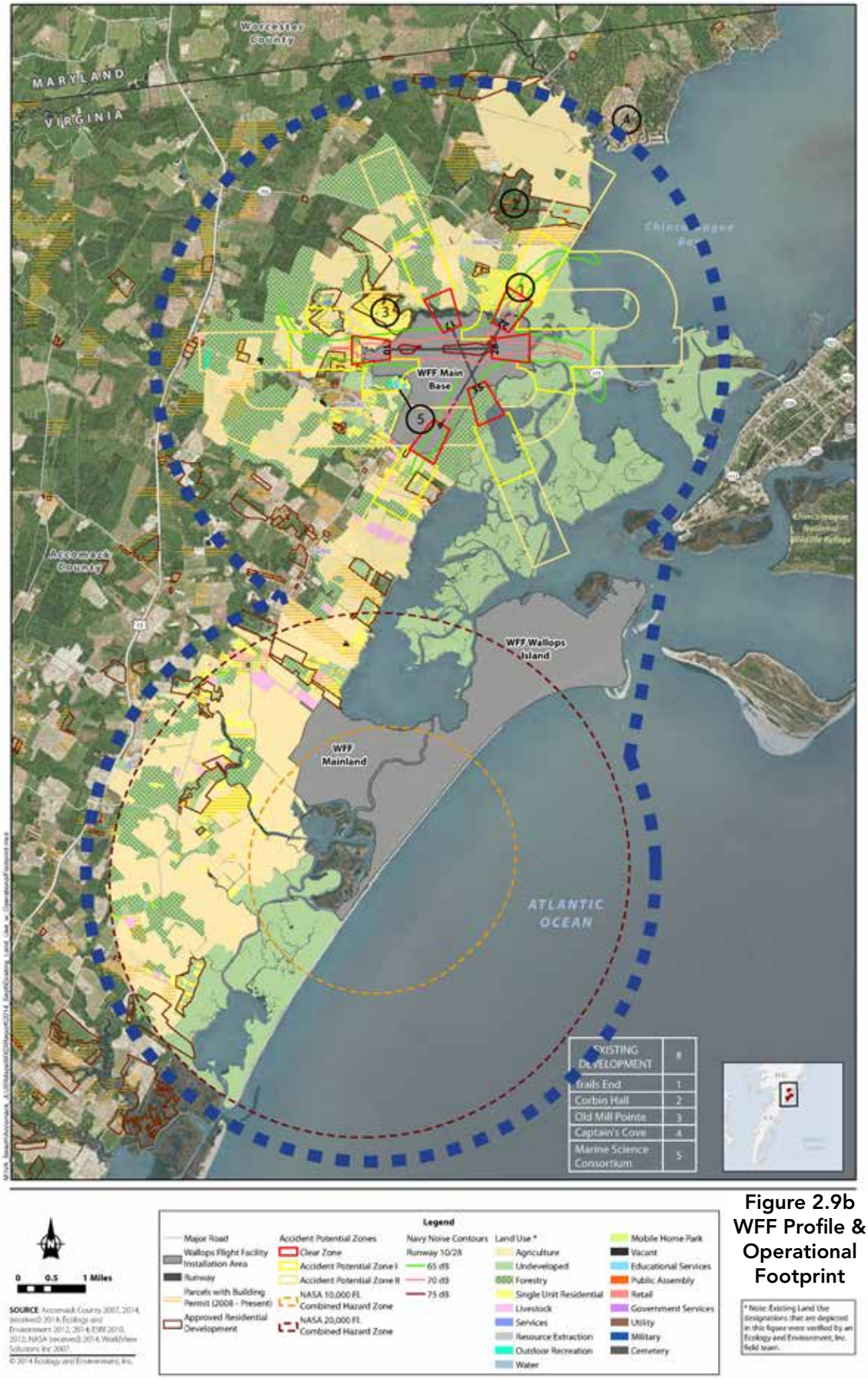


Figure 2.9b WFF Profile & Operational Footprint

2.4.1 WFF Main Base Airfield Operations continued...

with FCLP operations. A standard FCLP activity profile is depicted in Figure 2.10. The 2014 APZs cover a larger area than the 2008 APZs. In total, 8,037 acres were within the 2008 APZs, while a total of 10,061 acres are within the 2014 APZs, an increase of 2,024 acres. Figure 2.11 provides an overlay of both the 2008 and the 2014 APZs to illustrate the changes.

> The locations of APZs are driven by the types of aircraft and types and numbers of aircraft operations that occur at the airfield (NAVY 2014).

The APZs offer a tool for consideration in local land use planning decisions and provide the public with information about the Navy's current operations. The APZs do not represent a regulatory mandate, and compliance with the AICUZ Program land use recommendations for properties within an APZ is not required by local, state or federal law. As a non-DOD facility, WFF is not required to adhere to DOD guidance related to analysis or disclosure of aircraft operations at the WFF Main Base. NASA voluntarily prepared the updated APZs to support continued consideration of mission compatibility as part of local land use decisions.

- *Noise Contours*

Aircraft operations at the WFF Main Base airfield have generated concerns about noise from local property owners. Aircraft operations conducted by the U.S. Air Force, the Air National Guard, the U.S. Army, the U.S. Coast Guard, and the Navy using multiple types of aircraft, including the E-2/C-2, A-10, F-15, F-16, F-18, and F-22 aircraft, generates noise within the community.

Noise is unwanted sound. Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and are sensed by the human ear. Whether that sound is interpreted as pleasant (e.g., music) or unpleasant (e.g., jackhammers) depends largely on the listener's current activity, past experience and attitude toward the source of the sound. While aircraft are not the only sources of noise in urban or rural environments, the noise aircraft generates is readily recognizable. Other potential sources of noise in urban and rural communities include roadway traffic, business or industrial facilities, farm and timber harvesting equipment, hunting, and railways.

The term DNL is used to represent the Day-Night Average Sound Level generated by all aviation-related operations during a 24-hour period. The DNL adds a "penalty" of 10 dB for aircraft operations between 10 p.m. and

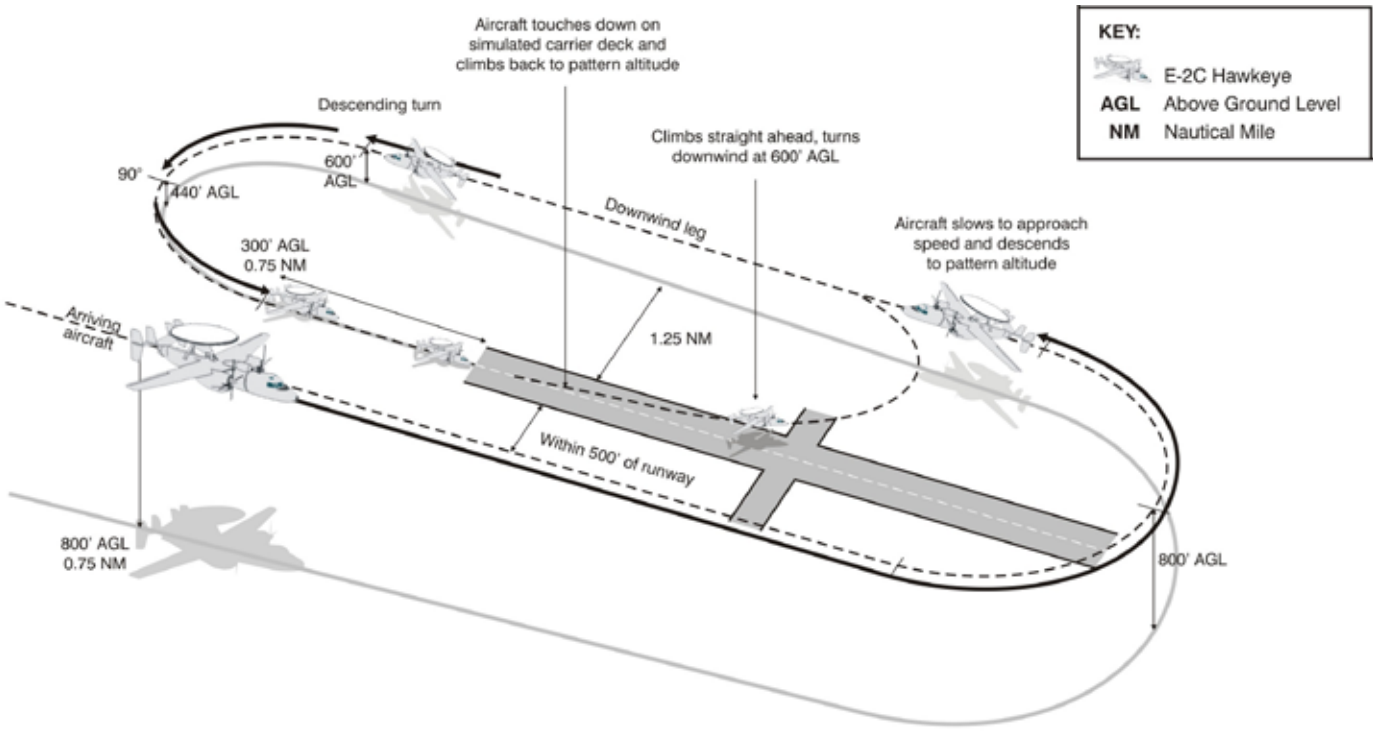
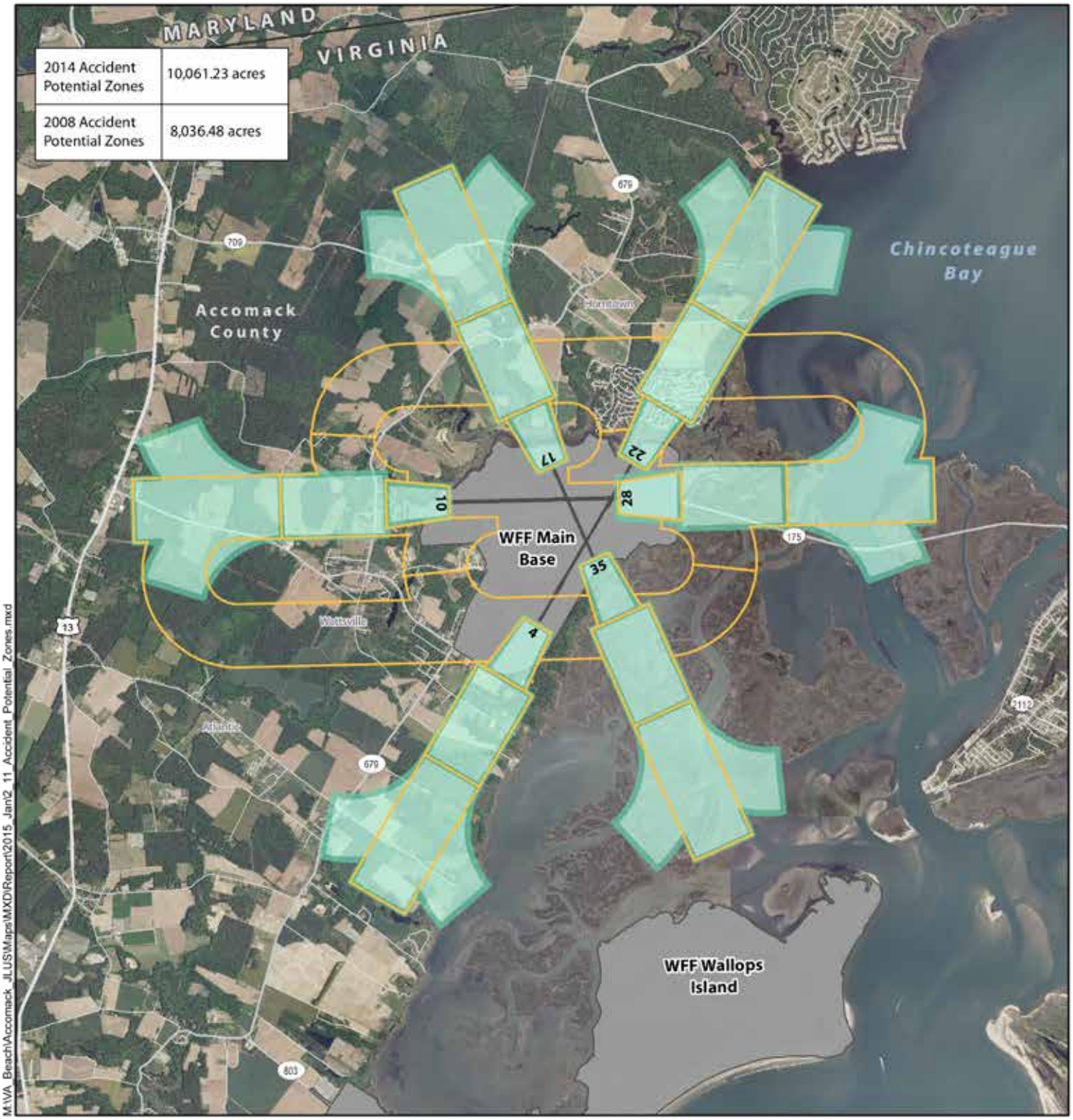


Figure 2.10 - Standard Field Carrier Landing Practice Activity (Navy 2013)



0 0.5 1 Miles

SOURCE: ESRI 2010, 2012; NAIP 2012; NASA (received) 2014; US Department of Defense 4105.57 Airfield Installations Compatible Use Zones March 2002; WorldView Solutions Inc 2007.

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Legend

- State Boundary
- Major Road
- Local Road
- Wallops Flight Facility Area
- Runway
- 2014 Accident Potential Zones
- 2008 Accident Potential Zones

Note: 2014 Accident Potential Zones were developed by NASA in coordination with the Navy, and include all current aircraft operations occuring at WFF.

Figure 2.11
Comparison of Accident Potential Zones from 2008 - 2014
Joint Land Use Study
Accomack County, Virginia

2.4.1 WFF Main Base Airfield Operations continued...

7 a.m. to reflect the increased community sensitivity to noise during nighttime hours. The DNL metric was established in 1980 by the Federal Interagency Committee on Urban Noise (FICUN). It is a reliable measure of community sensitivity to aircraft noise and is the Federal Aviation Administration, U.S. Environmental Protection Agency, and DOD standard noise metric used in the United States to measure the effects of aircraft noise for both commercial airports and military installations.

The area of noise exposure to aircraft operations is shown as a series of noise contours connecting points of equal value, i.e., points exposed to the same noise levels (see Figure 2.9b). Areas between noise contours are called "noise zones". The DOD AICUZ Program provides land use compatibility guidance for the greater than 55 dB DNL noise zones. Below 65 dB DNL, all types of land use are considered compatible, with some exceptions or conditions that are specified in the AICUZ Program guidance. Because the potential for incompatible development in the less than 65 dB DNL noise zones is relatively low, the impact assessment and compatibility analysis considers noise zones above 65 dB DNL. The noise zones used in this study include the 65 to 69 dB DNL noise zone; 70 to 74 dB DNL noise zone; and 75 dB DNL or greater noise zone.

2.4.2 WFF Wallops Island Rocket Launch Operations

The operational footprint (see Figure 2.9b) also includes rocket launch operations at the WFF Wallops Island and associated range hazard area arcs.

NASA's Range Safety Program is divided into two primary areas – ground and flight safety. Ground safety considers potential hazards associated with activities such as fueling, handling, assembly, and checkout for all prelaunch activities; occupational hazards; and crash, fire, and rescue. Flight safety considers the potential risks to the public, NASA personnel, contractors, and civilians from flight operations, including vehicle trajectory and dispersion. Of the two primary safety program areas, flight safety addresses the issues most likely to affect persons and property outside the WFF fence line, and therefore was considered in detail in this JLUS.

Procedures for implementing NASA's Range Safety Program at WFF are specified in the WFF Range Safety Manual. According to the WFF Range Safety Manual, WFF is responsible for flight safety until all flight components have reached impact or achieved "orbital insertion," i.e., have successfully adjusted momentum to enter a stable orbit around the planet. The primary means of ensuring flight safety is containing the flight arc of a vehicle within the approved operational area and containing impacts and vehicle components (e.g., spent stages, payloads, balloons, parachutes, etc.) within planned impact areas (NASA 2008b).

Since an entire set of variables for each launch (e.g., vehicle aerodynamic/ballistic capabilities; azimuth and elevation angles; wind effects, air and sea traffic, and proposed impact areas) are unique, a flight safety analysis is required before each mission. Each decision is based on a risk assessment that is conducted or validated just prior to each phase of flight. The NASA Safety Office is required to identify any property in the vicinity of the flight that requires protection from potential debris impact, identify the potential damage of concern, and mitigate the associated risk.

As the risk assessment process varies from launch to launch, NASA has identified two planning-level range hazard areas for consideration in this study. Consistent with the approach taken when NASA provided the same information to the County during its 2008 Comprehensive Plan update, these areas are depicted as concentric rings (arcs) centered on the two current and one future planned orbital launch pads on south Wallops Island (see Figure 2.9b).

The smaller arc, at 10,000 feet, is NASA's planning level estimate of the area requiring the most stringent controls to ensure public safety and meet its range safety criteria. Developed during the launch planning process, it is enacted on the day of launch and must be cleared prior to launch. The primary hazards it is intended to protect against are the direct blast and debris generated in the event of a launch failure at or near the pad. The second arc, at 20,000 feet, represents an area that may be susceptible to range hazards that are largely dictated by atmospheric conditions on launch day. These hazards include dissipated toxic vapors (from rocket or spacecraft propellants) and distant focusing overpressure, which, according to the NASA Range Safety Manual, could result in potential injury from shattered glass should a near-pad launch failure occur.

In contrast to the 10,000 foot arc, the 20,000 foot arc would not likely require complete clearance, rather select areas within it could require special consideration, such as ensuring that large groups of people are not present or that building occupants are not in front of single-pane windows at launch. Depending on the circumstances, sheltering in place could also be necessary should a launch failure occur. NASA coordinates all such measures with local law enforcement and emergency planning officials, who are responsible for any notifications and evacuation/relocation that may be necessary to maintain public safety.

Overpressure is air pressure caused by a shock wave, such as that generated by a rocket launch or sonic boom that is greater than the surrounding air pressure.

While the extent of a hazard area will be tailored to each mission (and consequently could be smaller or larger), the 10,000 and 20,000 feet arcs depict the expected extent of those required for current and future missions. At the time of this study, implementing hazard arcs in excess of 10,000 feet have not been necessary; all orbital-class rockets (e.g., Minotaur, Antares) launched from WFF since late 2006 have required launch hazard areas between approximately 8,500 and 9,000 feet from pads 0-A and 0-B on south Wallops Island.

2.4.3 NAS Patuxent River Airfield Operations

The operational footprint area also includes operational considerations from NAS Patuxent River. Radar communications associated with those operations could be potentially impacted by tall structures (such as utility scale wind turbines) if constructed within defined operational boundaries or 'view-shed' of the sensitive radar systems used by NAS Patuxent River. The radar view-shed includes the northwestern portion of Accomack County, and is discussed in greater detail in Chapter 4.

2.5 OPERATIONAL FOOTPRINT – EXISTING CONDITIONS

2.5.1 General Description

The operational footprint covers approximately 7,792 acres of northeastern Accomack County. Land uses within this area is predominantly conservation, forested, and agricultural, with a small amount of development - mostly residential. There are several major roadways passing through the operational footprint including Chincoteague Road (State Route 175) connecting both the Main Base and Chincoteague Island to Highway 13, and Atlantic Road (Route 789) connecting the WFF Main Base to WFF Mainland and WFF Wallops Island.

Wattsville (a census designated place) is the only population center located directly within the operational footprint, while populations for other nearby towns and rural villages are shown in Table 2.3 (Census 2010). Significant developments are planned within the operational footprint including the Wallops Research Park and the Bridge Hill residential subdivision.

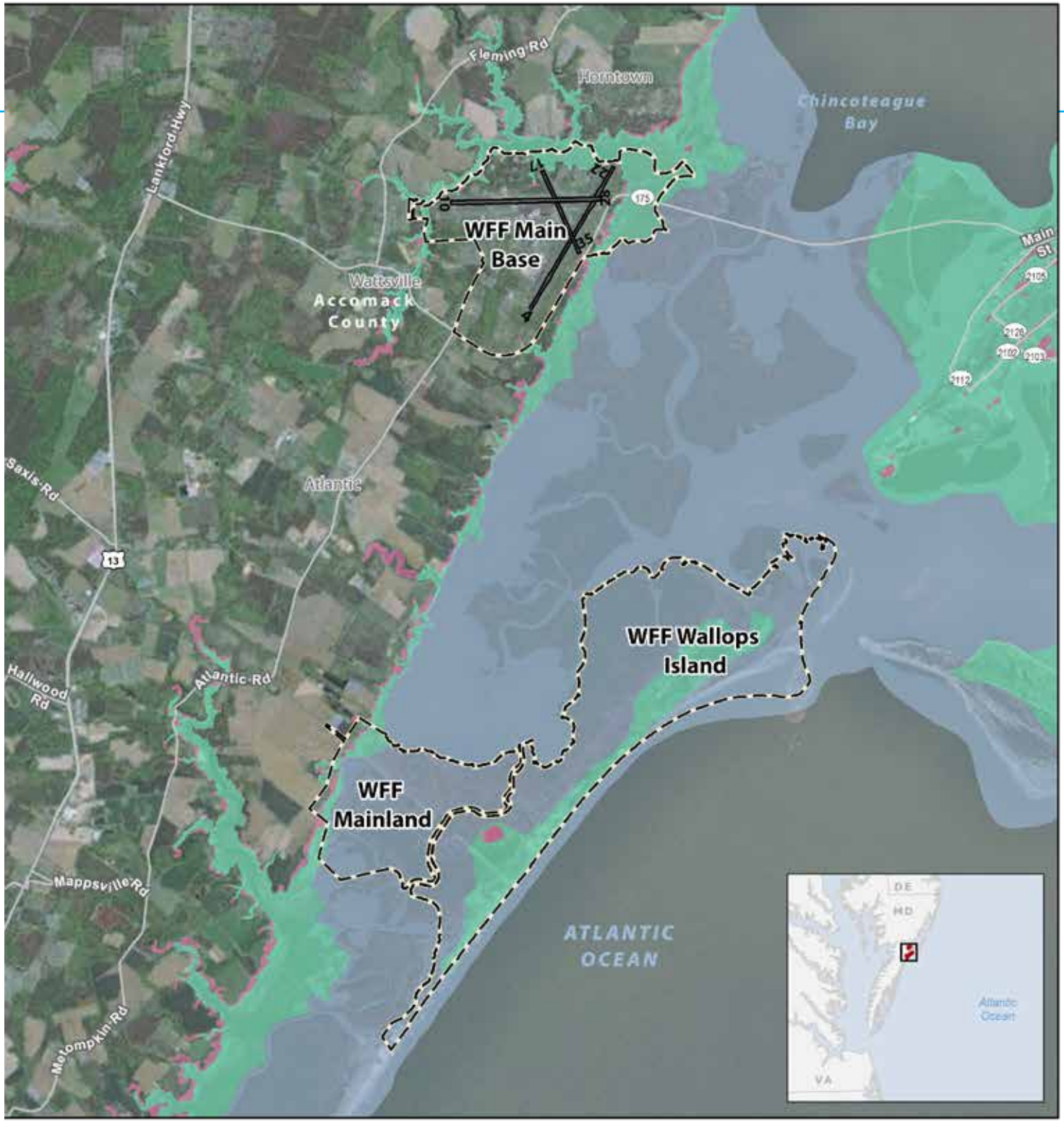
Table 2.3 - Population Centers in proximity to WFF

PLACE	2010 POPULATION
Atlantic	862
Captain's Cove	1,042
Chincoteague	2,941
Horntown	574
Wattsville	1,128

Source: US Census Bureau - Census 2010

2.5.2 Natural Environment

Coastal environments are highly dynamic, and infrastructure and facilities built on the coast are particularly vulnerable to damage during storms or as a result of sea level rise. Barrier islands such as Wallops, Assateague, Chincoteague, and Assawoman Islands provide protection to development on the mainland, as well as being prime recreation resources and important natural habitats for unique and ecologically important species. The northern end of WFF Wallops Island contains coastal primary sand dunes that serve as protective barriers from the effects of flooding and erosion caused by coastal storms (NASA 2008a).



N

0 0.5 1 Miles

Legend

- State Boundary
- Major Road
- Wallops Flight Facility Area
- Runway

Preliminary FEMA Flood Zone (March 2014)

- 0.2% annual chance flood hazard
- AE
- VE

Note: Floodplain data shown here represents preliminary data as provided by FEMA in 2014. Final data is expected in May 2015.
Zone AE- Areas subject to inundation by the 1-percent-annual chance flood event determined by detailed methods. BFEs are shown within these zones.
Zone VE- Areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action. BFEs derived from detailed hydraulic coastal analyses are shown within these zones.

SOURCE: ESRI 2010, 2012; FEMA 2014; WorldView Solutions Inc 2007.

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Figure 2.12
March 2014 Preliminary FEMA Floodplain Update, Joint Land Use Study,
Accomack County, Virginia

The natural environmental on the Accomack County's Atlantic coastline provides for a mix of fertile farmlands, forest, and other habitats. This coastal environment is rich in wetlands, marshes, and upland areas that provide important habitat for wildlife, including a diversity of migratory birds. Balancing agricultural uses, habitat preservation, and economic growth is a continuing challenge as the County seeks to preserve its tax base as well as its natural heritage. The County contains an extensive number of privately-owned, state, and federal conservation lands, agricultural and forestal districts, and regulated wetlands. These managed lands are generally compatible with NASA and Navy mission requirements as they are protected by ownership or regulations which discourage or prohibit intensive land use. There are many areas near the WFF and existing managed lands that may offer opportunities for partnering to advance the shared interests of the Navy and NASA, land managers, and conservation organizations. Figure 2.1 depicts the existing natural resources and managed lands in Accomack County.

Accomack County lies on a narrow peninsula between the Chesapeake Bay and the Atlantic Ocean. The bay and ocean waters, as well as the streams that drain the upland are an important part of daily life but also can threaten communities close to the water. Accomack County's coastal communities are subject to diurnal tidal movements, coastal winds and, often, extreme weather and recurrent flooding.

The Federal Emergency Management Agency (FEMA) is responsible for mapping coastal flood hazard areas. FEMA is completing a Flood Insurance Study (FIS) and has issued new preliminary Flood Insurance Rate Maps

For this study, existing land uses were verified to ensure an accurate account of land use activity regardless of zoning designation or county designated future land use. Zoning districts in Accomack County permit various types of land uses by right, which may not be reflected in the name of the zoning designation. Field surveys were conducted to verify existing land uses on parcels located within the WFF Main Base operational footprint, which includes areas within the greater than 65 dB DNL noise zones outside of the WFF Main Base property boundary. For parcels that could not be seen from a public road, county parcel data were overlaid and compared to recent aerial imagery to categorize the existing land use (ESRI 2014).

TABLE 2.4 EXISTING LAND USE DEFINITIONS	
Agriculture	Land used for producing commercial field or row crops
Educational Services	Schools or other educational facilities such as the Marine Science Consortium
Forestry	Managed and harvested forestland
Government Services	County facilities that provide services to members of the public such as post offices and libraries
Livestock	Facilities or land used to breed or support livestock
Military	Navy-owned land
Outdoor Recreation	Passive or active recreation land or outdoor sports facilities
Public Assembly	Uses such as churches, auditoriums, clubs, or community facilities which allow large concentrations of people
Resource Extraction	Mining operations, sand or gravel pits
Retail	Retail stores
Services	Businesses that provide professional or personal services
Single Unit Residential	Detached, single-family residential, including houses and manufactured homes
Undeveloped	Conservation land or land that is undeveloped and either subdivided for residential development or not currently managed for forestry or agriculture
Utility	Public utility facilities such as electrical substations
Vacant	Parcels which are developed with buildings or other structures which are uninhabited

(FIRMs) for Accomack County. FEMA will finalize their work and issue new revised FIRMs in 2015. Figure 2.12 depicts that most recently released FEMA flood mapping for Accomack County within the vicinity of WFF.

2.5.3 Zoning

Within the operational footprint, the predominant zoning is Agricultural. Zoning is more diverse around Wattsville, including General Business along Route 175 as it passes through and onto the Town of Chincoteague, Industrial extends out from the WFF Main Base, and Residential along Route 679 (Fleming Road) and Route 175 in the direction of Chincoteague. There are some small pockets of Residential zoning scattered throughout the operational footprints representing subdivisions. The County's Ordinance defines a Subdivision as "the division of any tract, lot or parcel of land into three or more parts..." (Accomack Code 1982). Outside of designated growth areas, the county has revised its subdivision ordinance to preserve productive agricultural and forest land and permit low-density development (Accomack County 2008).

2.5.4 Land Use

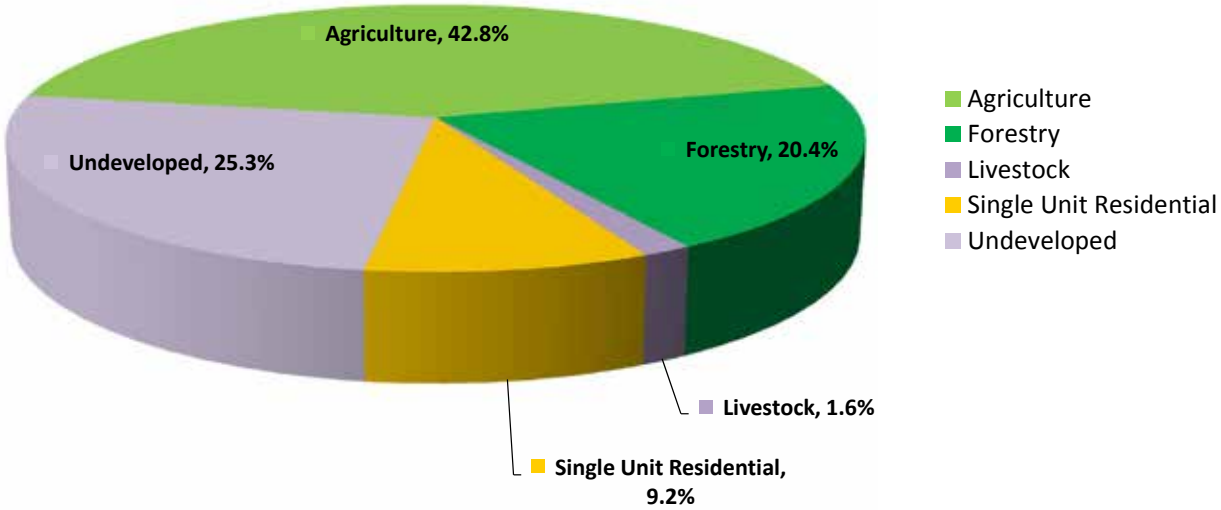
Existing land use is defined as buildings and structures that have already been constructed or land use activities that are in place. The categories used to define existing land uses in this study are listed in Table 2.4. Broad categories were developed based on the AICUZ compatibility guidance.

Data used to support this study includes the following: building permits issued from 2008 through 2014; approved residential development per Accomack County subdivision ordinance; and future land use from the County's 2014 comprehensive plan update.

- *Existing Land Use*

Of the approximate 16,000 acres of land under the operational footprint*, with the exception of the WFF, land use is primarily Agricultural (43%) and Undeveloped land largely made up of Conservation lands and Marshlands (25%), followed by Forestry (20%). Residential accounts for 9% of land use, while Livestock occupies almost 2%. Other land uses, including Educational Services, Government Services, Military, Outdoor Recreation, Public Assembly, Resource Extraction, Retail, Services, Utility, Vacant, and Water make up the

** The operational footprint generally includes the APZs, the Rocket Range Hazard Area and land area between them.*



The following land uses make up the remaining 0.6% - Educational Services, Government Services, Military, Outdoor Recreation, Public Assembly, Resource Extraction, Retail, Services, Utility, Vacant, Water.

Figure 2.13- Chart of Existing Land Use within Operational Footprint Areas (excluding WFF facility)

2.5.4 Land Use continued...

The purpose of zoning ordinances

"Zoning ordinances shall be for the general purpose of promoting the health, safety or general welfare of the public and of further accomplishing the objectives of § 15.2-2200.... (ix) to protect approach slopes and other safety areas of licensed airports, including United States government and military air facilities... (xi) to provide reasonable **protection against encroachment** upon military bases, military installations, and military airports and their adjacent safety areas..." (Virginia Code § 15.2-2283. Purpose of zoning ordinances.)

remaining 0.6%. (see Figures 2.13 and 2.14). For this study, the existing land use acreage within the operational footprint was field-verified (March 2014).

Significant existing developments within the operational footprint are shown on Figure 2.14. The village of Wattsville is located to the southwest of WFF Main Base, within the operational footprint is characterized by Residential, Agricultural, and Commercial land uses. Businesses in this area include fuel stations, retail stores, markets, and restaurants. The Town of Chincoteague is situated to the east of WFF Main Base on Chincoteague Island. While the Town is outside of the operational footprint, Route 175 is the primary access to both the Main Base and Chincoteague and Assateague Islands, and is therefore relevant when discussing transportation impacts (see Section 2.5.5). The villages of Horntown and Atlantic (census-designated places) are in close proximity to the Main Base, yet are also outside of the operational footprint, both with populations below 1,000.

While Residential takes up a small amount of acreage within the operational footprint, there are several residential areas worthy of discussion.

Chincoteague Bay Trails End is a private waterfront campground resort located to the northeast of the Main Base, and constructed prior to current additional runway activities. The property is approximately 750 acres, includes over 2,500 deeded lots, generally less than one acre, and consists of both cottages and mobile camper lots. The resort offers temporary lodging and seasonal camping, and while the lots are privately owned, the majority of residents do not live there year-round and either maintain recreational vehicles (RVs) or mobile homes on their properties, or bring RVs or tents with them when they visit the campground resort (Trails End 2014). The Trails End community association considers 300 of the 2,500 lots to be occupied full time (NAVY 2013). The resort includes recreational amenities, such as a marina, boat ramps, and boat slips. Although zoned Agricultural by Accomack County, for the purposes of this analysis it is considered Residential.

Corbin Hall is a gated single family residential community adjacent to the population center of Horntown. It is comprised of 470 acres, 57 lots, and is situated on the Chincoteague Bay. All lots are fully improved and ready to build on. Amenities include a boat harbor and community center. (Corbin Hall 2014)

In addition to these residential areas located within the operational fooprint, there are several outside of the footprints yet in very close proximity and evident of the residential development pressures occurring in this area. Olde Mill Pointe is a residential development to the northwest of WFF Main Base. It consists of 99 lots sized between 1-3 acres and designed for single family residences, of which 26 lots have sold. These residences may be for year-round or seasonal use (Olde Mill Pointe 2014). Captain's Cove is a recreational residential community to the northeast of the WFF Main Base along the Chincoteague Bay, with over 2500 lots, a marina and recreational amenities (Captain's Cove 2014).

- **Wallops Flight Facility (WFF)**

A concise summary of land uses occurring on the various localities within the WFF was provided in the NASA WFF Guidance (NASA, 2013). These summaries are included below:

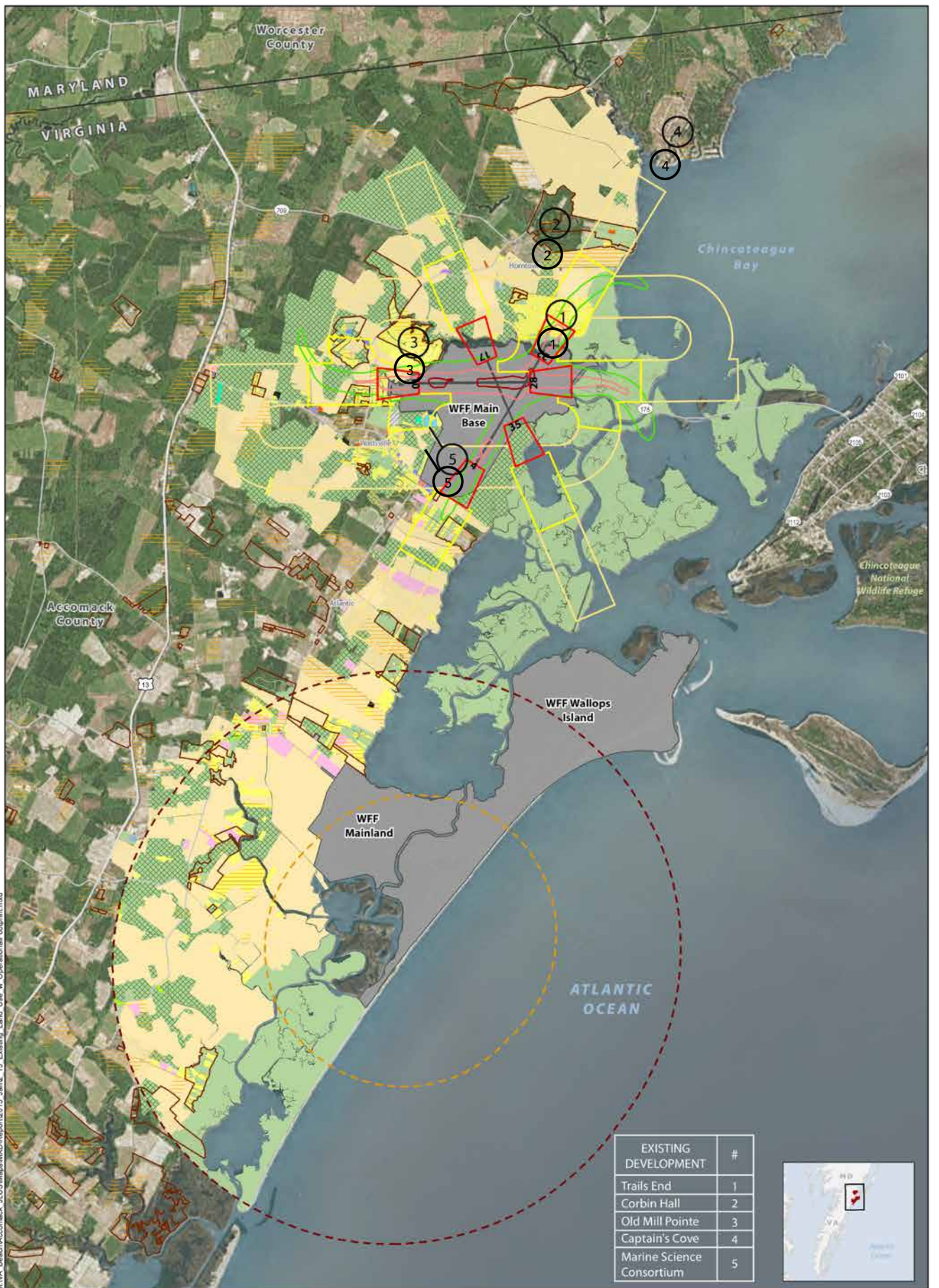
Main Base

The Main Base is largely developed, consists of various land uses, and is primarily zoned Agricultural with some small portions zoned Industrial and General Business by Accomack County (Accomack County 2008). Most acreage at the Main Base is dedicated to airfield operations.

Zoning and Land Use on Federal Property

Under the common law, federal uses and buildings are exempt from local zoning requirements. *United States v. City of Chester, 144 F.2d 415 (3rd Cir. 1944)*;

However, federal projects must ***take into consideration*** all requirements (except procedural requirements) of the zoning laws of a State or a political subdivision of a State, were not the project being done by a federal agency. *(40 U.S.C. § 3312, paraphrased, emphasis added)*



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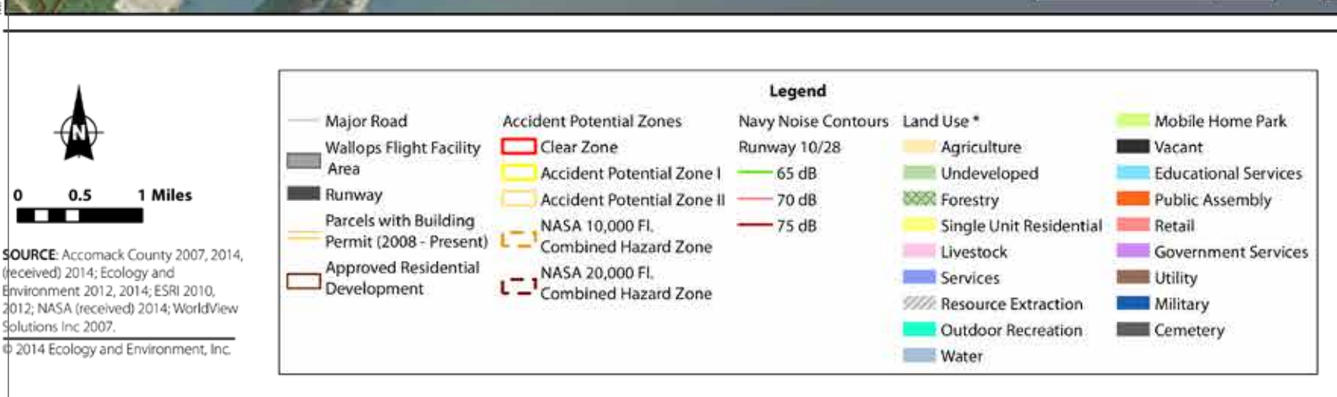

SOURCE: Accomack County 2007, 2014, (received) 2014; Ecology and Environment 2012, 2014; ESRI 2010, 2012; NASA (received) 2014; WorldView Solutions Inc 2007.

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Figure 2.14
Existing Land Use within Operational Footprint Areas (excluding WFF installation) Joint Land Use Study
Accomack County, Virginia

* Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team.

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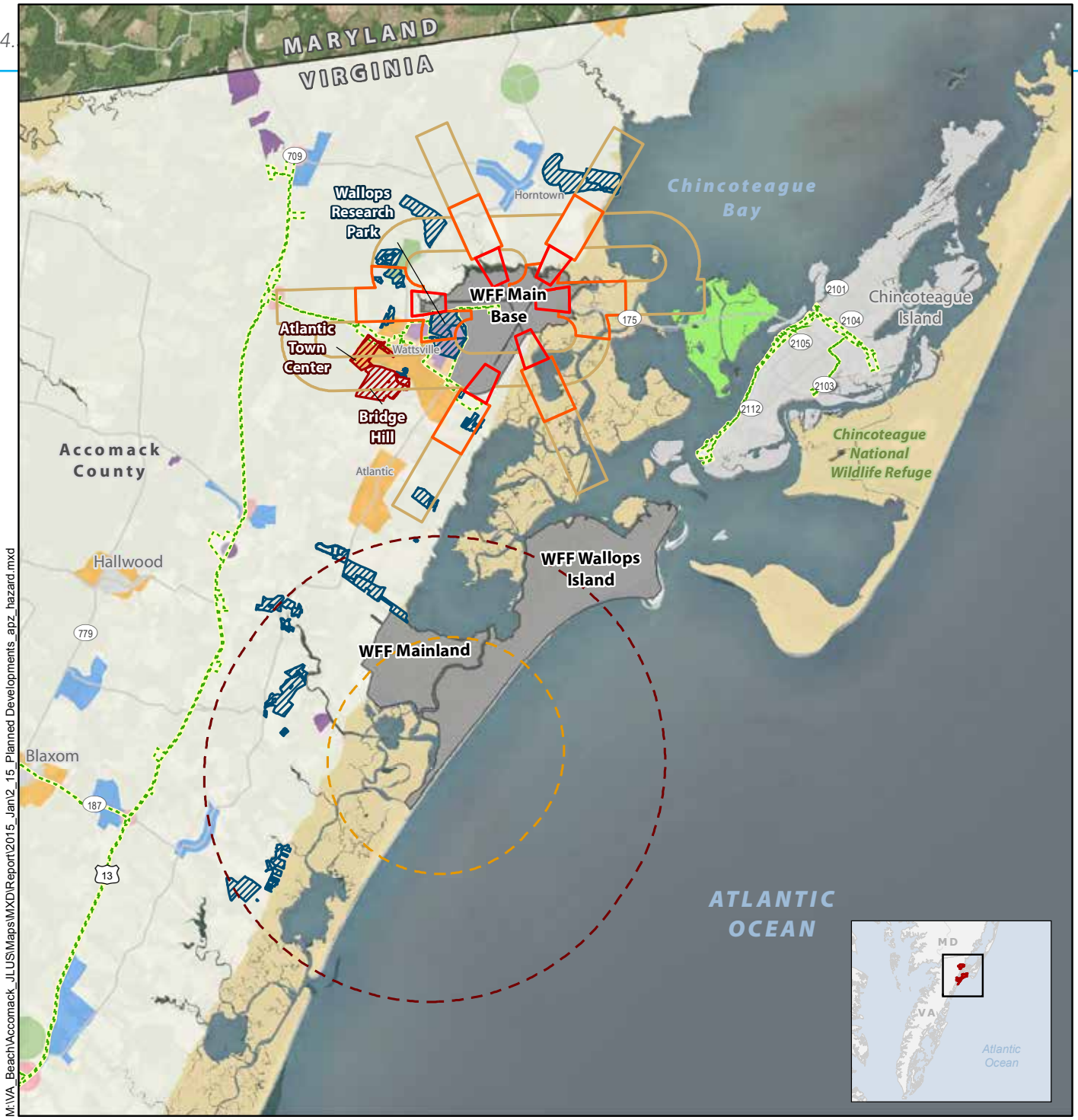

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Legend

- Major Road
- Wallops Flight Facility Installation Area
- Runway
- Proposed Development
- Planned Development
- Enterprise Zones

Accident Potential Zones

- Clear Zone
- Accident Potential Zone I
- Accident Potential Zone II

Future Land Use Designation (as amended in 2012)

- Agricultural
- Commercial Area
- Conservation Area
- Incorporated Town
- Industrial Area
- Residential Area
- Resource Conservation (Town of Chincoteague)
- Rural Settlement Area
- Village Development Area

- NASA 10,000 Fl. Combined Hazard Zone
- NASA 20,000 Fl. Combined Hazard Zone

N

0 1 2 Miles

SOURCE: Accomack County 2007, 2012, (received) 2014; Atlantic Group (received) 2014; EG and G (received) 2014; ESRI 2010, 2012; NASA (received) 2014; WorldView Solutions Inc 2007.

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Figure 2.15
Planned and Proposed Development
Joint Land Use Study
Accomack County, Virginia

2.5.4 Land Use continued...

There is a large area of undeveloped land along the eastern boundary, but this is predominately marshlands. The Main Base consists of an airfield and various structures that include management and administration buildings, maintenance and service facilities, engineering and design laboratories, research laboratories, airfield and associated support infrastructure, and radar. Additionally, the Main Base supports water and sewage treatment facilities, rocket motor storage magazines, U.S. Navy administration and housing facilities, USCG housing, NOAA buildings, and other miscellaneous support structures. The groundwater well system and pump house for the Town of Chincoteague's public drinking water supply is also located on the WFF Main Base, at the east end of runway 10/28.

Mainland

Wallops Mainland is home to long-range radar, communications, and optical tracking facilities. Wallops Mainland consists mostly of marshland and is bordered by agricultural land to the west, Bogues Bay to the north, and an estuary to the south. The area between Wallops Mainland and Wallops Island consists of a large marsh complex and is considered an official conservation area. This area has been designated as undeveloped in the Accomack County's Comprehensive Plan (Accomack County 2008).

Wallops Island

Wallops Island consists primarily of marshland and includes launch and testing facilities, blockhouses, rocket storage buildings, assembly shops, dynamic balancing facilities, tracking facilities, UAS airstrip, OB area, U.S. Navy facilities, and other related support structures. Wallops Island is zoned as Agricultural by Accomack County (Accomack County 2008).

- ***Future Land Use***

Future land use includes the following categories:

(1) Planned - General land use types identified in Accomack County's approved future land use plan.

(2) Proposed - Buildings and structures or land use activities that have been permitted and approved by Accomack County but have not yet been constructed.

(3) Permitted - Buildings and structures or land use activities for which a private developer has submitted permit development applications to Accomack County.

Refer to Figure 2.15 for significant future developments within the operational footprint.

- Planned

The County is mindful of the need to protect the multi-agency missions at the WFF from residential or commercial encroachment. According to the County's Future Land Use Plan (Accomack County 2008), land use around the WFF Main Base is expected to remain predominantly agricultural and industrial. Yet while residential and commercial land use accounts for only a small portion of the operational footprint, anticipated growth in the aerospace industry at the WFF would mean growth in high tech businesses and hence growth in the housing industry and in commercial activity to support the increased activity related to Wallops. It must also be anticipated that as the economy recovers, commercial and especially residential development pressures that were present before the 2008 economic downturn, will return.

The Future Land Use Plan designates a "Village Development Area", adjacent to the future site of the Wallops Research Park, and west of the Main Base. This Village Development Area lies partially within the operational footprint. This land use encourages a mix of residential and commercial land uses representative of the traditional character of the County's small towns, and will expand the existing development pattern around the Village of Wattsville. Several development proposals for land within this Village Development Area have already been submitted to the County, including the Bridge Hill residential subdivision and the Atlantic Town Center mixed use development.

- Permitted

Wallops Research Park

The Wallops Research Park (WRP) will be developed directly adjacent to the WFF Main Base within the operational footprint (see Figure 2.16). The development is a cooperative venture between WFF, Accomack County and the Marine Science Consortium. The research park land encompasses approximately 226 acres of developable land just outside the WFF main gate. The Wallops Research Park Service District was formed by ordinance by the Accomack County Board of Supervisors in November 2008. The park includes a 1,200 foot aircraft taxiway that will connect the research park to the WFF taxiway/runway system for WRP tenants and clients.

"The overall goal of the WRP is to provide a long-term environment that attracts and maintains science, technology, and educational endeavors to supplement the core capabilities of the WFF, other WFF Partners, and the MSC while contributing to the economic development of the Eastern Shore of Virginia and Maryland region." (WRP 2014)

Figure 2.16 - Wallops Research Park - Proposed Park Layout and April, 2015 aerial photograph

Bridge Hill Subdivision

The proposed Bridge Hill subdivision, originally approved in 2006, is located on 216 acres and allows for 181 single family detached units on lots of at least 15,000 square feet in size. The property is owned by the Atlantic Town Center Development Corporation. Development of the subdivision has not yet commenced, and approval for the Conditional Rezoning Amendment was granted in September 2013. (see Figure 2.17)

Figure 2.17 - Bridge Hill Subdivision Plan (2006)

Figure 2.18 - Not Used

Figure 2.19 - Recently constructed John B. Whealton Memorial Causeway

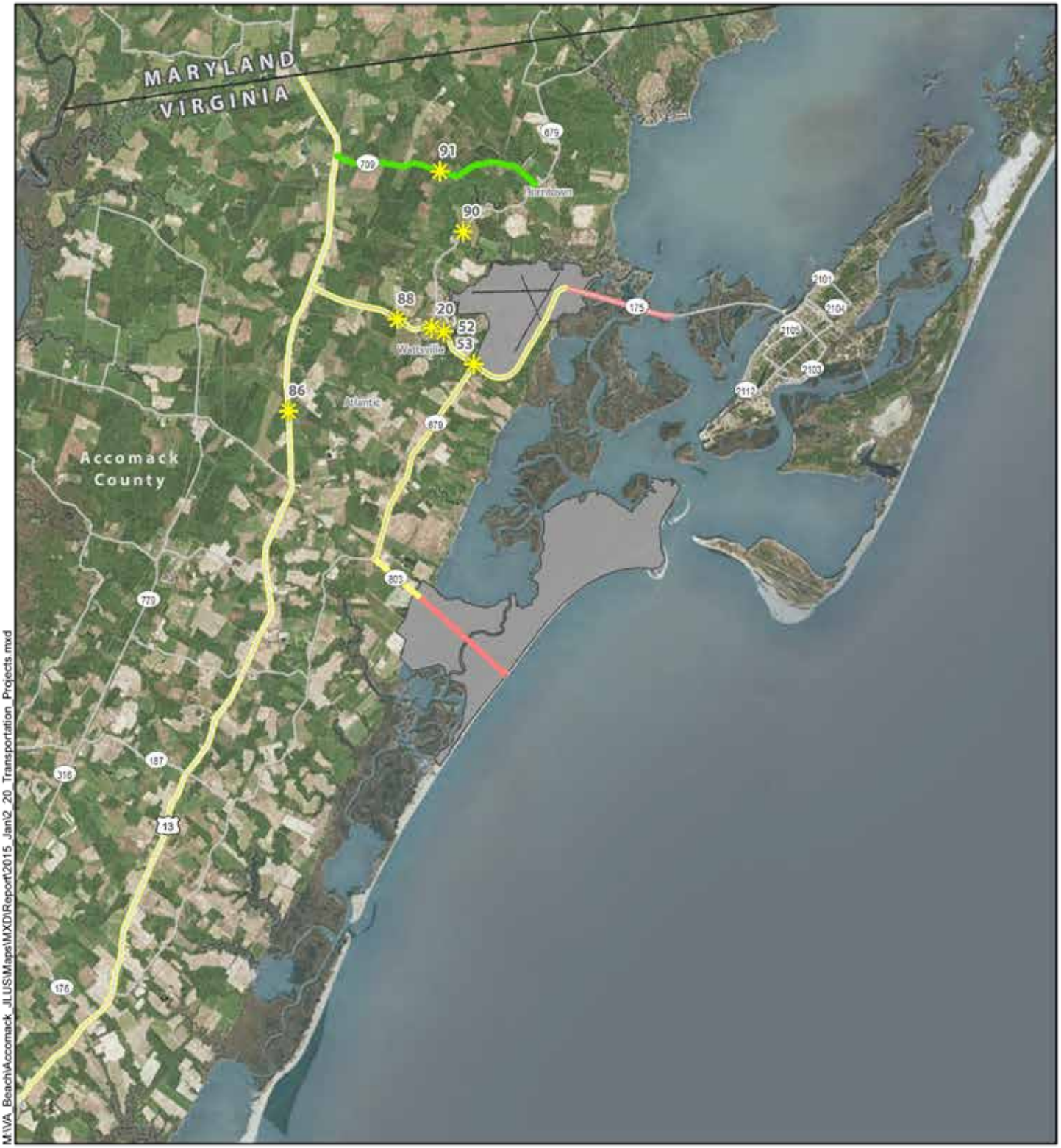
Primary roads used to access the Wallops facility:

Route 175. Route 175, a two-lane secondary arterial road, provides access to the WFF Main Base from Highway 13 at T's Corner. Route 175 also provides access from the mainland to Chincoteague Island and Chincoteague National Wildlife Refuge on Assateague Island and experiences a significant increase in traffic during the summer and fall tourist seasons. As the WFF workforce continues to increase, expansion of Route 175 may be required to maintain adequate levels of service to the facility (Accomack-Northampton Planning District Commission 2011).

Route 798. Route 798, a two-lane secondary arterial road, extends from Route 175 east of Wattsville to the WFF Main Base gate. Route 798 also provides access to the Marine Science Consortium and the planned location of the Wallops Research Park.

Route 679. Route 679, a two-lane secondary arterial road, intersects with Route 175 at Wattsville. Route 679 provides access to WFF Wallops Island from the WFF Main Base. The communities of Assawoman and Atlantic are located on Route 679. Land adjacent to the road is developed primarily with agricultural and residential uses. Many residences have direct access to the road.

Route 803. Route 803, a two-lane collector road, extends from Route 679 at Assawoman to the WFF Mainland gate. Route 803 provides access to WFF Mainland, as well as to several agricultural, commercial, and residential properties. Inside its fence line, NASA owns and maintains Causeway Road and the Causeway Bridge, which connects WFF Mainland to WFF Wallops Island.



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Legend

- State Boundary
- Major Road
- Wallops Flight Facility Area
- Runway
- Transportation Project - Planned
- Transportation Project - Recommended
- Critical Transportation Route
- Critical Transportation Route That Crosses Special Flood Hazard Area

0 1 2 Miles

SOURCE: Ecology and Environment 2014; ESRI 2010, 2012; VDOT 2011, 2014; WorldView Solutions Inc 2007.

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Note: Planned and Recommended projects as identified by VDOT.

Figure 2.20
Existing Transportation Infrastructure and Proposed Improvements, Joint Land Use Study
Accomack County, Virginia

CRITICAL TRANSPORTATION ROUTE REFERS TO THE ONLY ROADWAY CONNECTION TO THE DESTINATION

2.5.5 Infrastructure

- *Transportation – Existing Network*

State Road 175, Chincoteague Road, begins at the Nash Corner intersection on Route 13 and is the primary connector for accessing WFF as well as the only roadway connection to the popular destinations of the Town of Chincoteague and the Virginia portion of Assateague Island and the Chincoteague National Wildlife Refuge. Passing the WFF, Route 175 crosses the John B. Whealton Memorial Causeway that connects the mainland and Chincoteague Island. The causeway was recently reconstructed and rerouted as it enters the Town of Chincoteague as depicted in Figure 2.19.

The Causeway Road and Causeway Bridge connect WFF Wallops Island to WFF Mainland, and are a critical part of the transportation network serving WFF and provides the only connection and access to assets and facilities located on WFF Wallops Island. As a result of expansion of the WFF Wallops Island launch facilities and development of the MARS over the last decade, "the amount of vehicular traffic, the size of transport trucks, and the frequency of 'super-loads' crossing the bridge have increased significantly" (NASA 2013). The Causeway Bridge is over 50 years old, at the end of its design life, and is showing signs of accelerated deterioration of the bridge components. Even with ongoing biennial maintenance and repairs to the bridge, a 2010 study described a significant risk to the mission of the MARS if superstructure replacement or complete bridge replacement is not accomplished within the next 10 years. NASA owns and maintains all the roads on the WFF.

In October 2010, the Accomack County Board of Supervisors approved a new Wallops Island Space Transit Overlay Corridor that serves the purpose of providing safe transit for oversized loads. This corridor is the only connector between the two Wallops sites. See Figure 2.20 for an overview of the existing transportation network and planned / proposed improvements.

- *Transportation – Planned Improvements*

The 2035 Regional Long Range Transportation Plan (Accomack-Northampton 2010) recommends the following improvements for transportation infrastructure within the operational footprint and surrounding areas (see Figure 2.20).

Table 2.5 - Planned / Proposed Road Improvements (VTrans 2035) - *Refer to Figure 2.20 for # references.*

#	LOCATION	DESCRIPTION
20	VA 175 at VA 679 (Fleming Road)	Mid-term improve location as per Route 13 Study
52	VA 175 at VA 798 (Mill Dam Road)	Long-term reconfigure to T-intersection configuration. Incorporate bike lanes into design.
53	VA 175/VA 798 (E.) (Atlantic Rd.)	Short-term install street name signs on mast arms; Long-term install northbound right-turn lane and consolidate entrance to the sub shop.
86	US 13 Bypass from VA 692 to US 13/VA 175	Long-term construct new four-lane divided roadway to standards on new alignment.
88	VA 175 from US 13 to E. Entrance of Wallops Island	Mid-term widen shoulders and improve median crossover/intersection locations; Long-term widen to rural four-lane rdwy with median as needed. Include paved shoulders for bicycle travel.
90	VA 679 from VA 175 to Maryland State Line	Long-term reconstruct road to address geometric deficiencies (12-foot lanes); include paved shoulders for bicycles.
91	VA 709 from US 13 to VA 679	Long-term reconstruct road to address geometric deficiencies (12-foot lanes); include paved shoulders for bicycles.

"Antares really put us on the map in that we can support the International Space Station, and we can put up satellites in the 12,000-pound range. That's a significant step. That all came about from the state of Virginia, with congressional support from Maryland, getting the funding, the approval and the commitment to come in here."

Dale Nash, Executive Director, Virginia Commercial Space Flight Authority (Clark 2013)

Having identified existing land use conditions with respect to the WFF mission operational footprint in Chapter 2, the next step in planning for compatibility was to identify existing planning tools that are in place to assist in compatibility analysis and in developing recommendations based on analysis conclusions. These tools were found to exist in the form of documented plans, legislation, policies, and in services provided by various agencies. Chapter 3 identifies and describes the planning tools.

Further, this chapter indicates how these tools relate to the compatibility factors introduced in Chapter 1. This is a good time to re-present these factors. They are based on OEA guidance and reflect categories of impact on the community or the WFF missions. They will be used in Chapter 4 to assess compatible land use between the WFF and the surrounding Accomack County community.

COMPATIBILITY FACTORS

Impact on Community:

Noise
Safety Hazard Zones
Height Restrictions
Environmental Pollution
Natural Habitat
Wildlife
Transportation Infrastructure

Impact on Installation:

Existing Development
Planned Development
Transportation Infrastructure
Electromagnetic Interference
Light Pollution
Coastal Resiliency
Natural Habitat
Wildlife

3.1 WALLOPS FLIGHT FACILITY TOOLS

- ***NASA Range Safety Manual***

The Range Safety Manual for NASA WFF (2008) identifies all range safety requirements established by the WFF for implementing the Range Safety Program policies and criteria for ensuring that operational risks are controlled and minimized.

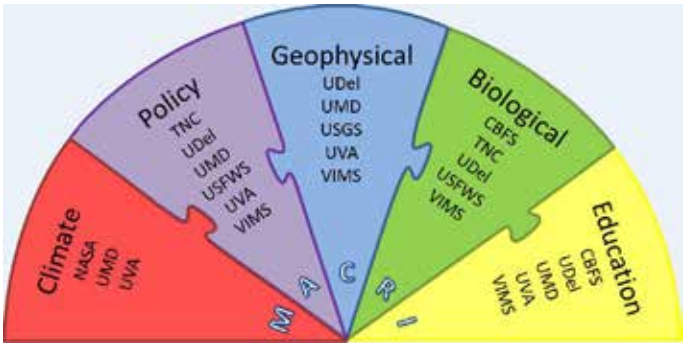
The Range Safety Manual provides the necessary guidance for addressing the WFF Wallops Island rocket launch operations with respect to safety measures for inhabitants located within the range hazard area at the time of launch events.

This tool relates to the following Compatibility Factor: Safety Hazard Zones.

- ***NASA Mid-Atlantic Coastal Resilience Institute (MACRI)/Climate Adaptation Science Investigation Update***

NASA is conducting an internal study to determine the total cost of protecting all NASA and DOD assets located at the installation. This effort will produce quantitative facility and asset value data for decision makers to evaluate asset hardening, relocation, or sustainment options. This will directly inform future planning and mitigation efforts at WFF.

This tool relates to the following Compatibility Factor: Coastal Resiliency.



3.2 ACCOMACK COUNTY TOOLS AND LEGISLATION

- ***Accomack County Comprehensive Plan 2008 and 2014 Update***

As of 1980, the Commonwealth of Virginia has required all of its governing bodies to adopt comprehensive plans and review them every five years. These officially adopted plans establish goals and policies that provide guidance for long term land use and infrastructure changes in the jurisdiction. The Accomack County Comprehensive

Plan of 2008 (and the Future Land Use Plan component, updated in 2014) officially adopted by the county's Board of Supervisors, provides background data and guidance for planned land use and development in the county.

General guidance from the Plan includes:

"Growth occurs mainly in and around the towns and villages where public facilities and services are most efficiently provided, as well as in small residential subdivisions clustered on farmland. … Employment continues to grow, producing a range of jobs at all levels of skill and income, in small and medium-sized enterprises that are compatible with the County's fragile natural systems. The housing supply expands to match the job growth, and provides adequate housing for the full range of household income levels in the County."

"In making investments and applying regulations to achieve this vision of the future, the County balances the desire of individuals to develop land as they wish, with the essential need to protect the natural, cultural, and economic resources that provide sustenance to the entire community, thus ensuring that the County's overall wealth and well-being continues to steadily increase in a manner that is sustainable for future generations".

<u>WFF-associated objectives, policies and recommended actions of the Plan include:</u>

"Objective 7: Establish a "business friendly" environment that promotes economic development that is compatible with the county's adopted objectives and vision for the future."

"Policy 7-4: Support development of the Mid-Atlantic Regional Spaceport and the Wallops Research Park at the NASA Wallops Island facility, and consider NASA Wallops recommendations to address airport and launch encroachment and safety issues, including deed notices."

"Policy 7-8: Protect the designated potential impact areas in the vicinity of the Wallops Island Regional Spaceport facility from intensive development, particularly residential development that may cause undue risk to public safety or impede the development and use of the spaceport as a major economic development resource."

"Recommended Action 7-a: Obtain foreign-Trade-Zone designation for the Accomack county Airport Industrial Park, the Mid-Atlantic Regional Spaceport, and the Wallops Research Park."

"Recommended Action 7-d: Research and possibly establish, a revolving fund to construct industrial buildings and establish a "ready-to-build" program for new businesses in the Wallops Research Park and Accomack Airport Industrial Park."

"Recommended Action 7-e: Designate additional areas for industrial development, including the NASA Wallops Island facility and along the Bay Coast Railroad."

- *Accomack County Zoning Ordinance*

Zoning districts are both a land-use control and an indicator of future development potential, which will affect all of the county's resources and systems – both natural and man-made.

The County's Future Land Use Map, contained within the Comprehensive Plan and last updated in 2014 (Accomack County 2008), informs the development of future revisions to the county's zoning and subdivision ordinances.

- *Town of Chincoteague Comprehensive Plan 2010*

The Town of Chincoteague established and updates its own comprehensive plan. The late update was completed and approved in 2010. This document acknowledges the reliance of the town on the Wallops Facility for increases in year-round Chincoteague residents employed there and tourism boosts due to conferences and events held at the facility, providing an influx of consumers for hotels, restaurants and retail businesses.

- *Land Use Assessment Program*

The Land Use Assessment Program administered by Accomack County is a provision for special assessment of property used for agricultural, forest and horticultural purposes. The program is administered by the Accomack County Real Estate Assessment Department.

These tools discussed in Section 3.2 relate to the following Compatibility Factors: Existing Development, Planned Development, Transportation Infrastructure, Coastal Resiliency, and Natural Habitat.

3.3 STATE/REGIONAL TOOLS AND LEGISLATION

- *Virginia Marine Resources Commission (VMRC)*

The VMRC serves as "steward of the Commonwealth's marine and aquatic resources, and protectors of its tidal waters and homelands, for present and future generations." (VMRC 2014)

This tool relates to the following Compatibility Factors: Existing Development, Planned Development, Natural Habitat, and Environmental Pollution.

- *Chesapeake Bay Preservation Act (1988)*

"The Virginia General Assembly enacted the Chesapeake Bay Preservation Act (Bay Act) in 1988. The Bay Act is a critical element of Virginia's multifaceted response to the Chesapeake Bay Agreement, which was originally signed in 1983 by Virginia, Maryland, Pennsylvania, the District of Columbia, the Chesapeake Bay Commission and the U.S. Environmental Protection Agency, establishing a partnership to protect and restore the Chesapeake Bay's ecosystem.

The Bay Act established a cooperative relationship between the Commonwealth and local governments aimed at reducing and preventing nonpoint source pollution. The beds of Virginia's streams, rivers and estuaries and the waters above them are held and managed by the Commonwealth for the benefit of all Virginians.

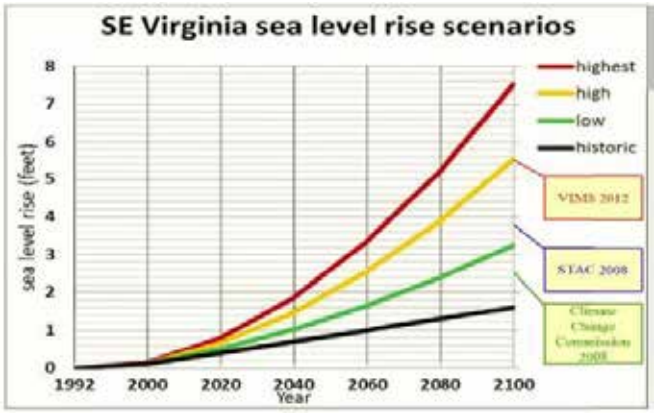
The Bay Act program is designed to improve water quality in the Chesapeake Bay and its tributaries by requiring the use of effective conservation planning and pollution prevention practices when using and developing environmentally sensitive lands. The principle objective of the Bay Act is to promote land use and development in ways that minimize negative impacts on water quality." (Bay Act 1988)

This tool relates to the following Compatibility Factors: Existing Development, Planned Development, Natural Habitat, and Environmental Pollution.

- *Virginia Subpanel on Recurrent Coastal Flooding*

The Commonwealth of Virginia is in the process of defining the potential effects of climate change, storm events, and flooding. At the state level, the Virginia General Assembly established the Subpanel in 2013 to research the risks presented by recurrent coastal flooding and make recommendations. The Navy participates on this subpanel, along with various Virginia cabinet members, federal and state agency representatives, the VIMS, the Hampton Roads Planning District Commission (HRPDC), and local emergency managers. The research and reporting effort by the subpanel is expected to continue for two years.

This tool relates to the following Compatibility Factor: Coastal Resiliency.



- *Virginia Senate Bill 964*

Effective in 2013, legislation passed by the Virginia General Assembly (Senate Bill 964) requires local governments to include a Comprehensive Coastal Resource Management Plan (as prepared by VIMS) in the next revision of their comprehensive plan. The passage of Senate Bill 964 reflects a commitment on the part of the Commonwealth of Virginia to seek better alternatives to managing shoreline erosion. The mandated Comprehensive Coastal Resource Management Plan guidance cultivates long-term sustainability for shoreline resources with consideration of current resource condition, priority planning, and forecasting of projected sea level rise impacts into the future. Under this guidance, the use of living shorelines as a preferred approach for stabilization of tidal shoreline is encouraged. The guidance communicates to stakeholders (including local governments) the policy of the Commonwealth with respect to living shorelines, identifies preferred solutions for erosion control, and defines the risks and benefits of shoreline management strategies in an integrated comprehensive manner.

This tool relates to the following Compatibility Factors: Existing Development, Planned Development, and Coastal Resiliency.

- *Virginia Coastal Zone Management Program*

"The Virginia Coastal Zone Management (CZM) Program is a network of Virginia state agencies and local governments, established in 1986 through an Executive Order, which administers enforceable laws, regulations and policies that protect our coastal resources and foster sustainable development.

Virginia Coastal Zone
MANAGEMENT PROGRAM

The Department of Environmental Quality (DEQ) serves as the lead agency for Virginia's networked program. Through an office headquartered at DEQ, it helps agencies and localities develop and implement coordinated coastal policies and solve coastal management problems. The overarching goal is to protect our coastal resources and strengthen our coastal economy." (DEQ 2014)

This tool relates to the following Compatibility Factors: Existing Development, Planned Development Natural Habitat, and Environmental Pollution.

- *Natural Resource Management Guide 2011*

"The Virginia State Office of United States Department of Agriculture (USDA) Rural Development has revised the Natural Resource Management Guide (NRMG). This guide provides a basis for formulating appropriate Rural Development investment strategies in the following ways: (1) conforms with federal, state, and local mandates to preserve and protect important land resources and other environmental resources, (2) enhances and supports current federal, state, and local plans and mechanisms to preserve these resources, and (3) avoids short and long term development pressures leading to unnecessary conversion of these resources for other uses."

(Natural Resource Management Guide Introduction, Virginia Instruction 1940-G of November 3, 2011)

This tool relates to the following Compatibility Factors: Existing Development, Planned Development Natural Habitat, and Environmental Pollution.

- *2035 Regional Long Range Transportation Plan*

This plan was developed as a component of VDOT VTrans 2035 and especially addresses strategies to improve safety and accessibility along the Route 13 corridor throughout Accomack and Northampton Counties.

This tool relates to the following Compatibility Factor: Transportation Infrastructure.

- *Accomack-Northampton Planning District Commission*

A-NPDC is one of the 21 PDCs in the Commonwealth of Virginia. It was created by the Commonwealth of Virginia, the County of Accomack and the County of Northampton under the Regional Cooperation Act (Code of Virginia, Section 15.2-4200). It was joined by the Town of Chincoteague. The A-NPDC supports local planning and community development efforts and focuses on issues of regional importance.

This tool relates to the following Compatibility Factor: Coastal Resiliency

- *Eastern Shore of Virginia Climate Adaptation Working Group (CAWG)*

The Eastern Shore of Virginia CAWG is a partnership aimed at working collaboratively to accomplish coastal planning for mitigating risks associated with climate change and sea level rise. The group is composed of nearly 30 local, state and federal government agencies and non-government organizations with A-NPDC as the lead agency. The mission of the group is to provide educational outreach and develop planning tools to assist local governments and residents. (Source: http:/?a-npdc.org/climate-adaptation-working-group/)

This tool relates to the following Compatibility Factor: Coastal Resiliency

3.4 FEDERAL TOOLS AND LEGISLATION

- *Department of Defense Instruction 4165.57 Air Installations Compatible Use Zones (AICUZ)*

This instruction was developed to assist local governments and communities in identifying and planning for compatible land use and development near military installations. The goal of the program is to protect the health, safety and welfare of civilians and military personnel and preserve an installation or airfield's operational capabilities. One land use planning component utilized within the AICUZ program is the designation of safety hazard zones called Accident Potential Zones. APZs are designated areas where the Navy encourages land uses which are compatible with aircraft operations in order to minimize the risk of the public in the unlikely event of an aircraft mishap.

Additionally, this instruction includes guidelines on compatible land use and development within the noise zones associated with airfield operations and surrounding communities.

The Navy and other DOD organizations operate at WFF as tenants on a non-DOD facility. Formal DOD guidance, such as AICUZ, is not officially recognized by non-DOD agencies, including NASA, as their direct mission does not involve traditional aircraft operations. However, because the majority of flight operations at WFF are DOD, AICUZ guidelines were among several factors considered when conducting this study.

This tool relates to the following Compatibility Factors: Existing Development, Planned Development, Noise, Safety Hazard Zones, and Height Restrictions.

- *DOD Siting Clearinghouse*

The DOD Siting Clearinghouse coordinates all on-shore and near-shore renewable energy projects in accordance with Section 358 of FY11 National Defense Authorization Act and 32 Code of Federal Regulations Part 211. The DOD and the Navy formally review all tall structures, including renewable / wind energy projects that are filed with the FAA for adverse impacts to operations.

This tool relates to the following Compatibility Factors: Planned Development and Height Restrictions

- *Executive Orders 13690 and 11988*

In accordance with Executive Order 11988, and 13690 that amends it, Federal agencies must ensure new construction is designed to reduce the risk of flood loss and to minimize the impact of floods on human safety, health, and welfare. As a Federal agency, and as the landowner at WFF, NASA is required to comply with this mandate for construction of new structures or facilities. The Executive Order states that NASA has a responsibility to evaluate the potential effects of any actions it may take in a floodplain and ensure that it's planning programs and budget requests reflect consideration of flood hazards and floodplain management. If after the risk evaluation is completed new construction is still planned to be located in a floodplain, flood proofing and other flood protection measures need to be applied to the project.

Compliance with this Order may increase the costs and planning time lines for any new facilities projects proposed at WFF.

This tool relates to the following Compatibility Factors: Planned Development and Coastal Resiliency

- *Task Force Climate Change*

Department of the Navy installation-level guidance on addressing the effects of severe storm events and increased flooding has not yet been developed. The Navy is in the process of conducting high level studies and establishing a framework for assessing risks posed by recurrent flooding and sea level rise to Navy installations. In support of these efforts, the Chief of Naval Operations created the Task Force Climate Change in 2009 as a forum for addressing the implications of climate change for national security and naval operations, determining time lines for Navy decisions regarding climate change, and ensuring the Navy is ready and capable to meet all mission requirements in the 21st century. In May 2010, the Task Force Climate Change released The Climate Change Roadmap five-year plan, which outlines the Navy's approach to assessing, predicting, and adapting to climate change in collaboration with federal, state, and local partners. As part of this approach, Naval Facilities Engineering Command (NAVFAC) is partnering with the U.S. Army Engineer Readiness and Development Center (ERDC) on a series of high-level installation vulnerability assessments that will determine risk from storm events, flooding, and sea level rise at individual Navy bases. Additional studies will be conducted for selected installations based on the results of these initial vulnerability assessments.

As these studies and assessments are completed, the risks posed by recurrent flooding will be better delineated and will inform future DOD/Navy mitigation measures.

This tool relates to the following Compatibility Factor: Coastal Resiliency.

- *United States Army Corps of Engineers, National Marine Fisheries Service and United States Fish and Wildlife Service*

These three agencies together ensure only appropriate permitting of new structures or dredging in the Eastern Shore waters.

This tool relates to the following Compatibility Factors: Planned Development, Environmental Pollution, and Natural Habitat

- *National Environmental Policy Act (NEPA) of 1969*

The NEPA requires federal agencies to provide documented reporting of operational and facility actions that may have an environmental impact, including declaration of potential impacts, analysis of alternative actions and recommendation of mitigation actions to reduce the potential impacts.

This tool relates to the following Compatibility Factors: Planned Development, Noise, Safety Hazard Zones, Environmental Pollution, Natural Habitat, and Wildlife.

- *Department of Defense Conservation Partnering Initiative*

This initiative authorizes DOD to partner with other agencies (federal and other) to facilitate conservation of land near military installations for the prevention of incompatible development that would conflict with the military mission.

This tool relates to the following Compatibility Factors: Existing Development, Planned Development, Noise, and Safety Hazard Zones.

3.5 OTHER COMPATIBILITY RESOURCES

- *Department of Defense Office of Economic Adjustment*

The OEA is "the DOD's field organization responsible for supporting state and local governments to respond to major defense program changes." It helps communities "develop comprehensive strategies to adjust to defense industry cutbacks, base closures, force structure realignments, base expansion and incompatibilities between military operations and local development. (OEA 2014)

This organization provides guidance for the entire array of Compatibility Factors.

- *The Nature Conservancy*

"The Nature Conservancy's mission is "to conserve the lands and waters on which all life depends." (TNC 2012)

Specific to Virginia's Eastern Shore, The Nature Conservancy controls, manages and protects 14 undeveloped barrier islands within its Virginia Coast Reserve.

This organization relates to the following Compatibility Factors: Planned Development, Natural Habitat and Wildlife.

"It would be very difficult for anyone to overstate just how important the agreement with NASA [to support FCLP training for E-2 and C-2 squadrons operating from Naval Station Norfolk Chambers Field] is to NASA, the Navy, and to the future of Naval aviation in the Hampton Roads region."

Vice Admiral Nora Tyson, deputy director of U.S. Fleet

This chapter provides a detailed analysis of the major challenges to compatible land use between the WFF and the surrounding Accomack County community. First, a definition of compatibility is needed.

Compatibility, with respect to land use, can be defined as the balanced condition where a military installation and the surrounding community coexist in a mutually beneficial relationship and are able to collaboratively plan development into the future.

Compatibility is at the heart of the goals for this JLUS, as repeated here from Section 1.3.1:

- *Protect the health, safety, and welfare of Accomack County residents living or working in potentially impacted areas surrounding the installation.*
- *Sustain the economic vitality of the Accomack County community.*
- *Promote a cooperative land use planning process in which the County collaborates with the Navy, local DOD and NASA organizations to safeguard their mission capabilities.*
- *Ensure engagement of local private property owners in the land use planning process.*

4.1 METHODOLOGY FOR COMPATIBILITY ANALYSIS

4.1.1 Compatibility Factors

Compatibility factors were developed to assess land use impacts from the viewpoints of both the surrounding community and the WFF. Initially based on OEA guidance (OEA 2006), each factor was also informed by available data and pertinent documents, reports, and studies; field investigations; and input from TAC and PSC members, key stakeholders, and input received during public meetings. The compatibility factors listed on the following page and shown on Figure 4.1 are the primary land use compatibility challenges used to assess the installation's operations impact on the community and the community's impact on installation operations.

The WFF's coastal location provides one example of the many factors that influence land use compatibility. In one sense, the remote coastal location in Accomack County provides clear access for flight operations and testing and an unobstructed view of the Atlantic Ocean, critical factors in the success of NASA and military missions at the WFF. Yet this very setting also challenges WFF operations by encroaching on its assets and infrastructure through reoccurring flooding, storm events, and coastal erosion.

Compatibility factors for evaluating the installation's operations impact on the surrounding community:

- **Noise:** Unwanted sound generated by the activities at the installation (e.g., aircraft noise, rocket launches)
- **Safety hazard zones:** Separate Navy and NASA guidance for public safety and welfare that identifies specific areas where an accident or mishap is more likely to occur, if one were to occur
- **Height restrictions:** Building/structure height restrictions on new development required by the installation and imposed by the County
- **Environmental pollution:** By-products of activities that require federal, state, or local regulatory consultation and oversight in order to protect natural resources, such as air quality or water quality
- **Natural habitat:** Habitat loss or degradation as a result of installation activities
- **Wildlife:** Wildlife incidents as a result of installation activities (e.g., bird and animal strikes by aircraft)
- **Transportation infrastructure:** Limited access and mobility on local roads because of installation activities or maneuvers (e.g., road closures required by WFF movements)

Compatibility factors for evaluating the community's impact on installation operations:

- **Existing development:** Existing land use or development that is incompatible with DOD/Navy public safety and welfare guidance documents
- **Planned development:** Permitted, planned, or proposed land use or development that is incompatible with DOD/Navy public safety and welfare guidance documents
- **Transportation infrastructure:** Aging or inadequate infrastructure, or limited roadway capacity
- **Electromagnetic interference (EMI):** Disruption in the operation of electronic equipment, such as communications systems, because of electromagnetic radiation from another source, which may include industrial equipment, such as wind turbines, or common household equipment with electric motors, wireless devices, or various types of transmitters
- **Radar system interference:** Physical obstructions, such as utility-scale wind turbines, that interfere with or block radar return signals
- **Light pollution:** Ambient lighting from local structures that could affect installation activities/maneuvers

Fig. 4.1 Compatibility Factors Affecting Missions and Training

- **Coastal Resiliency:** Impact of recurrent flooding, sea level rise, and/or storm surge events on assets and infrastructure located at the installation
- **Natural habitat:** Presence of protected habitat areas (e.g., Important Bird Areas, National Wildlife Refuges, etc.) in proximity to the installation
- **Wildlife:** Presence of wildlife and protected species and habitat in proximity to the installation

4.1.2 Basic questions for determining compatibility factor application for this JLUS

Operational data was organized and examined in detail to determine the nature and extent of existing and potential future impacts on compatible land use in the operational footprint. The following criteria were used to evaluate the level of impact:

- Does this issue have a current impact? Each issue was rated based on its current impact on community well-being or, conversely, on WFF mission operations. Priority focus was given according to the relative significance of the impact.

- Will this issue potentially have an impact in the future? Issues were rated based on the potential future impact that may result from permitted, planned, or proposed operational or land use changes. Priority focus was given according to the relative significance of the impact.

- What is the location of the issue? Issues were rated based on location. Those on the WFF or areas of the county in the operational footprint received the highest attention.

The relative significance of impacts on compatible land use is described in this study using the following ratings:

- Minor impact: Does not restrict WFF missions or community activities or development to the point that normal operational procedures, policies, or activities must be changed.

- Moderate impact: Marginalizes WFF missions or community activities/development, and requires alternate approaches or operational procedures.

- Major impact: Prohibits WFF mission execution or community activities/development or makes the WFF mission or community activities/development ineffectual.

4.2 COMPATIBILITY ANALYSIS KEY FINDINGS SUMMARY

The physical setting of the WFF is made up of man-made and natural features that both provide favorable operating conditions for the various NASA and military missions and negatively impact these missions (see Table 4.1). Accomack County must balance the interests of people and the environment in order to fulfill its long-term planning vision of developing "*the County's overall wealth and well-being…in a manner that is sustainable for future generations*" (Accomack County 2008).

WFF assets and operations provide an essential job base in the County and Delmarva region; therefore, businesses choose to be located close to WFF facilities to provide services to NASA and WFF tenants and employees. The type, intensity, and location of development determine whether or not it will interfere with existing or proposed WFF operations. The County also must consider the larger contexts of the natural environment and infrastructure capacity and costs (i.e., roads, utilities, and energy supplies) in its planning and development approval process. The Joint Land Use Study provides a framework for bridging these interests. The planning time frame established for this study is 20 years. The analysis included for each of the issues identified falls within this planning time frame.

Compatibility Issues identified as having a major impact are detailed in Sections 4.1 – 4.5 and include:

- *Coastal Resiliency*
- *Land Use Compatibility in Aircraft APZs and Rocket Range Hazard Area Arcs*
- *Land Use Compatibility in Aircraft Noise Zones*
- *Electromagnetic and Radar System Interference*
- *Offshore Alternative Energy Development*

It is critical for the County and its residents to understand the compatibility factors discussed in Section 4.1 and to identify areas where incompatible use of resources is impacting the WFF or the community. The purpose of Chapter 4, the impact assessment and compatibility analysis, is to frame, assess, and summarize the major compatibility issues for the WFF and community, as defined by the TAC/PSC. Chapter 4 is organized into sections based on whether a compatibility issue is man-made or natural in origin. For each issue, the methodology used in assessing impacts is presented, followed by an assessment of impacts on the WFF and community, and a conclusion.

Following Chapter 4, and based on its analysis, Chapter 5 – Recommendations, discusses collaborative strategies for addressing compatibility issues.

Table 4.1 Accomack County Stakeholder Identified Major Compatibility Issues

Type of Impact	Compatibility Factors	Identified Major Compatibility Issue
Manmade Environment	Noise	Noise Generated by aircraft
	Safety Hazard Zones	Incompatible Development in Safety Hazard Zones
	Height Restrictions	Incompatible Development in Safety Hazard Zones
	Environmental Pollution	*No major issues identified*
	Existing Development	Incompatible Development in Safety Hazard Zones Noise Generated by aircraft
	Planned Development	Incompatible Development in Safety Hazard Zones Noise Generated by aircraft Offshore Alternative Energy Development
	Transportation Infrastructure	*Further analysis identified natural environment impacts to transportation infrastructure*
	Light Pollution	Incompatible Development in Safety Hazard Zones
	Electromagnetic Interference	Electromagnetic and Radar Interference
Natural Environment	Natural Habitat	Coastal Resiliency
	Wildlife	Coastal Resiliency
	Coastal Resiliency	Coastal Resiliency *(includes Transportation Infrastructure)*

4.3 COMPATIBILITY ISSUES — NATURAL IMPACTS

4.3.1 ISSUE: COASTAL RESILIENCY

INTRODUCTION AND METHODOLOGY

The natural coastline at WFF Wallops Island has eroded significantly over the six decades that NASA has occupied the site, requiring NASA to construct physical barriers and re-nourish the beach to prevent damage to facility assets on the coast (NASA 2010a). WFF Wallops Island's location on the coast directly supports the mission activities of NASA, the MARS, and the Navy's SCSC by providing direct access to offshore operational areas and a clear line of sight for radar and communications. The Navy's SCSC facilities interact with ships at sea and must have access to maritime training space to conduct system development and real-time maritime testing and training (NASA 2010a). There are no alternative sites in the continental U.S. for performing many of the missions assigned to the SCSC.

Federal, state, and local agencies, as well as public partners, are working to better define the risks associated with climate change and sea level rise on a national level, as well as for coastal Virginia and Accomack County. An overview of relevant policies and programs that seek to address coastal resiliency is included in Chapter 3. For this analysis, a qualitative review of the existing policy and regulatory framework was conducted, in the broad context of coastal resiliency and then specific to the geographic range of the study area and the planning horizon.

IMPACT ASSESSMENT

Flooding and storm-related damage pose significant risks to assets on WFF Wallops Island because of the potential for interruptions in operations or complete loss of these assets. Based on its location on a barrier island, WFF Wallops Island is the most vulnerable of the WFF properties due to increased flood risk associated with climate change and sea level rise. During the Recurrent Flooding Study for Tidewater Virginia (VIMS 2013), coastal flooding was identified as the predominate threat to this region. The majority of flooding that occurs is tidal flooding, which primarily occurs in conjunction with coastal storms such as hurricanes, northeasters, and tropical storms. However, site-wide, the WFF is also vulnerable to recurrent flooding from intense and frequent coastal storms, storm surges, increasingly intense and unevenly distributed rain events, and rising water tables as a result of saltwater intrusion and land subsidence.

Shoreline erosion resulting from storm surges and tidal action has resulted in the need to implement expensive engineering solutions to protect NASA, MARS, and Navy assets located at WFF Wallops Island.

In 2010, the facility spent $20 million re-nourishing the beach at WFF Wallops Island. The beach re-nourishment was a phase of the Wallops Island Storm Reduction Project that NASA is undertaking in partnership with the U.S. Army Corps of Engineers. Prior to the project, coastal storms and tidal action had eroded the natural beach and were undermining the seawall, leaving it vulnerable to failure in the event of future storms and putting critical Navy, NASA, and MARS assets at risk of damage (NASA 2012; NASA 2010a,b). The project included repairing and extending the existing 15,900-foot seawall an additional 1,400 feet along the island's shoreline, re-nourishing the beach, and installing sand fencing and beach grasses to slow erosion.

In 2012, NASA spent approximately $42 million to initially rebuild 3.7 miles of its beach and repair and extend its existing rock seawall. In response to damages sustained during Hurricane Sandy in October 2012, at a cost of approximately $11.5 million. NASA nourished its shoreline again in 2014, placing approximately 650,000 cubic yards of sand along the southern two-thirds of the Wallops

Island beach.

In addition to engineering solutions, SCSC and NASA maintain existing mitigation measures that are implemented during storm events. The temporary relocation of equipment, technology, and files is often required to preserve assets. Additional beach re-nourishment is planned to occur on a cycle of every three to seven years, depending on the condition of the shoreline. NASA is currently preparing a Programmatic Environmental Impact Statement (PEIS) that has identified a number of new facilities and assets that have the potential to be located at WFF Wallops Island. These facilities must comply with federal and state guidance specific to recurrent flooding. As WFF Wallops Island is located entirely within a floodplain, these mandates may impact the siting of proposed facilities.

WFF Wallops Island and WFF Mainland are located almost entirely within Accomack County's special flood hazard area. In addition, the WFF Wallops Island shoreline and marsh areas on both sites are within FEMA Flood Zone VE, which indicates these areas are at risk from additional hazards caused by storm-driven water, wave action, or debris carried by water that is likely to cause damage to structures (FEMA, n.d.). Special flood hazard areas also are designated around the perimeter of WFF Main Base, along Little Mosquito Creek, Jenneys Gut, and Simoneaston Creek. The WFF Main Base, located east of the airfield, is in FEMA Flood Zone VE. Mission requirements drive the siting and location of facility assets, and there is no practicable alternative at the WFF to avoid development within the floodplain.

The Recurrent Flooding Study for Tidewater Virginia (VIMS 2013) evaluates increasingly frequent storm-driven water levels that flood developed areas. The natural resource-based agriculture and seafood industries of the Eastern Shore region are being impacted by these floods, with farmlands experiencing increased inundation and salt contamination and local seafood industries experiencing problems created by stormwater runoff and changes in coastal dynamics (VIMS 2013). Most notably, findings from this report identified potential flood zones that were based on a projected sea level rise of 1.5 feet and a projected storm surge of 3.0 feet.

The study identified areas that would be vulnerable to potential flooding as a result of predicted sea level rise and storm surge, as depicted in Table 4.2. Based on the sea level rise and storm surge calculations completed by VIMS, WFF Wallops Island is expected to experience severe flooding during storm events within the next 20-50 years. These projections include calculations for precipitation, storm frequency, and sea level rise; based on these factors the frequency and severity of flooding events is only likely to increase*. Sea level rise will make it easier for the current patterns of weather events to generate damaging flood events in the future. Increases in storm intensity and/or frequency will add to that circumstance (VIMS 2013).

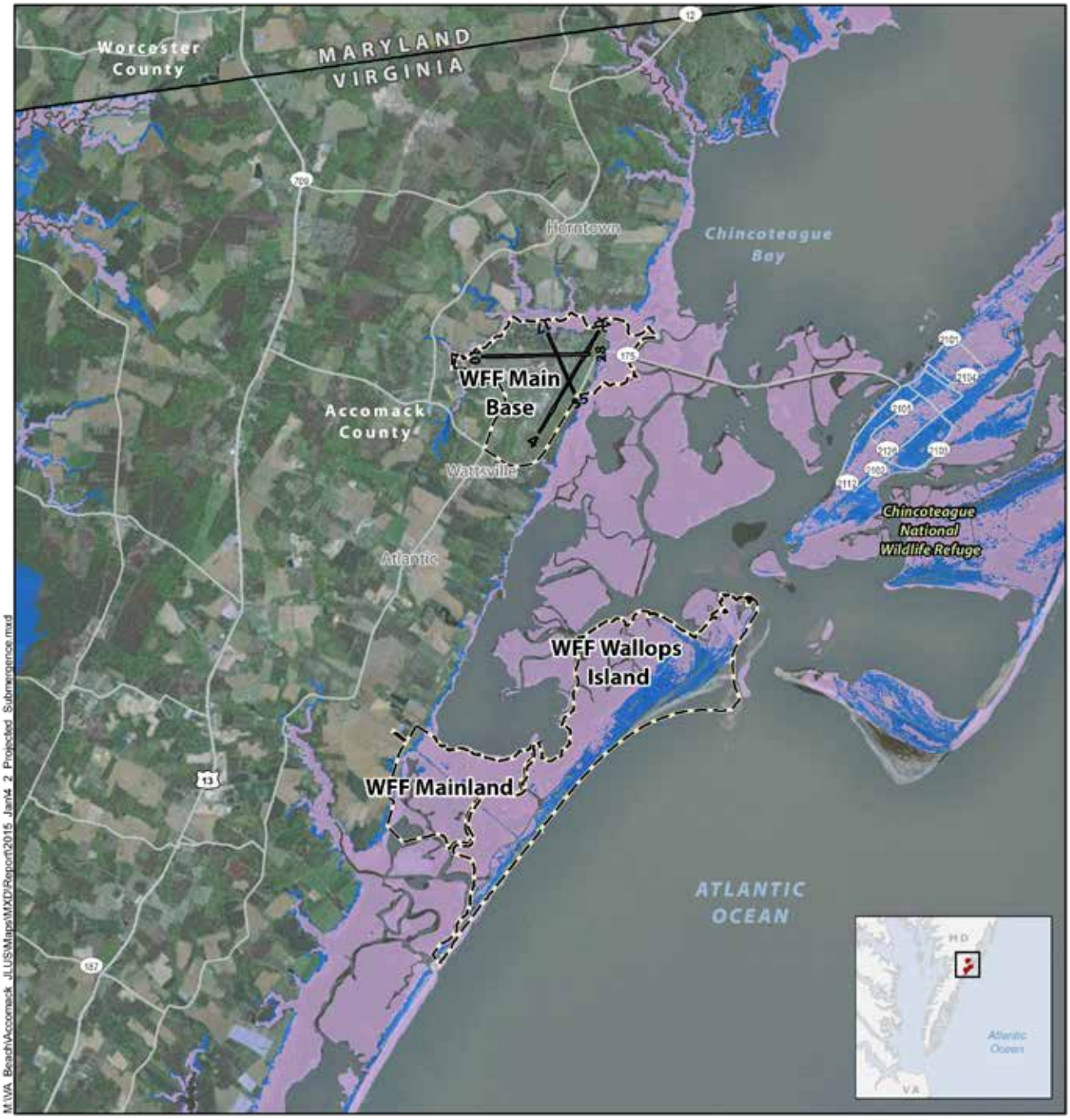
Roads that provide access to the WFF are included in the 326 miles of roadway that are estimated to be vulnerable to submergence as a result of sea level rise or projected storm surges. Specifically, Causeway Road and Route 175 are expected to become increasingly vulnerable to flooding or damage from coastal weather conditions. Road closures in Accomack County also result from precipitation-related flooding that is caused when the intensity of precipitation surpasses the capacity of the soil or stormwater drainage systems to handle stormwater runoff (see Figure 4.5). The flood frequency numbers provided in Figure 4.5 indicate the number of times a road location has been closed as a result of flooding between August 2008 and May 2012 (VIMS 2013). To address road flooding and damage, the A-NPDC has identified the impact of coastal conditions as a regional concern, and is undertaking a planning study to identify and evaluate transportation and infrastructure vulnerability along the Eastern Shore of Virginia due to coastal inundation. This study will indicate especially vulnerable transportation assets within the two counties.

** The data showing the estimated frequency and duration of these flood events was not readily available for inclusion in this study. The VIMS assessment depicts ephemeral storm surge flooding, rather than permanent flooding of facilities in those areas. It also does not include such factors as marsh accretion (e.g., Kirwan et al, 2010), which could raise elevations and consequently reduce the areas depicted as projected potential flooding in simulated flooding scenarios.*

Table 4.2 - Predicted Sea Level Rise & Storm Surge

	TOTAL AREA IN ACRES	% TOTAL AREA POTENTIALLY FLOODED	% POTENTIALLY FLOODED = DEVELOPED	VULNERABLE LAND (SQ. MILES)	ROAD MILES POTENTIALLY FLOODED
ACCOMACK COUNTY	289,612	0.41	0.02	208	326

Source: VIMS 2013



SOURCE: ESRI 2010, 2012; Mitchell, M., C. Hershner, J. Herman, D. Schatt, E. Eggington, and S. Stiles 2013; WorldView Solutions Inc 2007.

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Legend

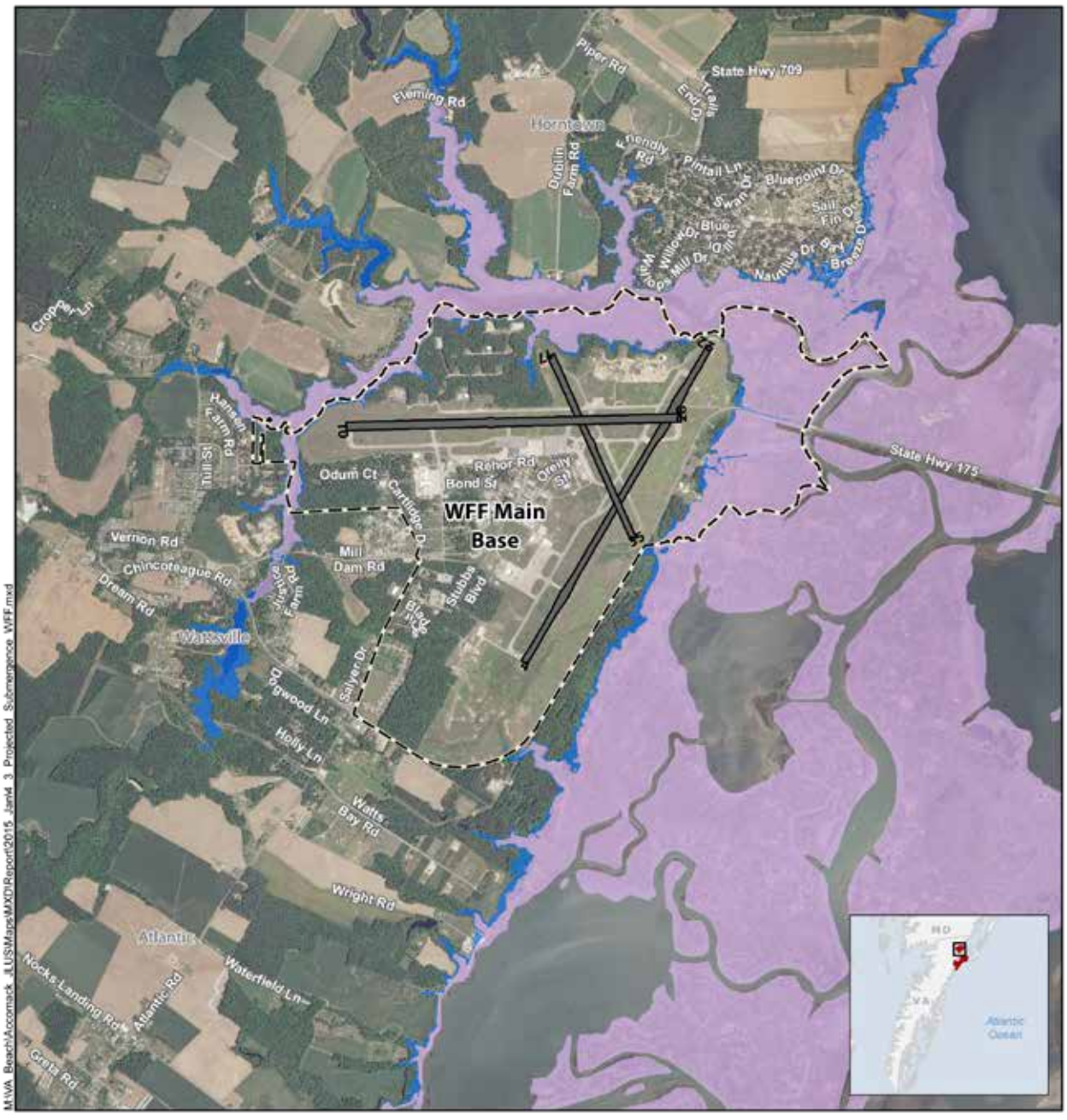
- State Boundary
- Major Road
- Wallops Flight Facility Area
- Runway

VIMS Potential Flood Zones (2013)

- Projected Sea Level Rise Elevation (1.5ft)
- Projected Storm Surge (3ft)

Figure 4.2
Projected Potential Flooding, 20 - 50 yr horizon, Joint Land Use Study,
Accomack County, Virginia

Note: Data depicted represents projected potential flooding during storm events over the next 20-50 years.



SOURCE: ESRI 2012; Mitchell, M., C. Hershner, J. Herman, D. Schatt, E. Eggington, and S. Stiles 2013; NAIP 2012; WorldView Solutions Inc 2007.

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Legend

- Road
- Wallops Flight Facility Area
- Runway

VIMS Potential Flood Zones (2013)

- Projected Sea Level Rise Elevation (1.5ft)
- Projected Storm Surge (3ft)

Figure 4.3
Projected Potential Flooding,
WFF Main Base,
20 - 50 yr horizon
Joint Land Use Study,
Accomack County, Virginia

Note: Data depicted represents projected potential flooding during storm events over the next 20-50 years.

N

0 1 2 Miles

Legend

- Road
- Wallops Flight Facility Area

VIMS Potential Flood Zones (2013)

- Projected Sea Level Rise Elevation (1.5ft)
- Projected Storm Surge (3ft)

SOURCE: ESRI 2010, 2012; Mitchell, M., C. Hershner, J. Herman, D. Schatt, E. Eggington, and S. Stiles 2013; WorldView Solutions Inc 2007.

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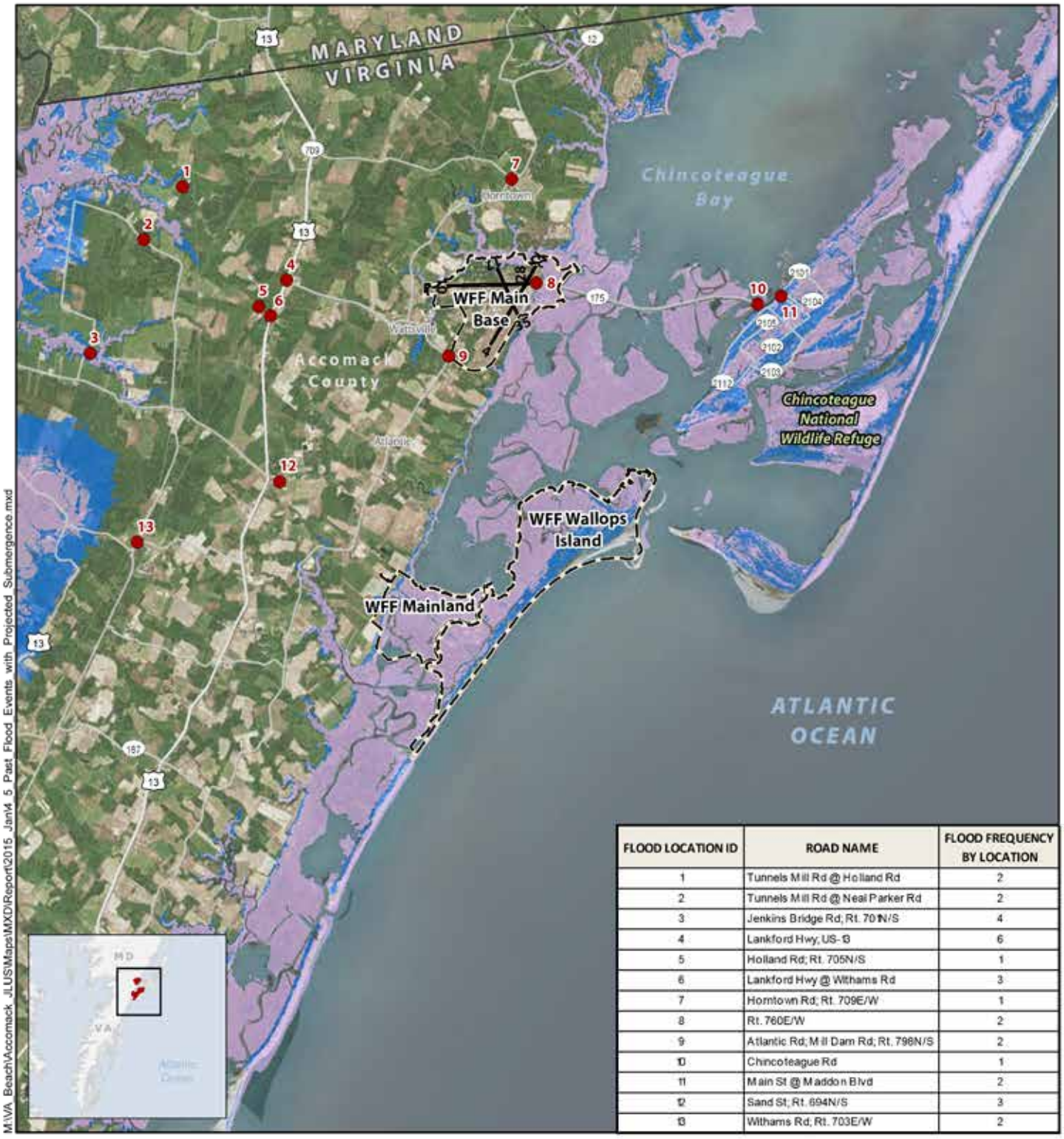
Figure 4.4
Projected Potential Flooding, 20 - 50 yr horizon
Wallops Island and WFF Mainland, Joint Land Use Study,
Accomack County, Virginia

Note: Data depicted represents projected potential flooding during storm events over the next 20-50 years.



FLOOD LOCATION ID	ROAD NAME	FLOOD FREQUENCY BY LOCATION
1	Tunnels Mill Rd @ Holland Rd	2
2	Tunnels Mill Rd @ Neal Parker Rd	2
3	Jenkins Bridge Rd; Rt. 701N/S	4
4	Lankford Hwy; US-13	6
5	Holland Rd; Rt. 705N/S	1
6	Lankford Hwy @ Withams Rd	3
7	Hornton Rd; Rt. 709E/W	1
8	Rt. 760E/W	2
9	Atlantic Rd; Mill Dam Rd; Rt. 798N/S	2
10	Chincoteague Rd	1
11	Main St @ Maddon Blvd	2
12	Sand St; Rt. 694N/S	3
13	Withams Rd; Rt. 703E/W	2

Legend

- State Boundary
- Major Road
- Wallops Flight Facility Area
- Runway
- VDOT Flood Event Location

VIMS Potential Flood Zones (20 - 50 yr horizon)

- Projected Sea Level Rise Elevation (1.5ft)
- Projected Storm Surge (3ft)

0 1 2 Miles

SOURCE: ESRI 2010, 2012; Mitchell, M., C. Hershner, J. Herman, D. Schatt, E. Eggington, and S. Stiles 2013; VDOT 2014; WorldView Solutions Inc 2007.

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Figure 4.5
Past Flood Events with Projected Potential Flooding, Joint Land Use Study,
Accomack County, Virginia

THE FLOOD FREQUENCY NUMBERS INDICATE THE NUMBER OF TIMES A ROAD LOCATION HAS BEEN CLOSED AS A RESULT OF FLOODING BETWEEN AUGUST 2008 AND MAY 2012 (VIMS 2013).

CONCLUSION

The Recurrent Flooding Study for Tidewater Virginia found that "recurrent flooding is a significant issue in Virginia coastal localities and one that is predicted to become worse over reasonable planning horizons (20-50 years)." The direct and indirect costs of flooding are identified in Table 4.3. With 82% of the Virginia coastline considered at high or very high risk to sea level rise (NOAA), numerous other recurrent flooding and sea level rise studies and initiatives have been undertaken recently for Coastal Virginia. These include Old Dominion University's (ODU) Climate Change and Sea Level Rise Initiative and the establishment of the Mitigation & Adaptation Research Institute - also at ODU.

Accomack County is currently experiencing recurrent flooding as a result of storm surges, increasingly intense and unevenly distributed rain events, and rising water tables as a result of saltwater intrusion and land subsidence. This flooding is expected to worsen over the next 20 to 50 years. The County has existing partnerships to preserve and conserve lands located within this dynamic coastal environment; however, there are mission critical WFF assets currently experiencing flooding that also need to be preserved. Mission requirements drive the siting and location of facility assets and, as a result, WFF Wallops Island and WFF Mainland are located almost entirely within Accomack County's special flood hazard area, as well as FEMA Flood Zone VE.

Regulatory and policy requirements may limit the WFF's ability to expand and accommodate new mission activities, as compliance with these mandates may increase the costs and planning time lines for any new facilities that are proposed..

In June 2014 NASA launched the Mid-Atlantic Coastal Resiliency Institute (MACRI). MACRI is a multi-state, multi-disciplinary partnership dedicated to integrated climate research with the goal of helping local and regional leaders make coastal communities and habitats more resilient through the use of science and its applications to understand, predict and integrate resilience into local, state and regional planning policy. The partnership includes federal, state, and academic stakeholders. Ensuring the long-term sustainability of facility assets located along the coastline and minimizing any resulting negative economic impacts will require continued coordination among Accomack County, NASA, and the DOD as the projected risk of increased flooding and storm damage continues over the coming years.

Table 4.3 - Direct and Indirect Costs of Flooding (adapted from the World Bank, 2010)

	Tangible	Intangible
Direct Costs	Repair, replacement, and cleaning costs of assets (cars, buildings, etc.)	Loss of human life
	Damage to public infrastructure	Loss of ecological functions
	Damage to commercial and residential buildings	Loss of historic/archeological resources
	Crop and livestock loss	
	Loss of productive land/shallow water	
Indirect Costs	Loss of industrial production or revenues	Long-term health costs from toxins in flood waters or injuries
	Increased operational costs (commercial or public service entities)	Post-flood recovery inconvenience and vulnerability
	Lost earnings or wages	
	Time costs from traffic issues	
	Emergency flood management costs	
	Flood-proofing costs	

Source: VIMS 2013

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4.3.2 ISSUE: LAND USE COMPATIBILITY IN AIRCRAFT APZS AND ROCKET RANGE HAZARD AREA ARCS

INTRODUCTION AND METHODOLOGY

- *Aircraft APZs*

DOD AICUZ Program guidance includes recommendations for compatible land use types and development densities in APZs. The DOD considers many types of land uses to be compatible in aircraft APZs. Overall, low density development and land uses that do not gather large concentrations of people are the most compatible within the APZs. The AICUZ Program's land use compatibility guidance for the APZs ranges from more to less restrictive based on an APZ's distance from the runway. The Clear Zone starts at the end of the runway, and should remain undeveloped and free of structures that may be hazards to aviation. Moving further out from the runway and the Clear Zone, in APZ I and APZ II a variety of land uses are considered compatible. However, it is recommended that people-intensive uses (e.g., schools, apartments, hospitals, churches, etc.) be limited because of the greater risk to public safety in these areas.

For this study, existing land uses, zoning, and planned, proposed, and permitted future land uses were compared to DOD AICUZ guidance to determine areas where existing or future land uses may be incompatible with Navy guidance.

The categories used to define existing land uses in this study are listed in Table 4-4. Broad categories were developed based on the AICUZ Program guidance. The compatibility of the County's zoning ordinance with AICUZ Program guidance was assessed through desktop analysis. This included comparing the land uses allowed by the County's zoning ordinance to the AICUZ Program land use compatibility recommendations. The results of this comparison are shown in the tables provided in Appendix E.

This study defines ***existing land use*** as buildings and structures that have already been constructed and land use activities that are in place.

Future land use must be assessed based in the context of the community's vision for its future character and growth as defined in the County's long-range planning documents and policies. The County's land use planners, Planning Commission, and Board of Supervisors write the County's land use plans and ensure that future land use is consistent with the community's vision.

This study defines ***future land use*** as land use that: (1) is identified (planned) in the County's approved Future Land Use Plan (Accomack County 2008); (2) is proposed by private developers that have submitted permit applications to the County; or (3) that has been approved (permitted) by the County and planned for construction. In some cases, development that the County has approved, such as residential subdivisions, may not have been constructed and/or may not be constructed for many years, or at all, due to economic or other factors. This development is defined in this study as future land use.

To assess the compatibility of future land use with the AICUZ Program guidance, the County's planned future land use designations, proposed development in the operational footprint, and approved residential subdivisions that have not yet been developed were mapped. The mapped data was overlaid on the aircraft safety zones and compared to AICUZ Program guidance for this assessment.

Table 4.4 Existing Land Uses within the Aircraft APZs

Land Use	Clear Zone (acres)	APZ I (acres)	APZ II (acres)	Grand Total (acres)
Agriculture	62	604	1,727	2,393
Educational Services	0	6	0	6
Forestry	120	449	1,577	2,146
Government Services	0	4	0	4
Livestock	2	14	60	76
Military	0	2	0	2
Outdoor Recreation	0	4	9	13
Public Assembly	0	< 1	3	3
Resource Extraction	0	17	0	17
Retail	0	< 1	5	6
Services	0	5	15	20
Single Unit Residential	74	345	396	815
Undeveloped	37	687	927	1,650
Utility	0	0	2	2
Vacant	0	0	5	5
Water	0	0	5	5
Grand Total	295	2,137	4,731	7,163

Notes: Existing land use acreages were developed using the Accomack County parcel data, which exclude county roads, steams, and open water. Parcels with private roads also were excluded from the analysis. Numbers may not add up exactly due to rounding.

- *Rocket Range Hazard Area Arcs*

Range hazard area arcs are implemented by NASA during rocket launch operations to ensure the safety of persons and property. These arcs define areas where people could be required to take special precautions, including temporarily leaving (or relocating within) their residences, such that NASA's range safety criteria are met, and the subject launch can occur. As noted in Section 2.4, NASA has developed a 10,000- and 20,000-foot range safety arcs as planning-level tools for this JLUS. NASA does not provide guidance for acceptable land uses within these arcs, but instead provides the arcs as a general guide for risk assessment within a geographical area specific to each launch. Existing land uses, County zoning, and future land uses were assessed and compared to the rocket range hazard area arcs using the same methodology described above. NASA's primary safety concern is the number and location of occupied structures in the arcs. Therefore, the latest structure counts collected and verified by NASA are presented in this section. Accomack County zoning and future land uses are assessed for the potential for additional occupied structures to be constructed within the arcs.

IMPACT ASSESSMENT

- *Aircraft APZs*

  - Existing Land Use

The aircraft APZs cover approximately 7,163 acres of land outside of the WFF Main Base boundary. Table 4.4 shows the acreage of the different types of land uses that are in the aircraft APZs, not including WFF Main Base. Existing land uses in the aircraft APZs are shown on Figure 4.6 (detailed mapping is provided in Appendix F). There are 6,718 acres of compatible land located within the APZs. Figure 4.7 shows all the incompatible existing land uses located within the APZs.

Development located within the Clear Zone presents the most serious potential risks to public safety. The Clear Zones represented in the 2014 APZ's are identical to the Clear Zones represented in the 2008 APZ's. Agriculture and undeveloped land are considered compatible land uses within the Clear Zone (see Figure 4.7). Forested land may also be compatible. Undeveloped, forested land is considered compatible according to AICUZ Program

guidance; however, forestry activities are not recommended. Approximately 4 acres of the Clear Zones are currently occupied by livestock operations. This land use is not recommended. There are also approximately 74 acres of residential land uses located in the Clear Zones, primarily in the Trails End campground resort community. The small parcel sizes permitted in the campground resort place a large number of people within the Clear Zone, which is not recommended. In general, residential development is discouraged within the Clear Zone. Medium-density residential development north of Wattsville also concentrates development in the Clear Zone and one additional residence is located within the Clear Zone north of Runway 17/35. In addition, the USFWS operational facilities are located south of Runway 04/22 within the Clear Zone and both the buildings and storage areas are discouraged by Navy guidance.

"It shall be unlawful for any person to erect any structure, any part of which penetrates into or through any licensed airport's or United States government or military air facility's clear zone, approach zone,..." (Virginia Code, § 5.1-25.1)

APZs I and II recommend more land use types than the Clear Zone. Within APZ I there are 1,776 acres of compatible land, and within APZ II there are 4,723 acres of compatible land. Undeveloped land, forested land, and agricultural land are the most prevalent land use types currently located in APZ I and APZ II, and are all considered compatible with AICUZ Program guidance for aircraft APZs. Single-unit residential development below a maximum density of one to two residential units per acre—equivalent to medium-density residential development found in Accomack County—is not recommended in APZ I but may be considered compatible in APZ II. This single-unit residential land use is the fourth most prevalent land use type by acreage, and covers 345 acres in APZ I and 396 acres in APZ II. It is important to note, however, that mobile home parks similar to the residential development found north of Wattsville are not considered compatible in APZ II. Trails End, as well as medium-density residential areas north and south of Wattsville, are located within the APZs.

Land uses that gather concentrations of people are not recommended in any APZ. There are currently several uses that are not recommended within APZs I and II. The Chincoteague Bay Field Station is located in APZ I, and in addition to providing classes for children and adult

students, also provides dormitory housing on the property; this increases safety concerns because of the concentration of people present year-round at this location. Various retail stores and service-oriented businesses are located in APZs I and II, primarily along Chincoteague Road. Depending on the type of business and the number of people likely to be present at these businesses at a given time, retail and service land uses may be considered compatible (see Appendix E).

Some of the undeveloped parcels in the aircraft APZs are protected conservation lands. The acreage of conservation lands in each aircraft APZ is shown in Table 4.5. Because conservation lands are undeveloped, they are considered compatible in the aircraft APZs. While not specifically addressed by AICUZ Program guidance, protected conservation lands can provide important buffers between military installations and developing communities, in addition to protecting important natural resources and scenic areas.

- Zoning

Accomack County designates land within the Clear Zones that extend off the WFF Main Base as part of the "Agricultural" zone. Land within APZs I and II is largely zoned "Agricultural;" however, there are also areas designated "Residential," "General Business," or "Industrial" zones, which may experience more intense development. Table 4.6 and Figure 4.8 show existing zoning within the aircraft APZs.

Land uses permitted by right or conditionally permitted in each of these zoning districts have been compared to AICUZ Program land use compatibility guidance in Appendix E. The Agricultural zoning district permits by-right land uses, which may be considered incompatible

Aircraft APZs continued...

in all of the APZs. To protect public health and property and pilot safety, AICUZ Program guidance recommends that no buildings or structures be constructed in Navy airfield Clear Zones. Therefore, while field and row crops are considered compatible in the Clear Zone, other agricultural activities, forestry, and other built land uses permitted by-right in the county's Agricultural district are considered incompatible.

Table 4.5 Protected Conservation Lands in the Aircraft APZs (included in Undeveloped Land Category)

Aircraft APZ	Acres
Clear Zone	*95*
APZ I	*572*
APZ II	*1,059*
TOTAL	1,726

Source: Virginia DCR DSWC 2012
(not derived from field verification data)

While AICUZ Program guidance recommends limiting development and population density in APZs I and II, various types of built land uses, including manufacturing, retail, and agriculture related land uses, are considered compatible in the APZs (see Appendix E). Most residential development is considered incompatible in the aircraft APZs. However, single-unit residential land uses are considered compatible in APZ II, provided that residential densities are below one to two units per acre.

According to AICUZ Program guidance, clustered residential development in a planned unit development (PUD) is considered compatible if residential structures do not cover more than 20 percent of the total planned unit development area. Accomack County permits clustered residential development in the Agricultural district. While the County requires that the overall density of clustered residential development does not exceed one subdivided parcel per 5 acres, the County does not set a requirement for the total area that may be developed with residences (Accomack Code, 1982).

- Future Land Use

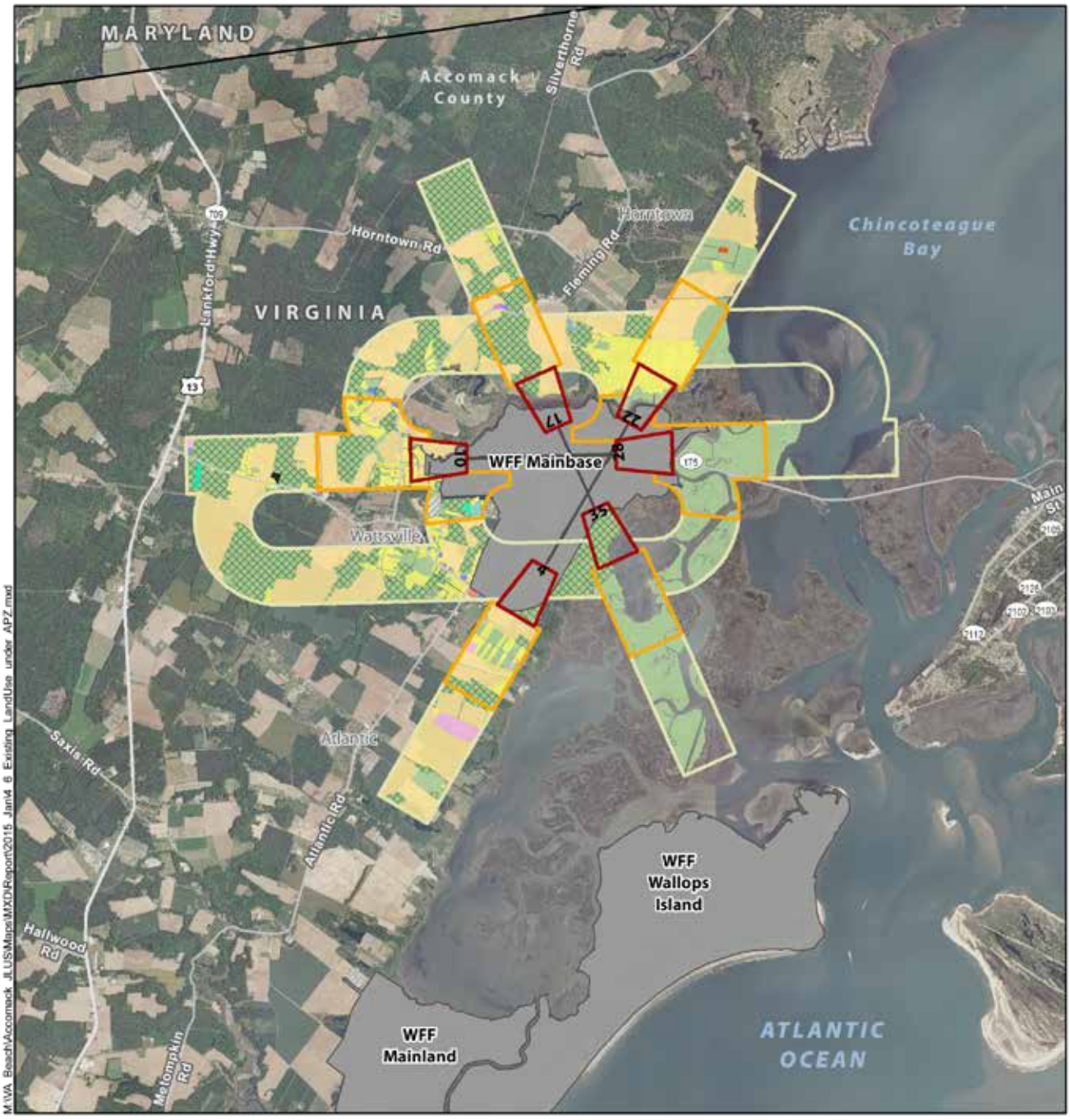
Based on the update of the future land use plan projected in the Accomack County Comprehensive Plan (adopted by the Accomack County Board of Supervisors in February 2014), there are 5,157 acres of compatible future land uses identified within the APZs. Of the total 7,163 acres, only 2,005 acres could be considered incompatible. Through the planning process, the County has the ability to minimize or avoid high intensity land uses in areas where they are not recommended. Table 4.7 and Figure 4.9 show planned future land uses in the aircraft APZs. Figure 4.9 identifies all the compatible future land uses that may be located within the APZs.

Of the future land uses that may be incompatible, approximately 400 acres of the Accomack Main Enterprise Zone west and south of the WFF Main Base lie within the APZs. Approximately 1 acre is located in the Clear Zone, 208 acres are in APZ I, and 181 acres are in APZ II. The permitted Wallops Research Park site is located in the enterprise zone, west of the WFF Main Base, along Mill Dam Road. Some elements of this development may be compatible land uses, and coordinated planning can ensure that the overall types and density of development remain consistent with Navy guidance. Approximately 178 acres of the Wallops Research Park site are within the APZs: less than 1 acre in the Clear Zone, approximately 110 acres in APZ I, and 68 acres in APZ II. Navy compatibility guidance recommends limiting development and population density within APZs I and II. In APZ I, this includes limiting not only residential development but also limiting services,

Table 4.6 Existing Zoning within the Aircraft APZs

Zoning Designation	Clear Zone (acres)	APZ I (acres)	APZ II (acres)	Grand Total (acres)
Agricultural	298	2,032	4,140	6,470
Residential	0	70	377	447
General Business	0	20	85	106
Industrial	0	60	69	129
Incorporated Town	0	0	11	11
Grand Total	**298**	**2,182**	**4,682**	**7,163**

Note: Numbers may not add up exactly due to rounding.



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SOURCE: Accomack County (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NAIP 2012; NASA (received) 2014; WorldView Solutions Inc 2007.

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Legend

- State Boundary
- Major Road
- Wallops Flight Facility Area
- Runway

Accident Potential Zones
- Clear Zone
- Accident Potential Zone I
- Accident Potential Zone II

Existing Land Use
- Agriculture
- Undeveloped
- Forestry
- Single Unit Residential
- Livestock
- Services
- Resource Extraction
- Outdoor Recreation
- Water
- Mobile Home Park
- Vacant
- Educational Services
- Public Assembly
- Retail
- Government Services
- Utility
- Military

* Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team.

Figure 4.6
Existing Land Use Under Accident Potential Zones, Joint Land Use Study,
Accomack County, Virginia

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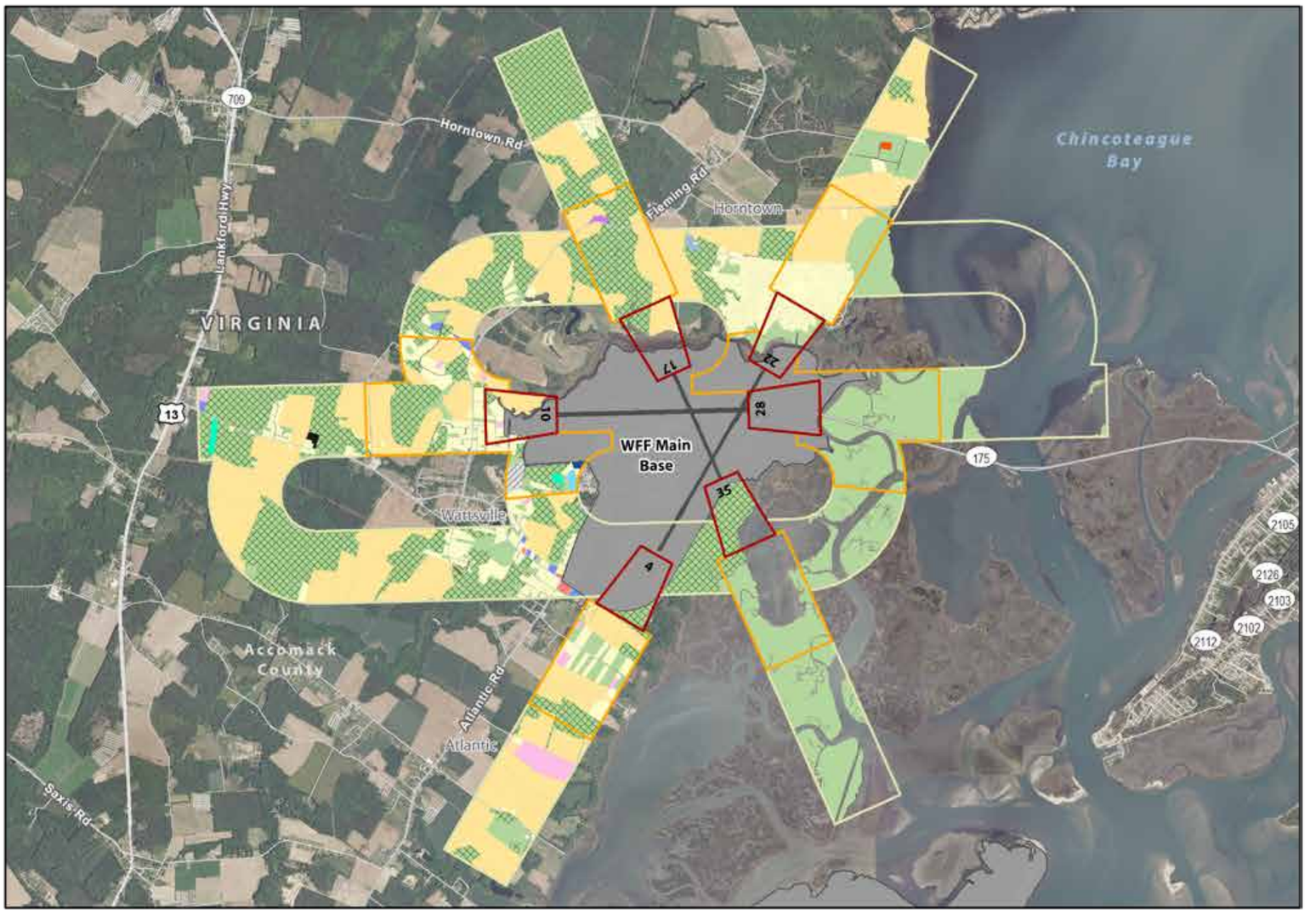

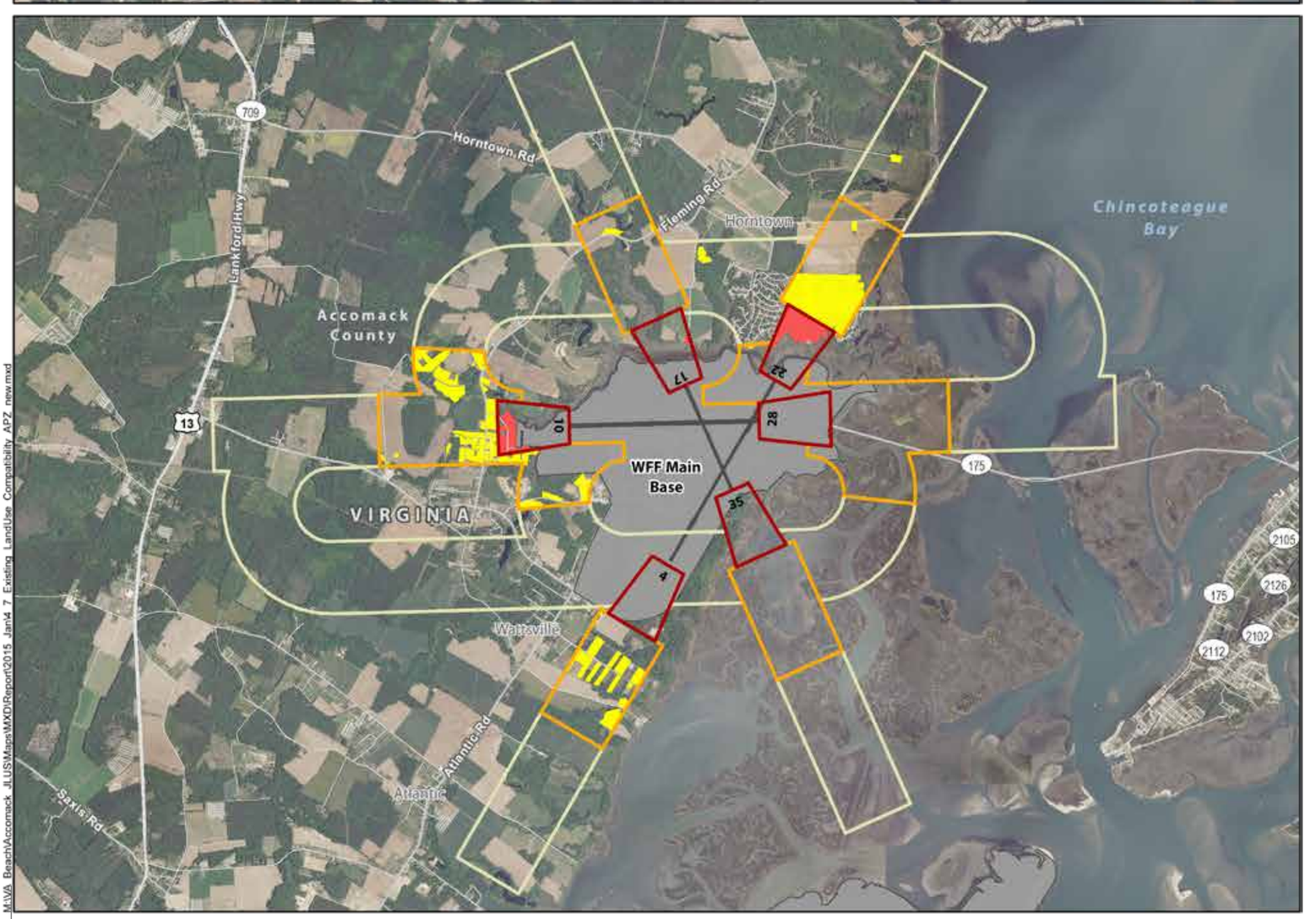

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Legend

- Major Road
- Local Road
- Wallops Flight Facility Area
- Runway

Accident Potential Zones
- Clear Zone
- Accident Potential Zone I
- Accident Potential Zone II
- Incompatible Existing Land Use

Incompatible Existing Land Use within Clear Zone

Existing Land Use
- Agriculture
- Undeveloped
- Forestry
- Single Unit Residential
- Livestock
- Services
- Resource Extraction
- Outdoor Recreation
- Water
- Mobile Home Park
- Vacant
- Educational Services
- Public Assembly
- Retail
- Government Services
- Utility
- Military

* Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team.

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SOURCE: Accomack Coutny (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NAIP 2012; NASA (received) 2014; WorldView Solutions Inc 2007.

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Figure 4.7
Existing Incompatible Land Use Under Accident Potential Zones, Joint Land Use Study,
Accomack County, Virginia

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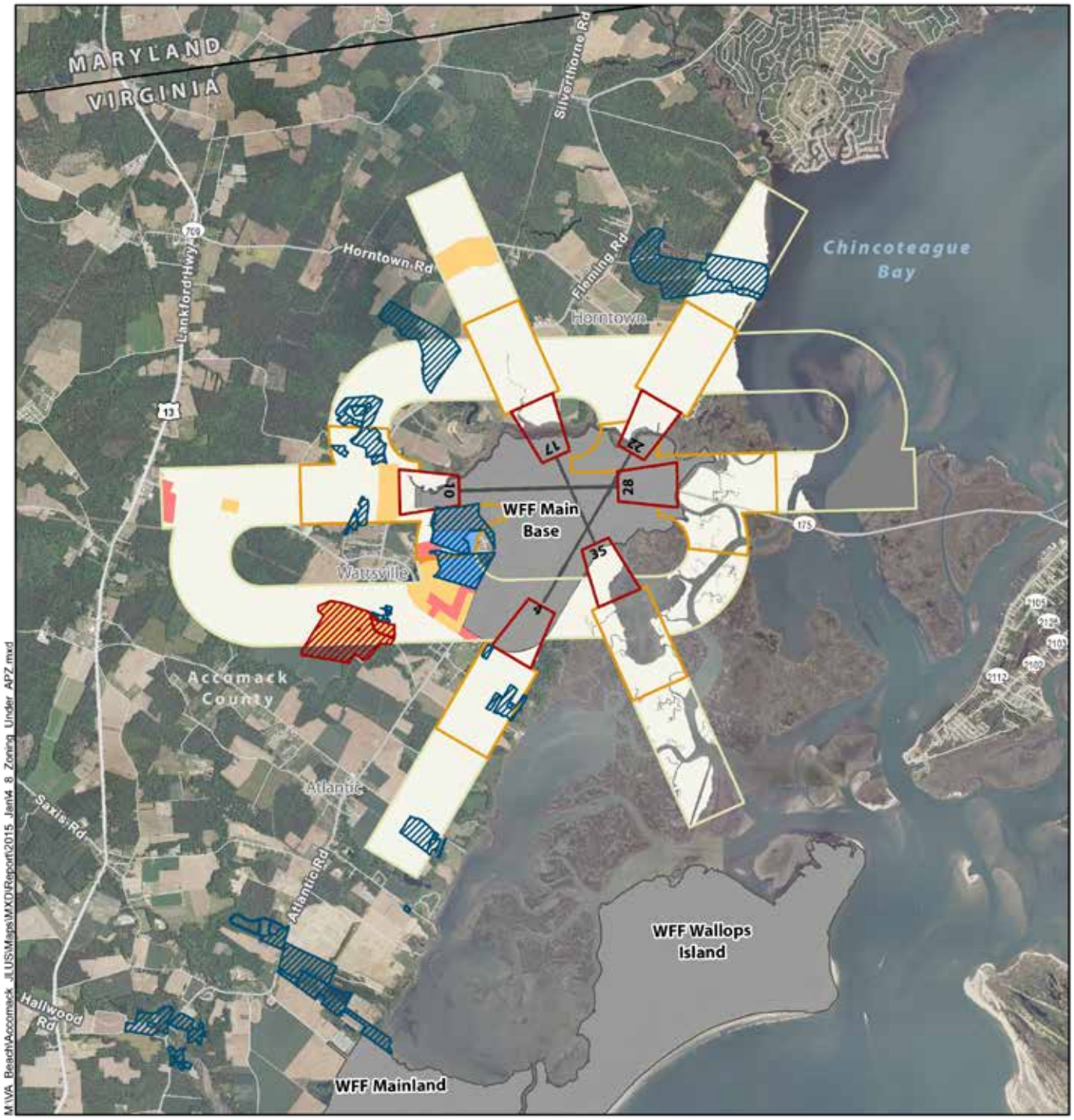

SOURCE: Accomack County (received) 2014; Accomack County (received) 2014; EG and G (received) 2014; Atlantic Group (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NAIP 2012; NASA (received) 2014; WorldView Solutions Inc 2007.

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Figure 4.8
Accomack County Zoning Under Accident Potential Zones, Joint Land Use Study,
Accomack County, Virginia

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Aircraft APZs continued...

such as professional and medical offices, educational services such as the Marine Science Consortium, and some retail uses including large shopping centers, apparel and home furnishing stores, grocery stores, and restaurants. Navy guidance for APZ II is less restrictive, and a variety of manufacturing, service, and retail land uses are considered compatible in this zone.

Outside of designated growth areas, the County has revised its subdivision ordinance to preserve productive agricultural and forest land and permit low-density development (Accomack County, 2008), which is considered compatible with Navy guidance. Some existing residential development is located within the Clear Zone north of Runway 04/22, north of Runway 17/35, and west of Runway 10/28, however no undeveloped subdivided tracts of land are located in any of the Clear Zones associated with the WFF Main Base runways which means those areas are not likely to expand. Residential development is conditionally compatible within APZ II depending on the density of the build out.

This study uses the term "conditionally compatible" to designate future land use categories which allow some types of incompatible development but have an overall intent that is compatible with Navy airfield operations.

- *NASA's Rocket Range Hazard Area Arcs*

  - Existing Land Use

The 2014 field survey of existing land uses for this JLUS included land within NASA's rocket range hazard area arcs, which encompass an area east of Atlantic Road and inland of WFF Mainland and WFF Wallops Island. Existing land use within these arcs is predominantly a mix of agricultural, forestry, residential, and undeveloped land, as depicted in Figure 4.10 (detailed mapping is located in Appendix G). The acreage of each type of land use in the arcs is listed in Table 4.8.

As noted in the methodology for this section, NASA does not provide guidance for acceptable land uses in the rocket range hazard area arcs. NASA's primary safety concern is the number and location of occupied structures in the arcs. NASA's launch procedures include standard safety protocols to avoid risks to people occupying buildings within the arcs. The NASA Flight Safety Plan outlines flight management procedures and limitations for minimizing risks to human health. As the flight-related risks for each type of WFF project are distinct, NASA has specialized procedures applicable to ELVs, sounding rockets, balloon operations, piloted aircraft and UAS, and rocket-boosted projectiles (NASA 2014).

Table 4.7 Future Land Uses within the Aircraft APZs

Future Land Use Designation	Clear Zone (acres)	APZ I (acres)	APZ II (acres)	Grand Total (acres)
Agricultural	238	1,448	3,329	5,015
Commercial Area	0	0	20	20
Conservation Area	60	592	764	1,416
Industrial Area	0	81	103	184
Rural Settlement Area	0	35	69	104
Village Development Area	0	26	387	413
Resource Conservation (Town of Chincoteague)	0	0	11	11
Grand Total	**298**	**2,182**	**4,683**	**7,163**

Note: Numbers may not add up exactly due to rounding.

An estimated 117 residences are within the NASA rocket range hazard area arcs, the vast majority of which are within the 20,000' arc. For the purposes of this JLUS, NASA's 10,000' arc, also known in the 2008 County Comprehensive Plan as the "red zone," would require full evacuation of all residents or WFF could not launch certain orbital rockets (Accomack County 2008). Conversely, the "orange zone" as the 20,000' arc is described in the 2008 Comprehensive Plan, would not likely require full evacuation to meet NASA's range safety criteria. Instead, the most probable scenarios within the yellow zone would be that only a select number of persons could require temporary relocation from (i.e., evacuation) or within (e.g., moving away from windows) occupied structures. This data has been field verified by NASA as of 2013.(NASA Range Safety Office, 2013).

- Residences within the 10,000' arc: 4
- Residences within the 20,000' arc: 113

Zoning

Land within the rocket range hazard area arcs is almost entirely included within the County's Agricultural zone (see Table 4.9). The County permits by-right development of single family residences, mobile home parks, churches, and recreational clubs and facilities in the Agricultural zone. Agricultural land uses, which are permitted by right in this zone, may include buildings that may be occupied during some part of the day. The County may also construct public facilities such as schools, post offices, and libraries in the Agricultural zone which would congregate large numbers of people. The County may conditionally permit or allow by special exception other types of occupied buildings in the Agricultural zone, including retail and service businesses, manufacturing facilities, medical facilities, hotels/motels and camps, apartment buildings, and utility facilities (see Appendix E).

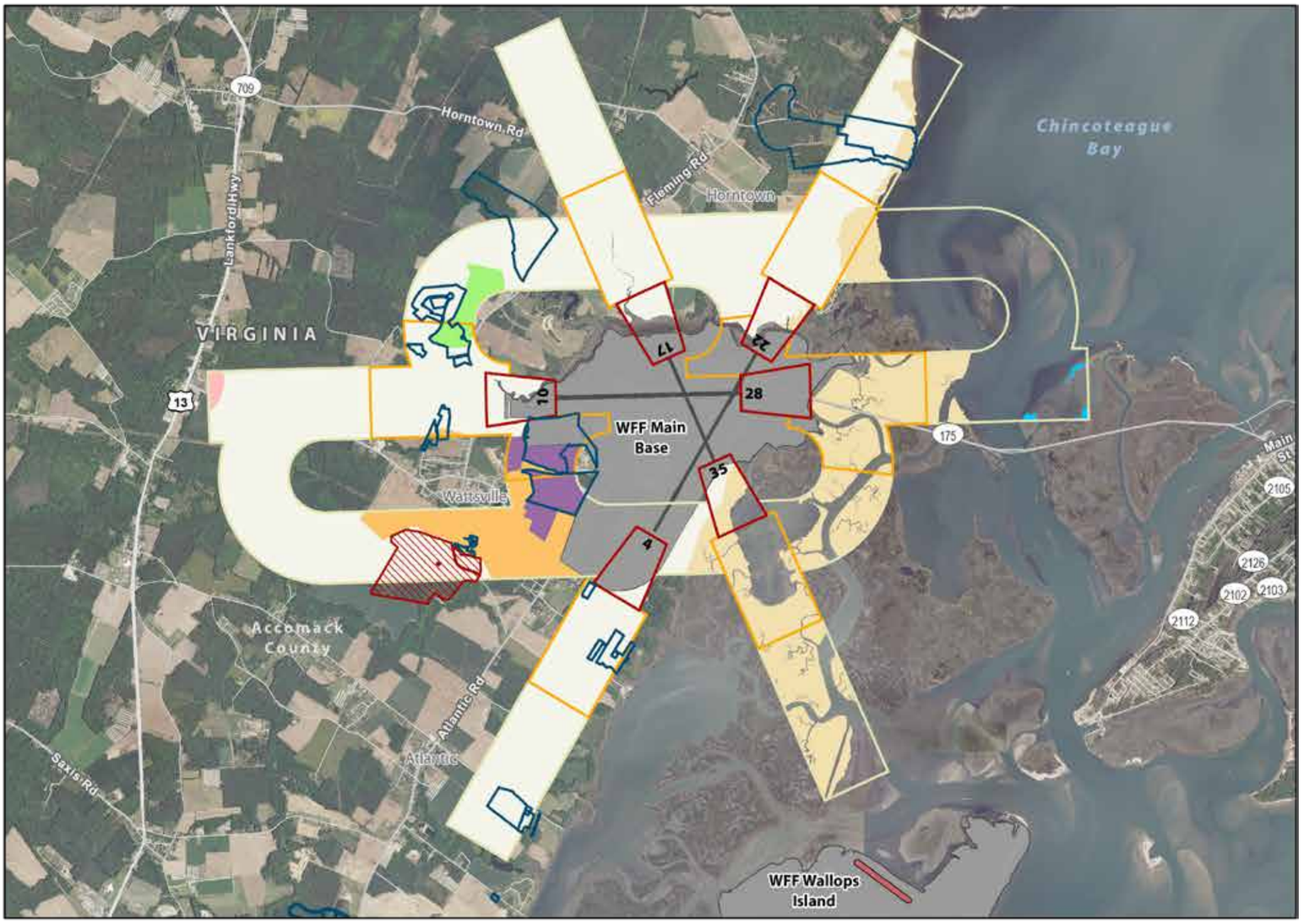
In the Residential zone, the County permits by-right development of single family and two family residences, churches, community recreational facilities, and may construct schools, post offices, and public libraries. The

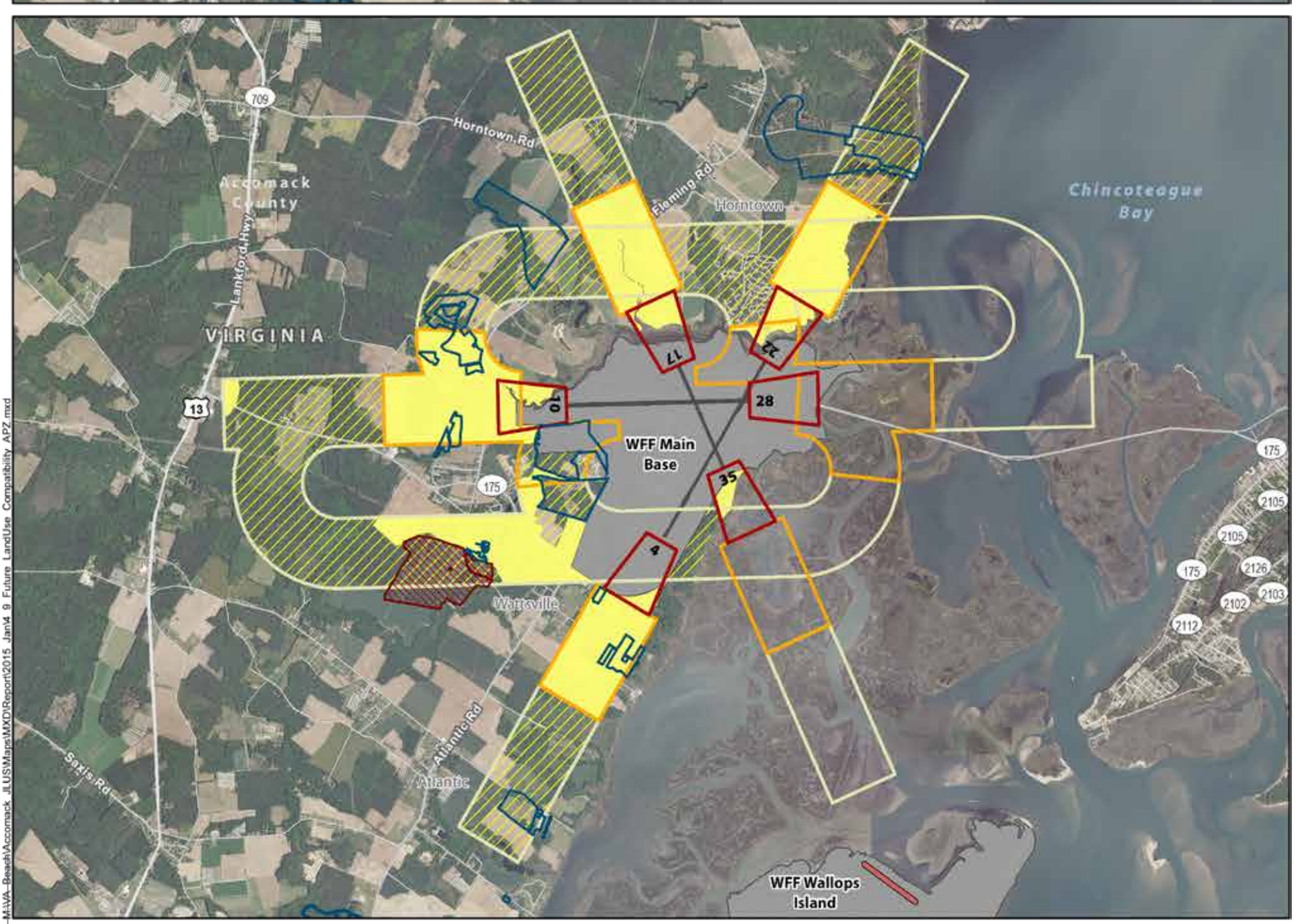
Table 4.8 Existing Land Uses within NASA Rocket Range Hazard Area

Land Use	10,000 Foot Combined Hazard Zone (acres)	20,000 Foot Combined Hazard Zone (acres)
Agriculture	631	2,153
Educational Services	0	0
Forestry	0	835
Government Services	0	0
Livestock	0	144
Military	0	0
Outdoor Recreation	0	0
Public Assembly	0	1
Resource Extraction	0	0
Retail	0	0
Services	0	1
Single Unit Residential	8	376
Undeveloped	745	846
Utility	0	2
Vacant	0	4
Water	0	3
Grand Total	1,384	4,363

Notes: Existing land use acreages were developed using Accomack County parcel data, which exclude county roads, streams, and open water. Parcels with private roads also were excluded from analysis.

Numbers may not add up exactly due to rounding.





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SOURCE: Accomack County 2012; Accomack County (received) 2014; EG and G (received) 2014; Atlantic Group (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NAIP 2012; NASA (received) 2014; WorldView Solutions Inc 2007.

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Legend

	Accident Potential Zones	Future Land Use
Major Road	Clear Zone	Agricultural
Local Road	Accident Potential Zone I	Commercial Area
Wallops Flight Facility Area	Accident Potential Zone II	Conservation Area
Runway	Incompatible Future Land Use	Industrial Area
Proposed Development	Conditionally Compatible Future Land Use	Resource Conservation (Town of Chincoteague)
Planned Development		Rural Settlement Area
Proposed UAS Airstrip		Village Development Area

Figure 4.9
Future Incompatible Land Use Under Accident Potential Zones, Joint Land Use Study,
Accomack County, Virginia

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NASA's Rocket Range Hazard Area Arcs continued...

County may conditionally permit or allow by special exception many other types of occupied buildings in the Residential zone, including various retail and service businesses, health care facilities, recreational facilities, hotels/motels, mobile home parks, and shopping centers. Some of these land uses would concentrate large numbers of people. Construction of new occupied buildings in the rocket range hazard area arcs would be incompatible with NASA and MARS operations at WFF Wallops Island. Current safety guidance requires NASA and MARS to cancel planned launches when NASA's risk assessment process determines public risk is too high under a set of projected launch conditions. Construction of new occupied buildings within the arcs could increase the likelihood of launch cancellations because of increased chances for unacceptable public safety risks.

- *Future Land Use*

Accomack County considered NASA's 10,000-foot and 20,000-foot rocket safety arcs in the development of its Future Land Use Plan (Accomack County 2008). The rocket range hazard area arcs were identified as a constraint to future land use and continue to be a factor in shaping the vision for future land use near WFF Wallops Island.

Accomack County's planned future land uses in the arcs closely mirror existing land uses. The vast majority of land in the arcs is designated for future agricultural use on the mainland or conservation use on the barrier islands and coastal marshes (see Table 4.10 and Figure 4.11). The compatibility concerns associated with this future land use pattern are the same as those described under Existing Land Use and Zoning in this section. The exception to this pattern is a planned industrial area that would be located at the northern end of Pierce Taylor Road at an old industrial site on Assawoman Creek. Construction of industrial buildings on this site could constrain individual launch operations at WFF Wallops Island, depending on the building design and materials.

In agricultural areas near WFF Wallops Island, Accomack County has permitted residential development on subdivided parcels (see Section 2.5.4). As noted under Existing Land Use, 117 residences have been constructed in the rocket range hazard area arcs. Based on the number of approved subdivided parcels that remain undeveloped in the arcs, an additional 322 residences could be constructed in the future (an increase of 68 percent). Based on NASA range safety guidance, if these subdivided parcels are fully built-out they could create additional costs and risks for NASA and MARS operations because of the number of residences and their geographic distribution throughout the arcs.

- *Unmanned Aerial Systems*

Per the FAA Modernization and Reform Act of 2012, the FAA is moving forward on integrating UAS into the National Airspace System (NAS). In consultation with NASA and DOD, the FAA announced (on December 30, 2013) they had selected UAS test sites to meet the FAA's research goals of system safety and data gathering, aircraft certification, command and control link issues, control station layout and certification, ground and airborne sense and avoid, and environmental impacts.

Accomack Virginia was named as one of the test sites selected. A joint proposal between universities in Virginia (Virginia Polytechnic Institute and State University), Maryland (University of Maryland), and New Jersey (Rutgers University), and the Mid-Atlantic Aviation Partnership for

Table 4.9 Existing Zoning within NASA Rocket Range Hazard Area

Zoning Designation	10,000 Foot Combined Hazard Zone (acres)	20,000 Foot Combined Hazard Zone (acres)
Agriculture	1,827	4,129
Residential	0	305
Grand Total	1,827	4,434

Note: Numbers may not add up exactly due to rounding.

NASA's Rocket Range Hazard Area Arcs continued...

a test site in Virginia was selected for the Mid-Atlantic component of this national effort. The Mid-Atlantic team plans to conduct UAS failure mode testing, and identify and evaluate operational and technical risks areas, under a $1 million award. An additional $1.6 million could be awarded over the next two fiscal years. Under the FAA Modernization and Reform Act, test site operations may continue until February 13, 2017. Virginia, NASA's Langley Research Center in Hampton, and WFF are expected to play roles in the research. In Maryland, the Naval Air Warfare Center Aircraft Division at NAS Patuxent River has been involved in research and testing of unmanned aircraft.

A new UAS airstrip is planned for the northern portion of Wallops Island (see Figure 4.9 for location). The largest UAS that would be authorized to operate from the airstrip is the Viking-400 class of vehicle with a maximum of 1,040 operations annually (NASA 2012, EA). Additionally, the Wallops Research Park has been proposed as a base of operations for private enterprises involved in UAS research. As these programs move forward and UAS activity in the region increases, eventually integrating UASs into the NAS, research will uncover what additional concerns may exist from a land use planning perspective.

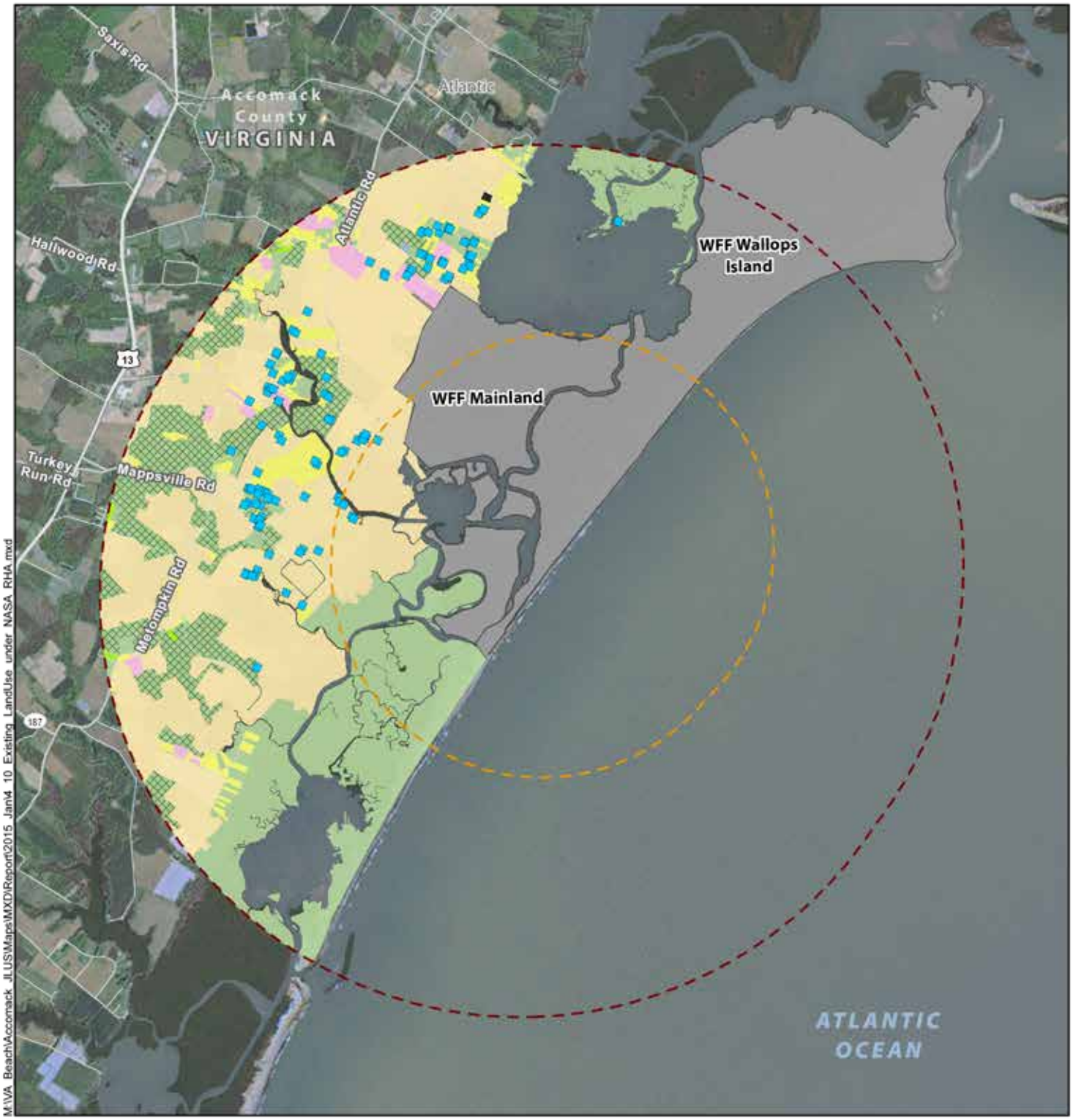
CONCLUSION

In cooperation with the Navy, NASA has developed aircraft safety hazard zones—called APZs, including the Clear Zone, APZ I, and APZ II — based on AICUZ Program guidance for the aircraft operations at WFF Main Base. These APZs extend farther from the airfield and cover a larger area than the APZs previously developed by NASA and included in the County's Comprehensive Plan (Accomack County 2008). The change in the APZs results from differences in aircraft safety hazard guidance provided by the AICUZ Program versus FAA and other guidance used previously and reflected in the 2008 Accomack County Comprehensive Plan, as well as the introduction of FCLP operations at the WFF Main Base airfield in 2013. Development of the APZs is discussed in Section 2.4.1. In some cases, property owners may be unaware that they are located in an APZ. The AICUZ Program provides guidance for compatible land uses in APZs to minimize risks to community health, safety, and welfare. Currently there are both compatible and incompatible land uses located within the APZs. Continuing to develop and maintain compatible land uses within these areas will limit risks to public safety.

Table 4.10 Future Land Uses within NASA Rocket Range Hazard Area

Future Land Use Designation	10,000 Foot Combined Hazard Zone (acres)	20,000 Foot Combined Hazard Zone (acres)
Agricultural	309	3,815
Conservation Area	1,519	620
Industrial Area	< 1	0
Grand Total	**1,827**	**4,434**

Note: Numbers may not add up exactly due to rounding.



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SOURCE: Accomack County 2007, (received) 2014; NASA (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; WorldView Solutions Inc 2007.

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Legend

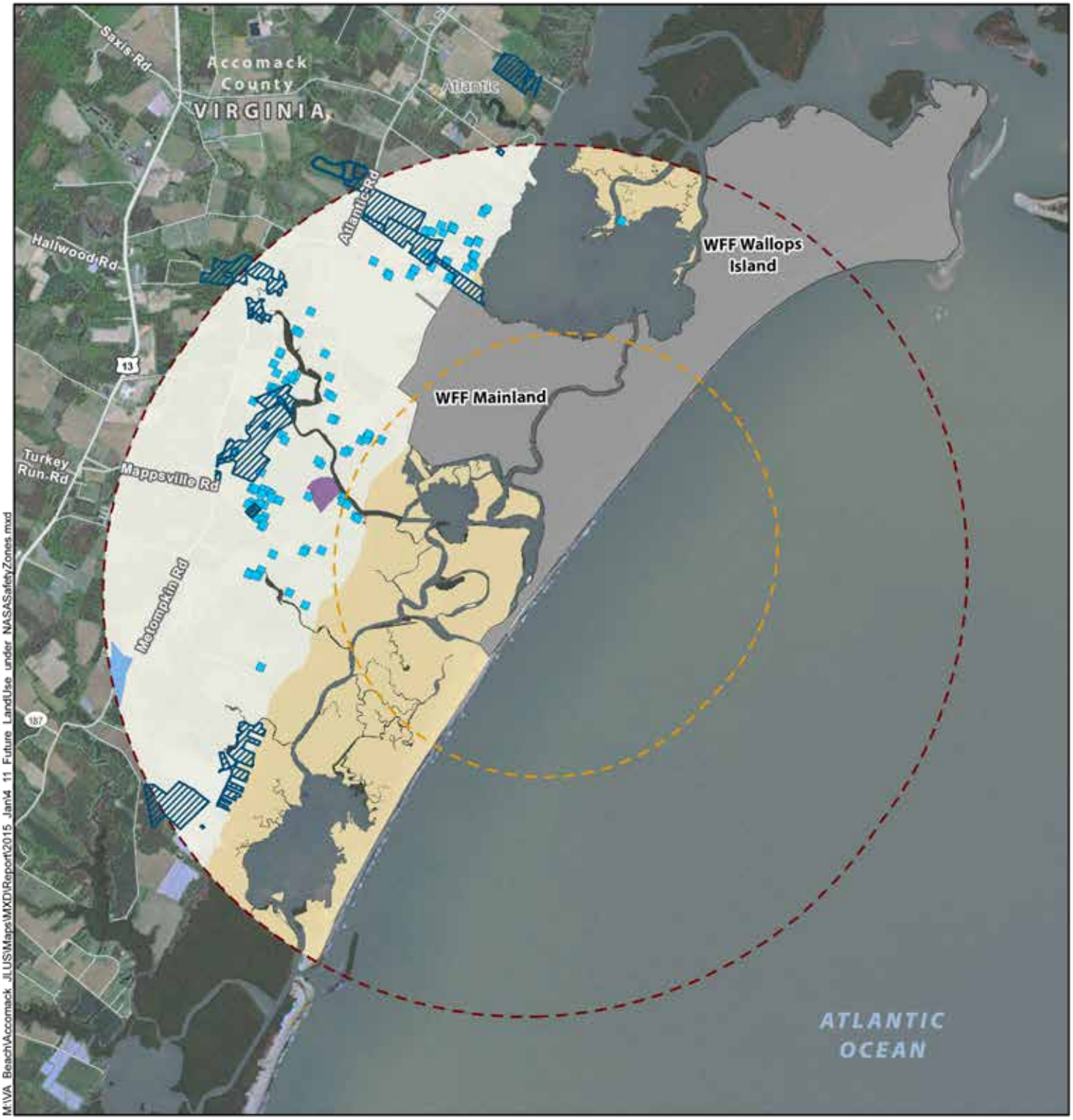
- NASA Field Verified Structures
- Major Road
- Local Road
- Wallops Flight Facility Area
- NASA 10,000 Fl. Combined Hazard Zone
- NASA 20,000 Fl. Combined Hazard Zone

Existing Land Use

- Agriculture
- Undeveloped
- Forestry
- Single Unit Residential
- Livestock
- Services
- Water
- Mobile Home Park
- Vacant
- Public Assembly
- Utility

* Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team.

Figure 4.10
Existing Land Use Under NASA Range Hazard Area, Joint Land Use Study,
Accomack County, Virginia



SOURCE: Accomack County 2007, 2012; Accomack County (received) 2014; EG and G (received) 2014; Atlantic Group (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NASA (received) 2014; WorldView Solutions Inc 2007.

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Legend

- NASA Field Verified Structures
- Major Road
- Local Road
- Wallops Flight Facility Area
- Proposed Development
- Planned Development
- NASA 10,000 Fl. Combined Hazard Zone
- NASA 20,000 Fl. Combined Hazard Zone

Future Land Use

- Agricultural
- Conservation Area
- Industrial Area
- Residential Area

Figure 4.11
Future Land Use Under NASA Range Hazard Area, Joint Land Use Study,
Accomack County, Virginia

Within the County's zoning ordinance, the Agricultural, Residential, General Business, and Industrial zoning districts each allow by-right development that is potentially incompatible with Navy guidance. APZs I and II constrain large areas of the Accomack Main Enterprise Zone and Wallops Research Park site west of WFF Main Base. This is due to the potential development of professional services (offices), "mixed-use" and educational services facilities within the APZs. APZ II also constrains part of the proposed Atlantic Town Center site due to the potential for incompatible residential and/or mix-use development within those areas of the property that lie within APZ2. Developing incompatible land uses and/or increasing the existing densities of incompatible land uses in these areas could increase risks to public safety.

Inhabited buildings in NASA's rocket safety arcs create increased costs and risks for NASA and MARS missions because of the measures required to address risks to public safety. County zoning allows by-right continued residential and other development of areas in the rocket safety arcs, and the County has permitted a significant number of subdivided parcels for residential development throughout the area. Full development of these subdivided parcels could impact existing missions at WFF Wallops Island and potential future missions at the facility.

4.3.3 ISSUE: LAND USE COMPATIBILITY IN AIRCRAFT NOISE ZONES

INTRODUCTION AND METHODOLOGY

Aircraft operations at military and civilian airfields produce noise that can affect communities near the airfield. While communities near the WFF Main Base are rural in character, there are residential neighborhoods and other types of development in areas that are exposed to high noise levels. Aircraft operations at the WFF Main Base airfield increased substantially in 2013 with the introduction of Navy E-2/C-2 FCLP operations. In partnership with NASA, and following DOD AICUZ Program guidance, U.S. Fleet Forces Command developed noise zones for the WFF Main Base airfield that include FCLP operations and all aircraft operations by NASA, the Navy, and other services. The noise zones are defined in Section 2.4. DOD AICUZ Program guidance includes recommendations for land use in these noise zones to minimize the impacts of noise exposure on the community and prevent encroachment on Navy aircraft operations. This section compares the noise zones to existing land use, County zoning, and future land use to assess the compatibility of existing and future land uses with WFF Main Base aircraft operations.

This section presents information on two sets of noise zones for the WFF Main Base airfield. Each set of noise zones depicts DNL noise levels modeled for projected WFF aircraft operations, including Navy E-2/C-2 FCLP operations, for Runway 04/22 and Runway 10/28, as the Navy studied the use of both Runway 04/22 and 10/28 for E-2/C-2 FCLP. While only Runway 10/28 has been equipped with the infrastructure needed to conduct FCLP, and is the only runway available for FCLP operations now and going forward, presenting land use information for both sets of noise zones allows for a comparative assessment of land use compatibility conditions.

The methodology used for assessing the compatibility of existing land use, zoning, and future land use in this section is the same as the methodology outlined in Section 4.3.2.

"Any locality in whose jurisdiction, or adjacent jurisdiction, is located a licensed airport or United States government or military air facility, may enforce building regulations relating to the provision or installation of acoustical treatment measures in residential buildings and structures,..." (Virginia Code, § 15.2-2295)

IMPACT ASSESSMENT

Existing Land Use

Based on current aircraft operations at WFF Main Base, which include E-2/C-2 FCLP operations on Runway 10/28, the area within the greater than 65 dB DNL noise zones covers approximately 698 acres outside of the WFF boundary. If Runway 04/22 is used for FCLP, the greater than 65 dB DNL noise zones would cover approximately 751 acres outside of the WFF boundary. Existing land uses within the noise zones are shown on Figure 4.12, and the acreage of each type of land use by noise zone is listed in Tables 4.11 and 4.12.

Most existing land uses within the greater than 65 dB DNL noise zones follow a pattern that is typical of rural development in the county. Undeveloped land is the predominant land use, followed by single unit residential development. Marshlands immediately along the coast and between the mainland and Chincoteague Island are undeveloped and protected as conservation land; these conservation lands are included in this analysis as undeveloped land. Throughout the area within the greater than 65 dB DNL noise zones, residential land use occurs on large agricultural parcels or smaller subdivided parcels ranging in size from less than 1 acre to 5 acres or more. Residential parcels less than 1 acre are found in more established neighborhoods north of Wattsville. Agriculture and forestry are the third and fourth most common types of land use, respectively.

Table 4.11 Existing Land Uses within the Aircraft Noise Zones, Runway 10/28

Land Use	65 to 70 dB DNL Noise Zone (acres)	70 to 75 dB DNL Noise Zone (acres)	75 dB DNL or Greater Noise Zone (acres)	Grand Total (acres)
Agriculture	127	12	0	**140**
Educational Services	0	0	0	**0**
Forestry	76	0	0	**76**
Government Services	0	0	0	**0**
Livestock	< 1	2	0	**2**
Military	0	0	0	**0**
Outdoor Recreation	2	0	0	**2**
Public Assembly	0	0	0	**0**
Resource Extraction	0	0	0	**0**
Retail	0	0	0	**0**
Services	0	0	0	**0**
Single Unit Residential	156	25	0	**181**
Undeveloped	248	50	0	**298**
Utility	0	0	0	**0**
Vacant	0	0	0	**0**
Grand Total	**608**	**90**	**0**	**698**

Notes:

- *Existing land use acreages were developed using Accomack County parcel data, which exclude county roads, streams, and open water. Parcels with private roads also were excluded from analysis.*
- *Numbers may not add up exactly due to rounding.*
- *The 75 dB DNL or greater noise zone is located entirely on NASA property; no public or private land uses are located in this noise zone.*

As land within the noise zones is subdivided into smaller parcels for future residential development, more people will potentially be exposed to noise generated by aircraft operations at the WFF Main Base. Currently an estimated 503 housing units and 1,192 residents are located within the 65 to 69 dB DNL noise zone and 70 to 74 dB DNL noise zone with FCLP operations on Runway 10/28 (see Tables 4.13 and 4.14). An estimated 543 housing units and 1,287 residents would be located within the 65 to 69 dB DNL noise zone and 70 to 74 dB DNL noise zone if Runway 04/22 is used for FCLP in the future. No residences are located within the greater than 75 dB DNL noise zone, which does not extend outside of the WFF Main Base property boundary. The AICUZ Program guidance states that single family residences are not recommended within the greater than 65 dB DNL noise zones. However, if residences have been constructed in the greater than 65 dB DNL noise zones or local conditions dictate that residences need to be constructed in these noise zones, AICUZ Program guidance includes noise level reduction criteria that should be included in local building codes to reduce noise levels in these residences.

The majority of housing units within the noise zones are situated in the Trails End campground resort community, which is located within the 65 to 69 dB DNL and 70 to 74 dB DNL noise zones. Many of the residential units in the campground resort, particularly RVs and mobile homes, are not required by state or local code to be constructed with sound attenuation measures and likely are not constructed with materials that adequately reduce indoor noise levels.

Table 4.12 Existing Land Uses within the Aircraft Noise Zones, Runway 04/22

Land Use	65 to 70 dB DNL Noise Zone (acres)	70 to 75 dB DNL Noise Zone (acres)	75 dB DNL or Greater Noise Zone (acres)	Grand Total (acres)
Agriculture	140	6	0	**147**
Educational Services	0	0	0	**0**
Forestry	134	0	0	**134**
Government Services	0	0	0	**0**
Livestock	1	1	0	**2**
Military	0	0	0	**0**
Outdoor Recreation	< 1	0	0	**< 1**
Public Assembly	0	0	0	**0**
Resource Extraction	0	0	0	**0**
Retail	0	0	0	**0**
Services	0	0	0	**0**
Single Unit Residential	143	30	0	**172**
Undeveloped	270	27	0	**297**
Utility	0	0	0	**0**
Vacant	0	0	0	**0**
Grand Total	**688**	**63**	**0**	**751**

Notes:

- *Existing land use acreages were developed using Accomack County parcel data, which exclude county roads, streams, and open water. Parcels with private roads also were excluded from analysis.*
- *Numbers may not add up exactly due to rounding.*
- *The 75 dB DNL or greater noise zone is located entirely on NASA property; no public or private land uses are located in this noise zone.*

Existing Land Use continued...

A second area of compatibility concern includes the trailer park communities west of the WFF Main Base and north of Wattsville. These medium-density residential communities were developed on land that was subdivided before 2006, when the county revised its subdivision ordinance to prohibit subdivided parcels less than 5 acres (with an exception for smaller 30,000-foot cluster lots) (Accomack County, 2008). Mobile homes in these communities are not required to be constructed with sound attenuation measures and, as noted above, likely do not adequately reduce indoor noise levels for residents within the noise zones. In addition to these areas of compatibility concern, it is important to note that other residential development within the greater than 65 dB DNL noise zones at densities greater than one or two residences per acre is also considered incompatible with aircraft operations according to Navy guidance. No schools, daycare centers, churches, hospitals, or other public assembly land uses are currently located within the greater than 65 dB DNL noise zones.

Noise level reduction in buildings typically involves changes in design and building materials that reduce indoor noise levels compared to outdoor noise levels.

Table 4.13 Total Population, and Housing Units within Current Modeling of Noise Zones at Wallops Flight Facility Main Base, Runway 04/22

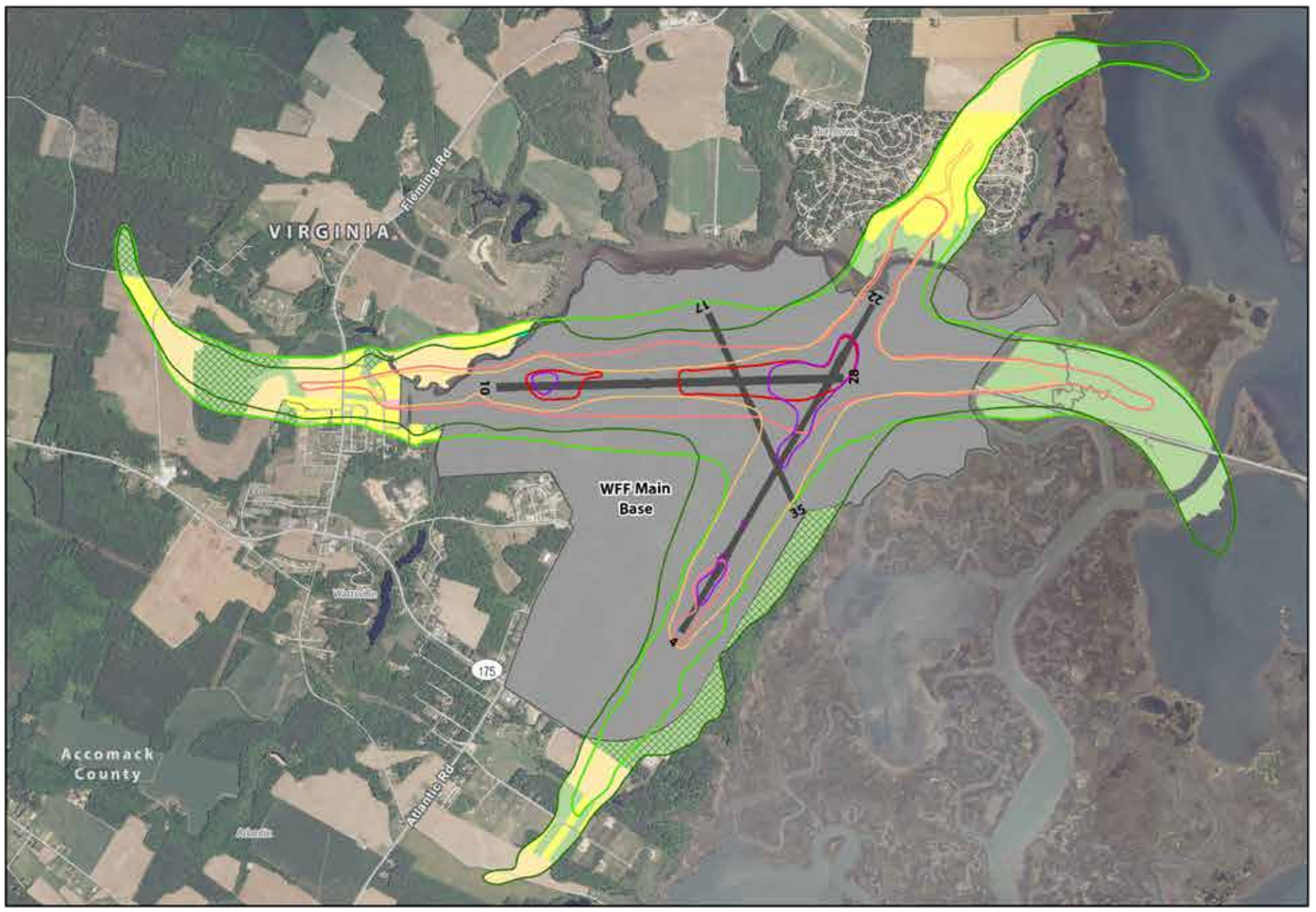
Noise Zones (dB DNL)	Estimated Population[2]	Housing Units
65 to 70	993	419
70 to 75	199	84
75 or Greater	0	0
Total	1,192	503

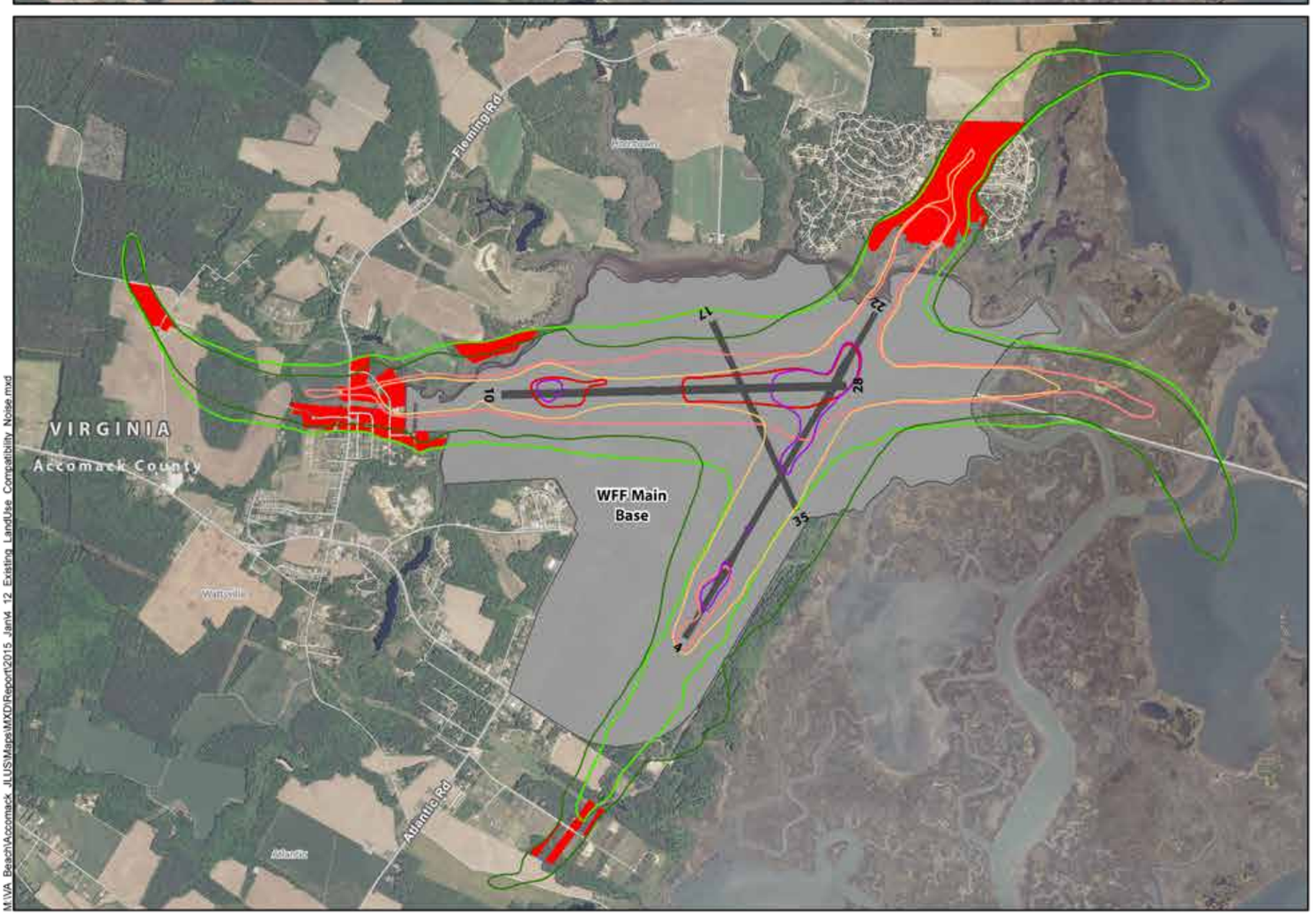
Source: Navy 2013, EA for E-2/C-2 FCLP Operations
Note:
[1] *Does not include acreage on WFF Main Base.*
[2] *During land surveys conducted in Winter 2012 and through aerial imagery analysis, the Navy recorded the locations of residential properties within the projected noise contours at WFF Main Base for FCLP operations on Runway 10/28. Population was then estimated based on an average of 2.37 people per household, which is the average number of people per household for Accomack County, based on the 2010 Census.*

Table 4.14 Total Population, and Housing Units within Current Modeling of Noise Zones at Wallops Flight Facility Main Base, Runway 04/22

Noise Zones (dB DNL)	Estimated Population[2]	Housing Units
65 to 70	1,019	430
70 to 75	268	113
75 or Greater	0	0
Total	1,287	543

Source: Navy 2013 EA for E-2/C-2 FCLP Operations
Note:
[1] *Does not include acreage on WFF Main Base.*
[2] *During land surveys conducted in Winter 2012 and through aerial imagery analysis, the Navy recorded the locations of residential properties within the projected noise contours at WFF Main Base for FCLP operations on Runway 04/22. Population was then estimated based on an average of 2.37 people per household, which is the average number of people per household for Accomack County, based on the 2010 Census.*





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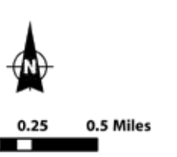

SOURCE: Accomack County (received) 2014; Ecology and Environment 2012, 2014; ESRI 2010, 2012; NAIP 2012; WorldView Solutions In 2007.

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Legend

- Major Road
- Local Road
- Wallops Flight Facility Area
- Runway
- Navy Noise Contours
- Runway 04/22
  - 65 dB
  - 70 dB
  - 75 dB
- Runway 10/28
  - 65 dB
  - 70 dB
  - 75 dB
- Incompatibile Land Use
- Existing Land Use
  - Agriculture
  - Undeveloped
  - Forestry
  - Single Unit Residential
  - Livestock
  - Outdoor Recreation

Figure 4.12
Existing Incompatible Land Use Under Noise Contours, Joint Land Use Study,
Accomack County, Virginia

Note: Noise analysis was conducted for runways 10/28 and 4/22 based on all aircraft operations occurring at WFF as of 2013. Noise analysis was not conducted for runway 17/35. This figure includes the noise contours developed for both runway 10/28 and runway 4/22.

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Existing Land Use continued...

Zoning

The County designates most land within the greater than 65 dB DNL noise zones part of the "Agricultural" zone. West of the installation and north of Wattsville, 65 acres are currently designated part of the "Residential" zone (see Tables 4-15, 4-16 and Figure 4.13). Land uses permitted by-right or conditionally permitted in each of these zoning districts have been compared to Navy land use compatibility guidance in Appendix E. Based on the ranges of allowable land uses, the county's Agricultural and Residential zoning districts allow by-right development of land uses or activities that potentially are incompatible with Navy guidance for the greater than 65 dB DNL noise zones. The Agricultural zoning district allows by-right single unit residential and mobile home park development, which is not recommended by Navy guidance in the greater than 65 dB DNL noise zones. Similarly, the Residential zoning district allows by-right several types of incompatible residential development, including single unit, single unit semi-detached, and two unit (duplex) residential development. Both the Agricultural and Residential zoning districts potentially allow multiple other types of incompatible development or land use activities, subject to county requirements for special use or conditional use permits. These land uses are listed in Appendix E.

Table 4.15 Existing Zoning within the Aircraft Noise Zones, Runway 10/28

Zoning Designation	65 to 70 dB DNL Noise Zone (acres)	70 to 75 dB DNL Noise Zone (acres)	75 dB DNL or Greater Noise Zone (acres)	Grand Total (acres)
Agricultural	578	87	0	665
Residential	34	4	0	38
Grand Total	612	91	0	703

Note:
Numbers may not add up exactly due to rounding.
The 75 dB DNL or greater noise zone is located entirely on NASA property; no public or private land uses are located in this noise zone.

Table 4.16 Existing Zoning within the Aircraft Noise Zones, Runway 04/22

Zoning Designation	65 to 70 dB DNL Noise Zone (acres)	70 to 75 dB DNL Noise Zone (acres)	75 dB DNL or Greater Noise Zone (acres)	Grand Total (acres)
Agricultural	670	64	0	734
Residential	27	0	0	27
Grand Total	697	64	0	761

Note:
Numbers may not add up exactly due to rounding.
The 75 dB DNL or greater noise zone is located entirely on NASA property; no public or private land uses are located in this noise zone.

Future Land Use

The WFF Main Base saw growth in Navy aircraft training operations in 2013, which increased the area of the county exposed to high noise levels compared to noise conditions under previous Navy aircraft operations. The county's Future Land Use Plan identifies future land use on land within the noise zones as either agricultural or conservation (see Tables 4.17, 4.18 and Figure 4.14). Conservation uses (i.e., undeveloped land) are considered compatible with Navy guidance for development in all noise zones. While agricultural land uses are considered compatible in the noise zones, residential units on agricultural land should either be constructed outside of the noise zones, where possible, or should be constructed to incorporate noise level reduction measures as specified in the Navy guidance.

Approximately 64 acres of the Accomack County Main Enterprise Zone and 23 acres of the Wallops Research Park site are within the greater than 65 dB DNL noise zones. DOD AICUZ Program guidance recommends that certain types of land uses—primarily residential, lodging, noise-sensitive outdoor uses, and public assembly uses—are not located within the 65 dB DNL to 69 dB DNL or 70 dB DNL to 74 dB DNL noise zones to prevent impacts on the community resulting from high noise levels. Other types of development such as professional services and various types of manufacturing and retail stores are considered compatible or may be considered compatible if adequate noise attenuation is included in building designs. If the AICUZ Program guidance for noise attenuation is incorporated into the design of facilities constructed at the Wallops Research Park as applicable, the noise zones should not significantly affect the planned development of the Wallops Research Park for science, technology, and aerospace businesses.

While there are areas of existing incompatible residential development within the greater than 65 dB DNL noise zones, few undeveloped subdivisions have been platted within the noise zones, though the County has approved planned development within the aircraft noise zones. Figure 4.14 depicts the planned and proposed development within the noise zones that could result exposure to noise on neighboring residences and commercial

Table 4.17 Future Land Use within the Aircraft Noise Zones, Runway 10/28

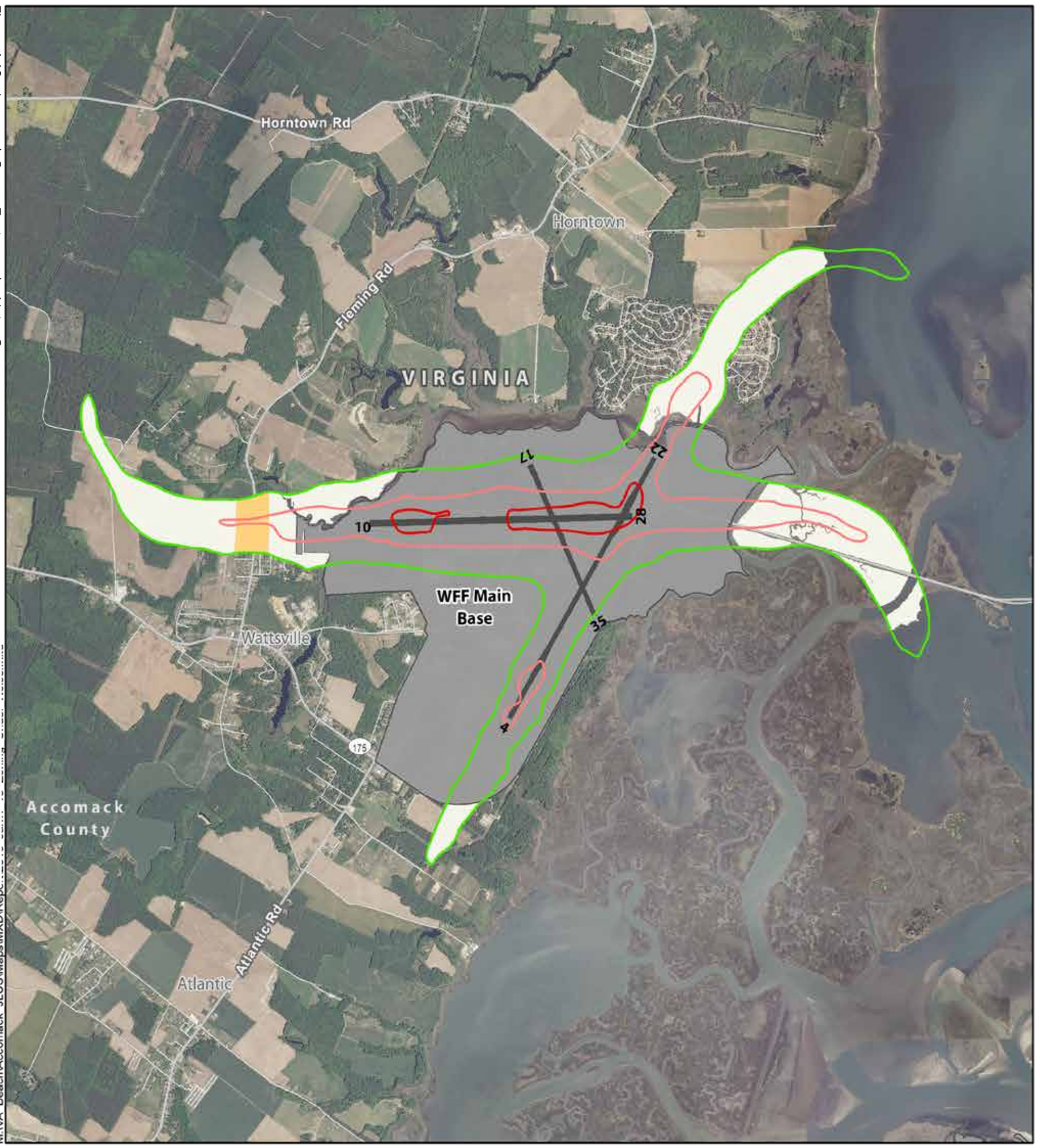
Future Land Use	65 to 70 dB DNL Noise Zone (acres)	70 to 75 dB DNL Noise Zone (acres)	75 dB DNL or Greater Noise Zone (acres)	Grand Total (acres)
Agricultural	401	50	0	452
Conservation Area	211	41	0	251
Grand Total	**612**	**91**	**0**	**703**

Note:
- Numbers may not add up exactly due to rounding.
- The 75 dB DNL or greater noise zone is located entirely on NASA property; no public or private land uses are located in this noise zone.

Table 4.18 Future Land Use within the Aircraft Noise Zones, Runway 04/22

Future Land Use	65 to 70 dB DNL Noise Zone (acres)	70 to 75 dB DNL Noise Zone (acres)	75 dB DNL or Greater Noise Zone (acres)	Grand Total (acres)
Agricultural	476	47	0	523
Conservation Area	221	17	0	238
Grand Total	**697**	**64**	**0**	**761**

Note:
- Numbers may not add up exactly due to rounding.
- The 75 dB DNL or greater noise zone is located entirely on NASA property; no public or private land uses are located in this noise zone.



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SOURCE: Accomack County (received) 2014; Ecology and Environemnt 2012, 2014; ESRI 2010, 2014; NAIP 2012; WorldView Solutions Inc 2007.

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Legend

- Major Road
- Local Road
- Wallops Flight Facility Area
- Runway

Accomack County Zoning

- Agricultural
- Residential

Navy Noise Contours
Runway 10/28

- 65 dB
- 70 dB
- 75 dB

Figure 4.13
Accomack County Zoning Under Noise Contours, Joint Land Use Study,
Accomack County, Virginia

Note: Noise analysis was conducted based on all aircraft operations occurring at WFF as of 2013. This figure includes the noise contours developed for runway 10/28.

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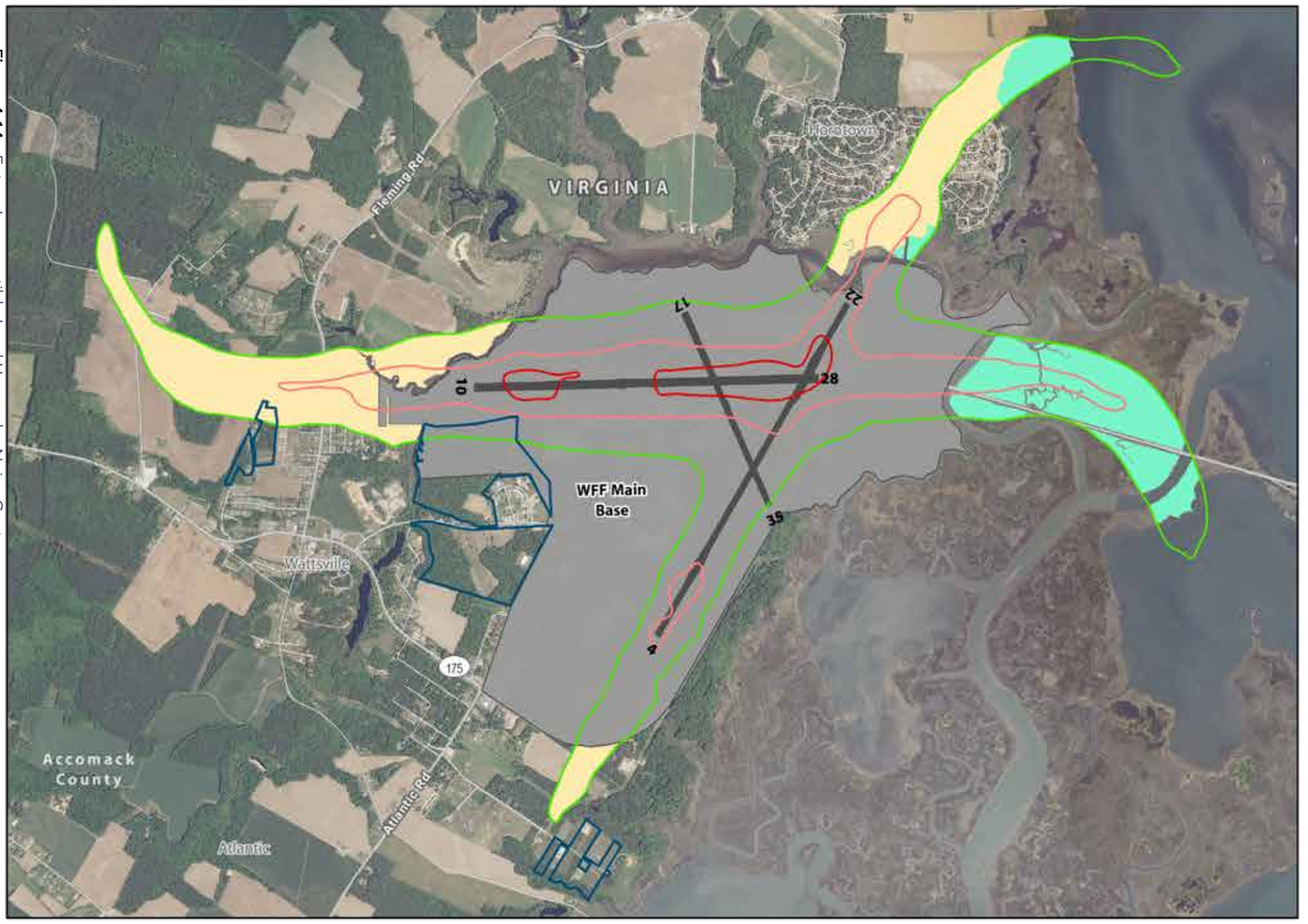

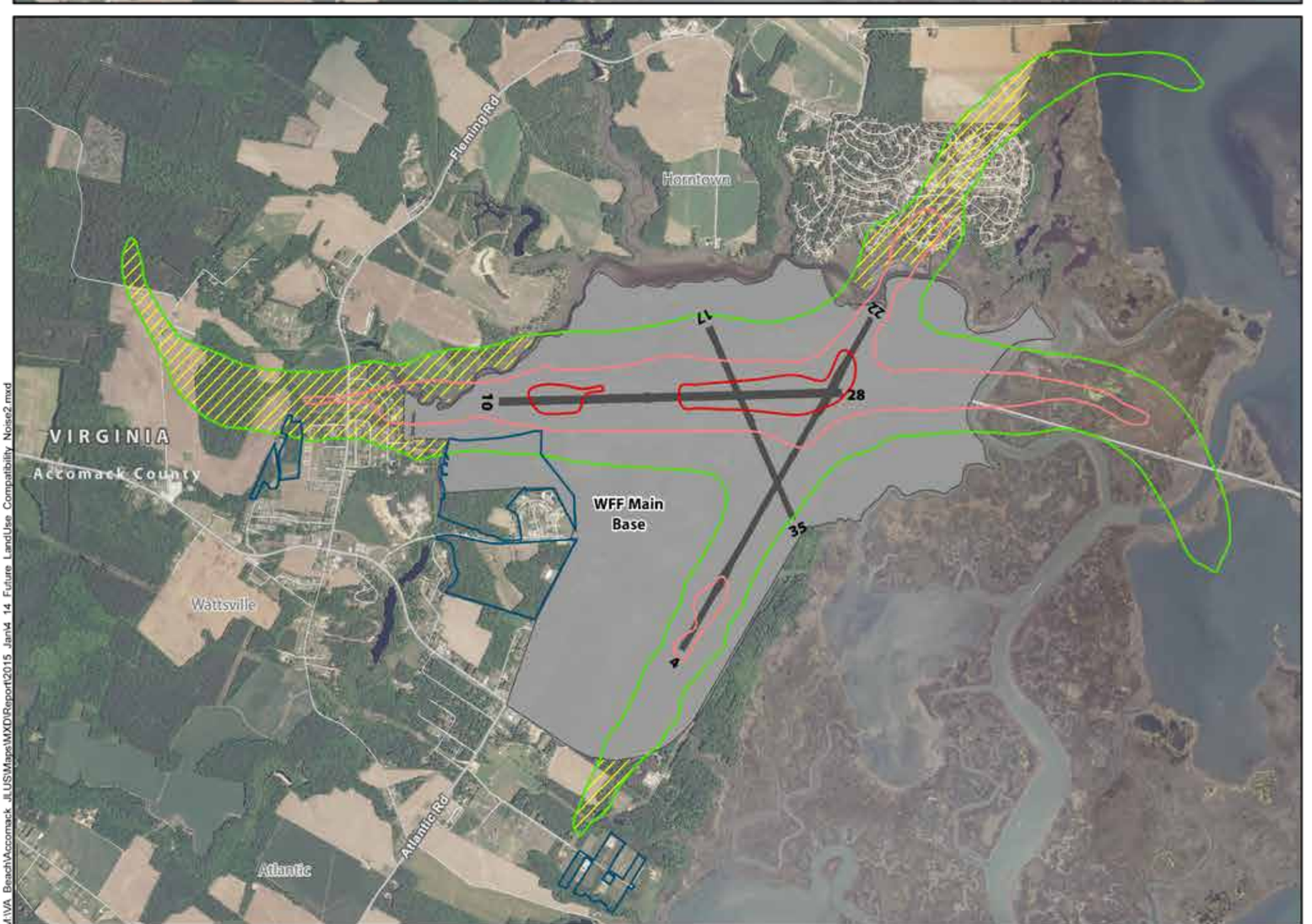

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SOURCE: Accomack County 2012, (received) 2014; Atlantic Group (received) 2014; Ecology and Environment 2012, 2014; EG and G (received) 2014; ESRI 2010, 2012; NAIP 2012; WorldView Solutions Inc 2007.

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Legend

- Major Road
- Local Road
- Wallops Flight Facility Area
- Runway
- Planned Development
- Conditionally Compatibile Future Land Use

Future Land Use
- Agricultural
- Conservation Area

Navy Noise Contours
Runway 10/28
- 65 dB
- 70 dB
- 75 dB

Figure 4.14
Future Incompatible Land Use Under Noise Contours, Joint Land Use Study,
Accomack County, Virginia

Note: Noise analysis was conducted based on all aircraft operations occurring at WFF as of 2013. This figure includes the noise contours developed for runway 10/28.

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and industrial activities. Buyers or developers considering developing these parcels should check the location of each parcel related to the noise zones to ensure the proposed land use would be compatible with Navy guidance.

CONCLUSION

There are existing structures and land uses located within the noise zones surrounding WFF Main Base that are not recommended under the AICUZ Program guidance. Accomack County permits a broad range of uses within their zoning districts. Based on these ranges, the county's Agricultural and Residential zoning districts currently allow by-right development that is potentially incompatible with Navy guidance. Residential units should either be constructed outside of the noise zones or should be constructed to incorporate noise level reduction measures as specified in Navy guidance. Additionally, portions of the Accomack County Main Enterprise Zone and the planned Wallops Research Park are located within a noise zone, however the noise zones associated with aircraft operations at WFF Main Base should not significantly affect the science, technology, and aerospace businesses to be located at the site if AICUZ Program guidance for noise attenuation is incorporated into the design of facilities as applicable.

4.3.4 ISSUE: ELECTROMAGNETIC AND RADAR SYSTEM INTERFERENCE

INTRODUCTION AND METHODOLOGY

The Navy uses dedicated frequencies to communicate with aircraft, identify and track friends and foes, and test communication and information systems and precision weaponry. Operators also use frequency bandwidth to pilot and test unmanned aerial vehicles (UAV). Excessive frequency interference on these bandwidths negatively impacts the Navy's ability to perform essential mission activities.

Communication systems used by the Navy that operate within the frequency spectrum are very sensitive to radar system interference and EMI. Radar system interference may result from physical obstructions, such as wind turbines or other tall structures that interfere with radar returns. EMI is a disruption in the operation of electronic equipment as a result of electromagnetic radiation from another source, either natural or man-made. Both types of interference can stem from any number of sources associated with increased development. Interference produces various impacts, including loss of clarity in highly sensitive radar systems and interference with radar return signals.

For this analysis, a qualitative review of the existing policy and regulatory framework and status of utility scale wind energy development was conducted specific to the geographic range of the study area and the planning horizon.

Radar systems use radio waves to determine the range, altitude, speed, and direction of the travel of objects such as aircraft or ships. Electronic equipment that generates EMI in the form of radio waves can interfere with the operation of radar systems. Radar system interference may also result from physical obstructions, such as wind turbines or other tall structures.

IMPACT ASSESSMENT

- *Radar Interference*

Wind turbine development is increasing along the East Coast of the U.S. Large commercial wind turbines located within 50 miles of a sensitive radar detector are often tall enough for their blades to appear on aircraft radar. Turbine blades produce a distinct radar signature that can mask the much smaller radar returns given by stealth and unmanned aircraft tested by NAS Patuxent River. These unwanted returns are known as clutter. While clutter can sometimes be filtered out via computer software, the results are rarely perfect and are considered suboptimal for the Navy's testing and evaluation purposes. Clutter increases the risk of inaccurate results due to false target generation, scintillation, or spontaneous appearance or disappearance of targets (Navy 2013). The Navy uses a sensitive radar system designed to pick up radar returns from very small objects, and wind turbines severely impact these systems.

Regional wind speeds range from approximately 5.5 to 7.5 meters per second at a height of 80 meters (260 feet) above Accomack County to 8.5 meters per second at a height of 100 meters (360 feet) over the near shore waters of the Atlantic Ocean (AWS Truepower and NREL September 2010, October 2010). The middle Chesapeake Bay experiences wind speeds of approximately 7.5 to 8 meters per second at a height of 100 meters (AWS Truepower and NREL September 2010). Steady coastal winds coupled with the county's rural character have contributed

to interest in developing commercial scale wind farms in the county and offshore.

Graphics produced by AWS Truepower and the National Renewable Energy Laboratory (NREL) provide a picture of wind resources across the nation and in Virginia (see Figures 4.15 and 4.16). Virginia's Eastern Shore has some of the most significant wind resources in the state.

Interested developers began to contact Accomack County in 2010 regarding potential development of wind turbines. The county's zoning regulations allow construction of "small wind energy systems" as a use permitted by right in the Agricultural zoning district. The county defines a small wind energy system as "a private wind energy conversion system consisting of a wind turbine, a tower, and associated control or conversion electronics that has a maximum power of not more than 50 KW [kilowatt], which will be used primarily to reduce on-site consumption of utility power" (Accomack Code 1982). Large and utility scale wind energy systems may be conditionally permitted in the Agricultural district, as well as in the Industrial and General Business districts. The county does not have a separate wind energy ordinance and has not issued any permits to date for construction of utility scale wind turbines.

The Town of Chincoteague adopted a wind energy systems section in its zoning ordinance (Section F. Wind Energy Systems, Sec. 6.9) in 2010. This ordinance allows for the installation of small wind energy systems with tower heights up to 70 feet, and states that "*...generators and alternators should be constructed so as to prevent the emission of radio and television signals and shall comply with the provisions of Section 47 of the Federal Code of Regulations,...*" (Town of Chincoteague 2015). While there has been public interest, to date, no applications for small wind energy systems Conditional Use Permits within the Town of Chincoteague have been received.

The Tangier Island Town Council has approved construction of a community scale wind turbine and is working with the developer, Sustainable Energy Development, to file state permits (Johnson, Hughes, and Rupnik n.d.). A 50 meter (approximately 150 foot) test tower was installed on the neighboring island of Port Isobel in 2009 to collect meteorological data, and sites for a community scale wind turbine on Tangier Island have been identified (Kaye and Kaye n.d.). A community scale wind turbine, identified in a siting study by the College of Integrated Science and Technology and the Virginia Center for Wind Energy as a turbine with a maximum power output of between 250 kW and 1.8 MW, may approach 100 meters in height, measured to the tip of a rotor blade (Johnson, Hughes, and Rupnik n.d.). The status of this project is unknown; however, it will be important if this project moves forward to ensure that operational requirements for NAS Patuxent River's radar systems are considered during the selection of a turbine model for the Tangier Island site.

- *Electromagnetic Interference*

Another way in which wind turbines can affect radar is through EMI. As wind turbines produce electricity, they also create EMI. Low-level electromagnetic radiation, or "noise," adds to the signal noise floor of the region; the noise floor is the minimum level at which current technologies can differentiate intentional signals from background signal noise. As more devices require use of the frequency spectrum, there is potential for the noise floor to increase, and intentional signals become more difficult to differentiate. For Navy radar systems, the impacts of signal noise include creating uncertainties in the time, frequency, and power modulation of radar and communications, which means that radar returns may be distorted. While the SCSC's communications systems "look" outward over the Navy's offshore operating area, EMI from sources on land may interfere with the operation of these systems.

Electromagnetic interference is a disruption in the operation of electronic equipment as a result of electromagnetic radiation from another source, either natural or man-made. Cell phones and radios, or electric infrastructure such as transmission lines and wind turbines, are examples of communications equipment that are potential sources of EMI.

- *Radio Frequency Interference*

The Radio-frequency interference occurs when the signal emitted by one device gets unintentionally picked up by another -- creating audible noise or a compromised connection. Some interference is due to badly shielded wires or components, but some is just the result of too many gadgets crowded into a limited spectrum (Derene 2011).

The Suborbital and Special Orbital Projects Directorate (SSOPD) is responsible for managing radio frequency (RF) spectrum utilization at WFF. The Wallops Frequency Utilization Management Working Group helps meet this responsibility, and includes representatives from the SSOPD, Applied Engineering and Technology Directorate, SCSC, and NOAA Wallops Command Data Acquisition Station (NASA 2009).

Figure 4.15

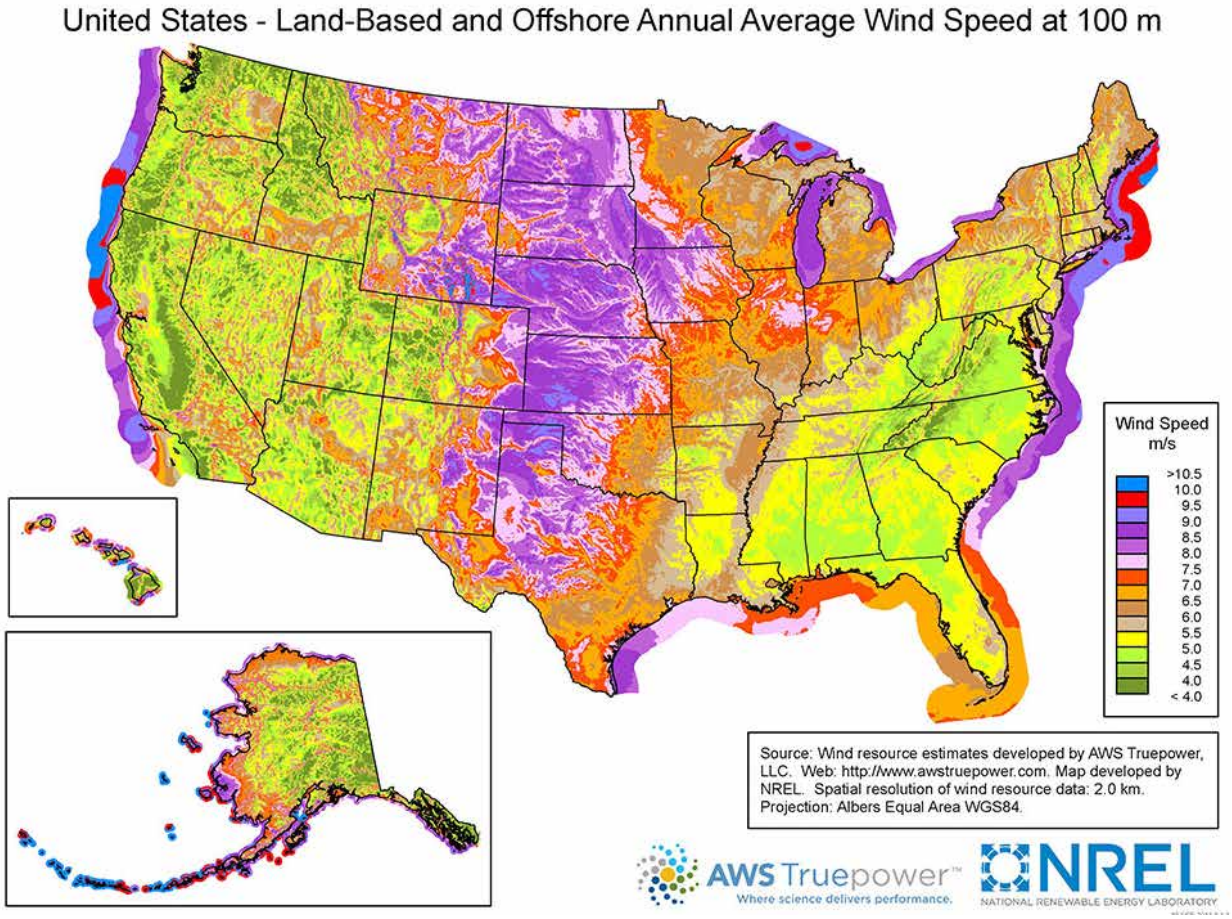
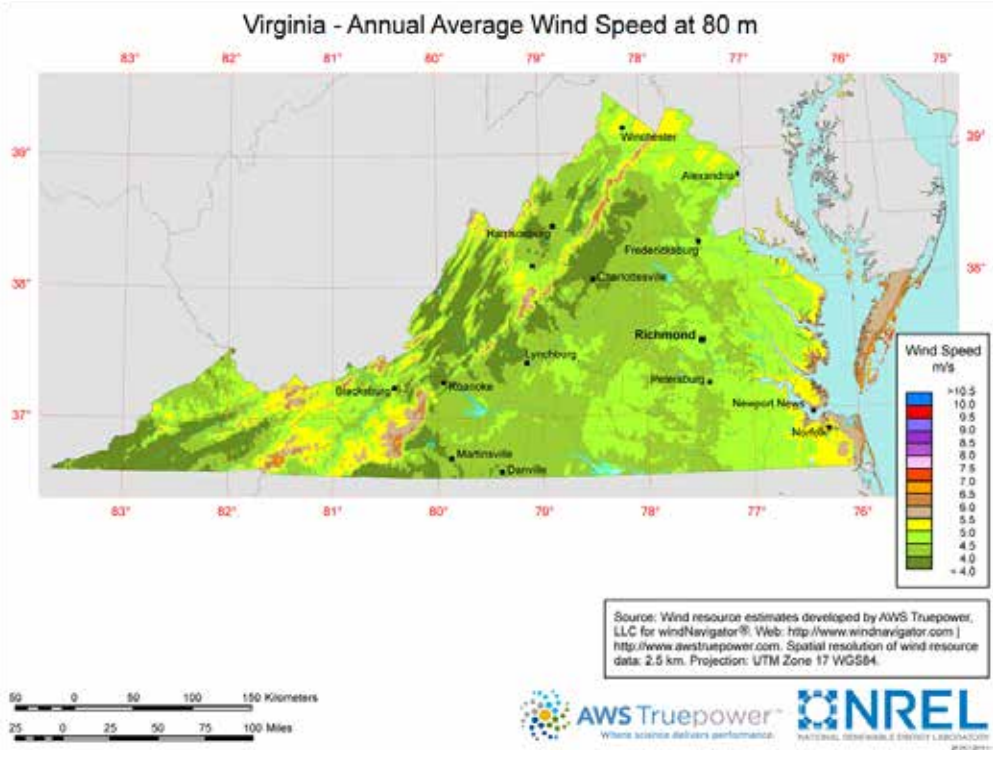


Figure 4.16



To prevent radio frequency interference from impacting WFF operations, an RF quiet zone has been established surrounding the Orbital Tracking and Range Telemetry stations on Wallops Main Base to provide protection for the receiving systems at those stations. An RF Quiet Zone is a controlled area set up to protect sensitive RF receiving systems from interference. RF quiet zone notification signs are located on access roads leading into the area (NASA 2009).

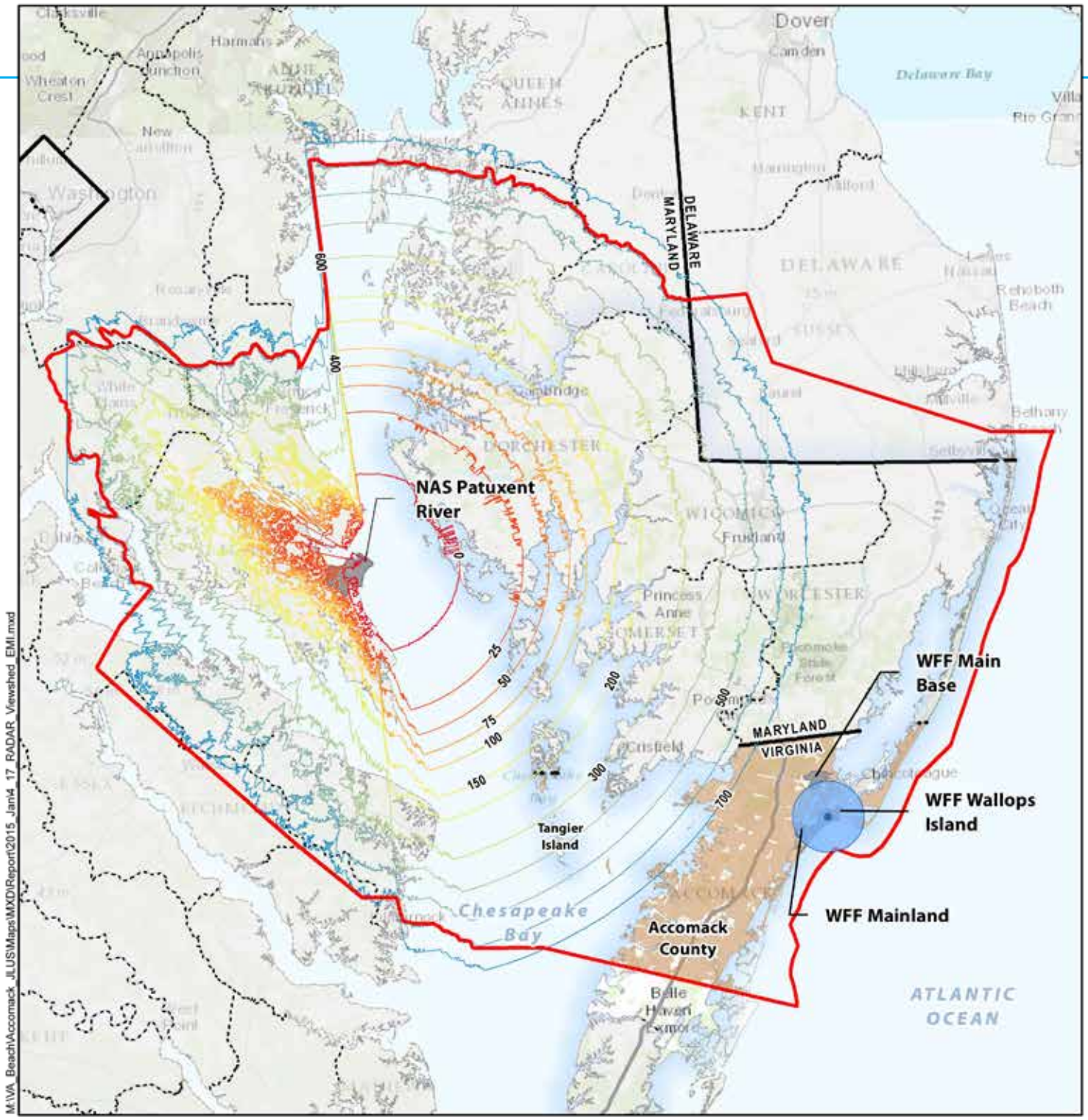
- *Sources of Interference*

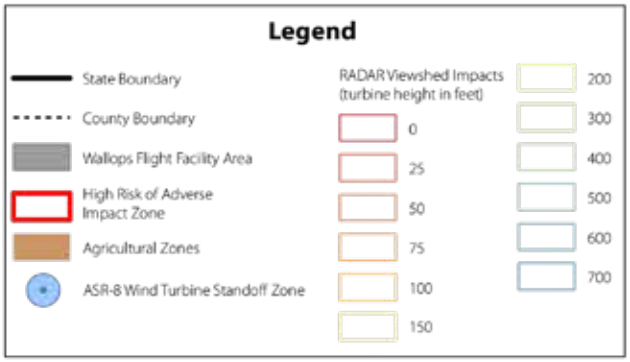
The primary concerns for radar system interference result from the potential for construction of utility scale wind turbines in the viewshed of sensitive radar systems used by NAS Patuxent River, as well as increased development inside NASA's 20,000' safety arc that may increase EMI with SCSC communications systems. Utility scale wind turbines could produce cluttered radar returns and EMI that significantly impact the Navy's ability to operate. Construction of utility scale wind turbines within the viewshed boundaries (Figure 4.17) could result in a permanent mission stoppage for systems based out of NAS Patuxent River. The radar viewshed includes the northwestern portion of Accomack County. Residential scale turbines also have the potential to impact radar systems located on Wallops Island. A four-mile standoff zone has been recommended by the Navy to preserve the integrity of those systems (Figure 4.17). Additionally, the WFF falls entirely within the DOD High Risk of Adverse Impact Zone (HRAIZ), which indicates the area where utility scale wind turbines may significantly impact Navy mission operations. As a result, Accomack County should review all proposals to develop utility scale wind energy in the county.

The County has approved 322 subdivided parcels for residential development inside NASA's 20,000' safety arc. The different types of transmitters and other electrical equipment that operate in residences, as well as wireless devices and communication and utility infrastructure, may increase EMI with SCSC communications systems. Cumulatively, approved residential development and existing residential development in the safety arc could generate regular EMI concerns for the SCSC.

CONCLUSION

Communication systems used by the Navy are very sensitive to radar system interference and EMI. The radar viewshed for radar systems at NAS Patuxent River in Maryland includes the northwestern portion of Accomack County and as a result could limit the County's ability to develop utility scale wind projects in that area. The DOD and the Navy formally review all tall structures, including renewable/wind energy projects, filed with the FAA to evaluate any adverse impacts to operations. The SCSC's area of concern for EMI includes areas of Accomack County that are expected to experience additional development in the future, which could impact future operation of the SCSC at WFF Wallops Island.





0 5 10 Miles

SOURCE: Accomack County (received) 2014; ESRI 2010, 2012; NAS Patuxent River 2012, (received) 2014; WorldView Solutions Inc 2007.

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Figure 4.17
Radar Viewsheds, Joint Land Use Study,
Accomack County, Virginia

4.3.5 ISSUE: OFFSHORE ENERGY DEVELOPMENT

INTRODUCTION AND METHODOLOGY

The Bureau of Ocean Energy Management (BOEM), formerly the Minerals Management Service, is an agency of the U.S. Department of the Interior and has jurisdiction and regulatory responsibility for federal offshore waters on the outer continental shelf (OCS), including submerged lands. BOEM manages lease sales for exploration, development, and production of energy resources within the OCS, including oil and gas and alternative energy projects. BOEM prepares lease stipulations that define permissible activities, time frames, and use of lease blocks, including the designation of military critical-use areas. BOEM and NASA have been engaged in ongoing coordination related to NASA's concerns about mission compatibility with BOEM-managed activities. NASA is a participating member of the following task forces related to offshore energy development: State of Maryland and BOEM Intergovernmental Renewable Energy Task Force, Commonwealth of Virginia and BOEM Intergovernmental Renewable Energy Task Force, and the Virginia Marine Resources Commission State Waters Renewable Energy Workgroup. In addition, formal guidance has been established related to: offshore evacuation during NASA operations, coordination for offshore BOEM operations, and the management of electromagnetic emissions that result from offshore activities.

A qualitative review of the existing policy and regulatory framework for traditional and alternative energy platforms was conducted in the context of the energy sectors as a whole and then specific to the geographic range of the study area, and the planning horizon.

- *Oil and Gas*

The Outer Continental Shelf Lands Act of 1953 (OCSLA) granted the U.S. Secretary of the Interior authority over OCS energy and mineral leasing activities. The OCS surrounding the United States is divided into 26 planning areas. Under the Outer Continental Shelf Lands Act, BOEM prepares a five-year oil- and gas-lease program for scheduled lease sales on the OCS. No offshore oil and gas leases are active within the North Atlantic region, because the Atlantic coast has been subject to a number of oil and gas leasing moratoria since the 1980s (Bureau of Land Management July 2012). However, in July 2008,

an Executive Withdrawal maintaining closure of several planning areas was rescinded, which effectively reopened the Atlantic coast to be considered for development.

On April 20, 2010, the Deepwater Horizon spill occurred, precipitating a reconsideration of opening new lease areas. On December 1, 2010, the entire Atlantic coast was removed from BOEM's 2012-2017 five-year OCS Oil and Gas Leasing Program, and a drilling "moratorium" was implemented through 2017

Subsequently, the BOEM began its planning process, and on April 2, 2010, the agency announced its intent to prepare an EIS for potential leasing in several new areas, including the Mid- and South Atlantic (Bureau of Land Management July 2012). BOEM is currently in the process of preparing a Programmatic Environmental Impact Statement (PEIS) as a result of the actions proposed in the 2017-2022 OCS Oil and Gas Leasing Draft Proposed Program (DPP). Under this DPP, certain areas remain closed, including the Pacific and North Atlantic.

The 2017-2022 DPP proposes a sale in the Mid-Atlantic or South Atlantic Planning Areas in 2021, following further research and exploration. The BOEM recognizes the potential conflicts with NASA and DOD mission activities in this Planning Area, and will continue to work closely with them to minimize conflicts and determine what mitigation measures should be required (BOEM 2015).

- *Offshore Wind Energy*

The estimated offshore wind energy potential off of the Atlantic coast is 1,000 gigawatts (GW) — equal to all current U.S. electric generating capacity — and the development of domestic energy sources to enhance national security, promote jobs, and reduce carbon emissions is a top priority. These factors were the impetus behind the Department of the Interior's "Smart from the Start Initiative," announced in November 2010. The purpose of the initiative is to streamline the review and approval process for offshore wind energy projects and accelerate environmentally responsible offshore wind energy development, specifically on the Atlantic OCS (Department of the Interior November 23, 2010). As a result of this initiative, areas suitable for wind development, called "wind energy areas" (WEAs), were designated by the BOEM in the OCS off the coast of each state (U.S. Department of the Interior February 7, 2010). On a coastal state-by-state basis, the BOEM established intergovernmental renewable energy state task forces to delineate these wind energy areas, comprising whole or partial lease blocks of the OCS. Once each wind energy area and its associated OCS lease blocks are defined, the remaining lease blocks are considered unsuitable for development unless the wind energy area is amended. The BOEM publishes requests for information to gauge public perception about the suitability of certain offshore areas for development and determine developer interest in leasing certain areas; and has been moving aggressively to process applications to build offshore transmission lines. The BOEM completed its Environmental Assessment (EA) for the *Virginia Offshore Wind Technology Advancement Project on the Atlantic Outer Continental Shelf Offshore Virginia* in December, 2014, and in early March, 2015 issued a 30-year lease to Virginia Dominion Power for two 500-foot tall wind turbines about 25 miles of the Virginia Beach shoreline. The turbines are scheduled to be erected in 2017. (*BOEM 2014)*

- *Marine Hydrokinetic Energy*

The Federal Energy Regulatory Commission (FERC) has authority over issuing licenses for any hydrokinetic energy development, whether in offshore, near-shore, or inland waters. FERC is responsible for issuing site assessment and construction and operation licenses for marine and hydrokinetic developments on the OCS (while BOEM maintains authority over leasing). In state near-shore and inland waters, FERC issues site assessment and construction and operation licenses, while the states have authority over leasing submerged lands within their jurisdiction (Part I of the Federal Power Act , 16 United States Code [U.S.C.] §§792-823a [2006]).

IMPACT ASSESSMENT

- *Oil and Gas*

While no offshore drilling may occur in the mid- and South Atlantic before 2017, geological and geophysical exploration activities are likely to occur in the near future. BOEM is developing a PEIS to evaluate the potential significant environmental effects of multiple geological and geophysical exploration activities in the mid- and South Atlantic OCS planning areas. Following completion of the Final PEIS and the Record of Decision, offshore geological and geophysical exploration activities could occur within the VACAPES OPAREA.

The PEIS has projected levels of geological and geophysical activity in the Mid-Atlantic planning area until 2020. The level of activity will depend on the amount of interest displayed by oil and gas companies. Seismic vessels conducting the geological and geophysical exploration activities would stay offshore for the entire duration of a survey (which can be up to several months), during which time they are supported by supply vessels that transit from base ports along the East Coast. BOEM has identified several locations along the East Coast as potential support bases, one of which is Norfolk, Virginia. There is also a potential for helicopter traffic to increase to support drilling continental offshore stratigraphic test wells and shallow test wells. It is expected that this would include at least daily round trips between the drilling rig and an onshore support base. With a support base for offshore activities, regional offshore vessel traffic and, possibly, aircraft traffic, would increase.

- *Offshore Wind Energy*

Following the first request for information for OCS renewable energy development off the coast of Delaware in April 2010, the BOEM has continued to move forward with renewable energy development along the East Coast of the United States.

While the number of private property windmills on the Eastern Shore have slowly increased, wind turbines in the Chesapeake Bay have not materialized (Baltimore Sun 2013). In 2010, the VMRC conducted a study in order to discover potential opportunities for wind development within state waters of the Chesapeake Bay and to identify resource and use conflicts (VMRC 2010). To solicit input for the study, the VMRC invited interested parties, including the DOD, to participate in a workgroup to identify resource and use conflicts that should be considered

when evaluating opportunities for siting wind energy projects in Virginia waters on state-owned submerged lands (VMRC 2010).

In the VMRC study, state waters are divided into four categories— excluded areas, major conflicts, moderate conflicts, and lesser conflicts—in order to determine whether subaqueous lands are sufficient and appropriate for supporting the generation and transmission of electrical or compressed air energy from offshore wind within Virginia's Chesapeake Bay waters. Excluded areas are defined as areas for which there is a legally defined use or protection such as navigation channels and anchorages, military security and training areas, FAA restriction areas, the NASA Wallops Flight Facility range, Baylor Grounds (public oyster grounds), and private shellfish leases (VMRC 2010). Figure 4.18 displays areas of lower potential for conflict, which are also the most likely areas for wind development in Virginia waters of the Chesapeake Bay. Figure 4.19 displays separate data and includes all exclusion areas. Figure 4.20 depicts areas within Virginia's Chesapeake Bay waters that have been identified specifically by the DOD as exclusion areas.

Despite the lack of suitable areas for wind development in the Chesapeake Bay, at least one wind test project in the Chesapeake Bay was scheduled to occur. A wind turbine, a prototype energy spire off the Eastern Shore in the Chesapeake Bay, seemed likely as recently as late March 2012, when Gamesa Energy USA and Huntington Ingalls' Newport News Shipbuilding announced plans to erect a 479-foot-tall turbine near Cape Charles, Virginia; however, just one month later, plans were halted due to concerns over federal energy policy and the possible expiration of a renewable energy tax credit (Virginian-Pilot 2012). The prototype was intended to produce 5 MW of wind-generated electricity that would be transmitted to shore for consumption and, under the original time line, construction was to be completed by late 2013 (Virginian-Pilot 2012). There are no current plans to revive the test project.

- *Marine Hydrokinetic Energy*

In general, Virginia is not considered to have offshore wave energy resources (Electric Power Research Institute 2008 and 2006). No tidal or wave hydrokinetic sites are currently located within the VACAPES OPAREA (Bureau of Ocean Energy Management 2013).

CONCLUSION

There is the potential for renewable energy projects to be developed in state and federal waters along Virginia's coast, along with exploration of oil and gas. However, energy technologies can create use conflicts depending on location and scale of the project. For Accomack County potential use conflicts could include impacts to military operations and training from physical obstructions or EMI with sensitive technologies, and effects to an area globally significant to birds due to the large number of species that migrate through and overwinter. While there are areas along the Virginia coastline which are potentially suitable for development of offshore wind projects, electrical distribution systems in coastal Virginia are not adequate for large projects except in the Virginia Beach area (VMRC 2010). There are no offshore energy projects currently underway along the Virginia coastline; however, there is national and state support for these technologies to continue to move forward and documented resource potential along Virginia's Eastern Shore.

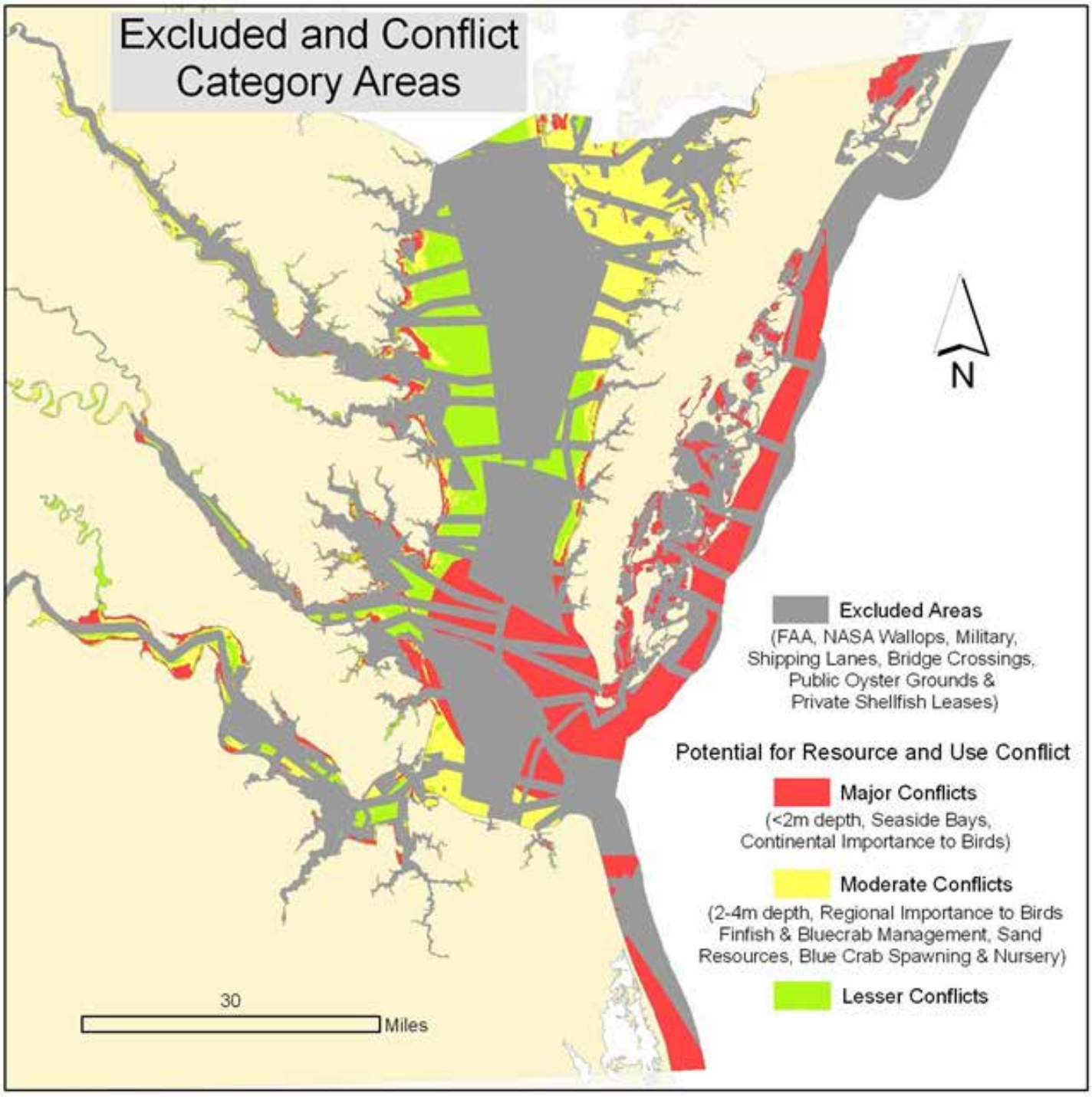

Figure 4-18 - Excluded and Conflict Category Areas in Virginia State Waters of the Chesapeake Bay (Source: VMRC 2010)

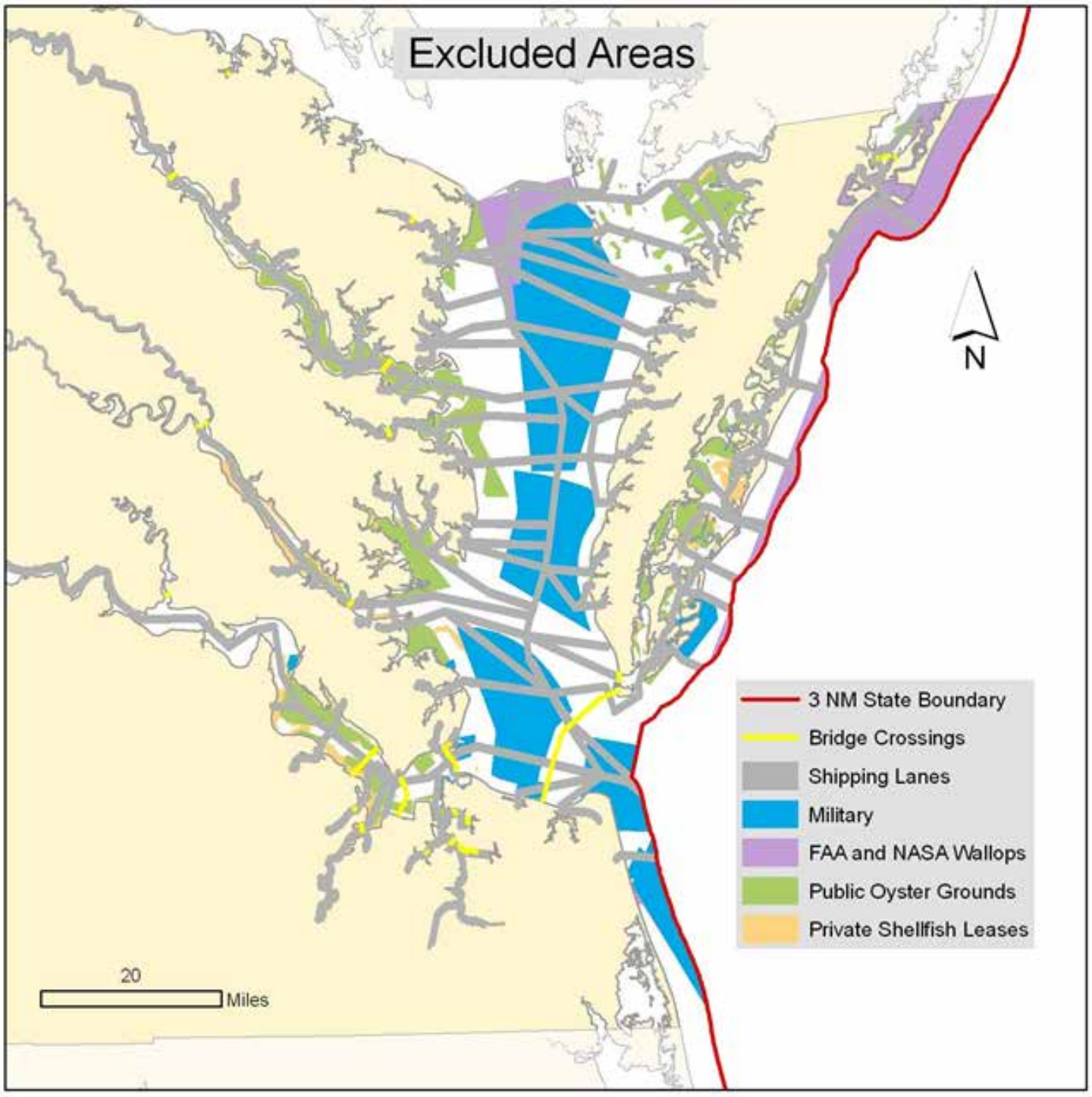

Figure 4-19 - Areas to be excluded when considering siting offshore wind in Virginia waters within the Chesapeake Bay (Source: VMRC 2010)

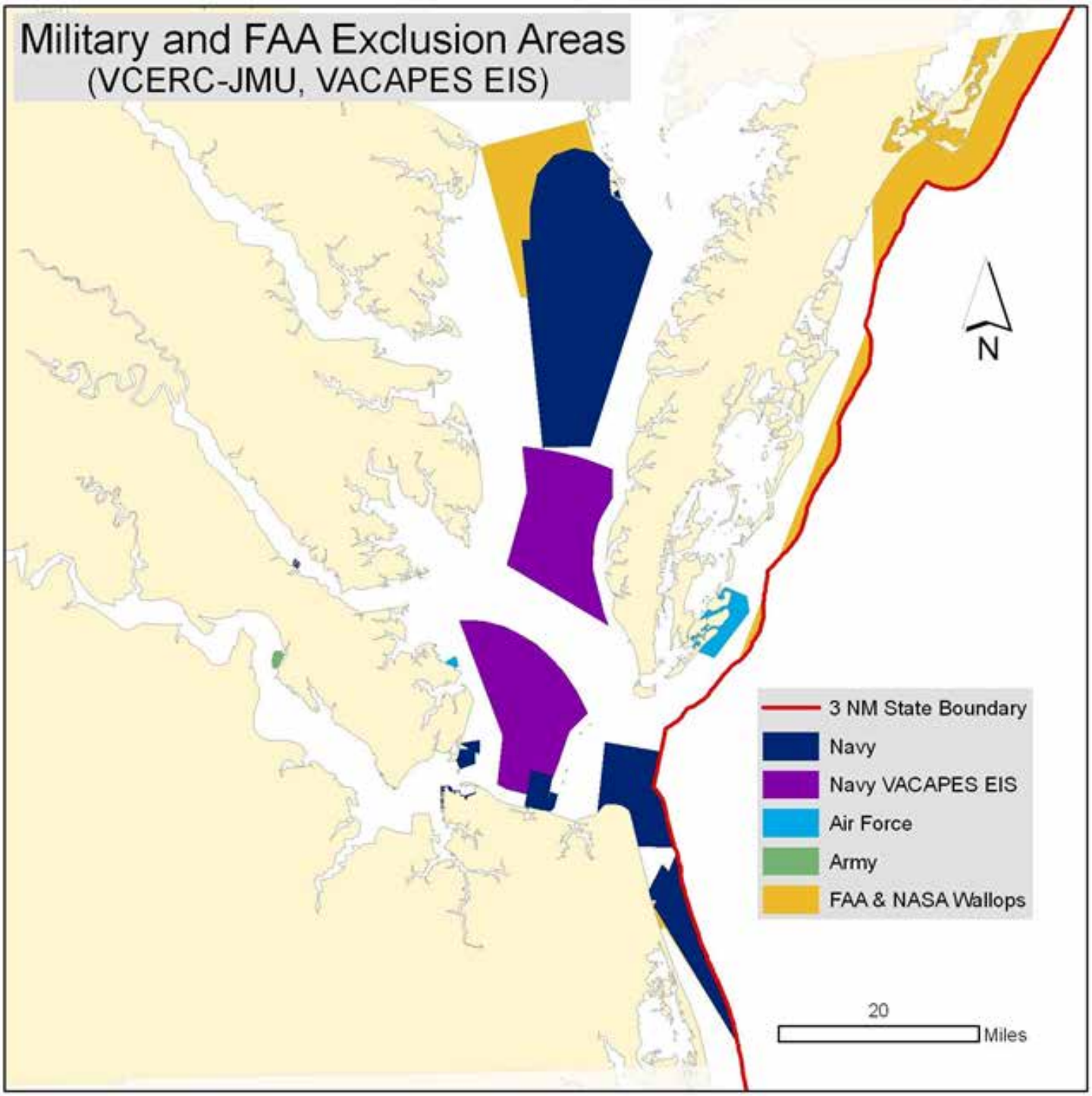

Figure 4-20 - Areas within Virginia's Chesapeake Bay waters that have been identified by the DOD as exclusion areas (Source: VMRC 2010)

This chapter of the Joint Land Use Study provides the project leadership's recommendations and strategies for addressing existing and potential future incompatible land uses between the WFF operations and the surrounding Accomack County community.

Recommendations and strategies are identified and discussed for each of the five major compatibility issues presented in Chapter 4. Additionally, recommendations and strategies of a general nature are provided. A total of fifteen recommendations are developed and identified with respect to category (communications, plans, regulations, legislation, etc.). The recommendations provided here include a range of options for the community to consider for implementation should it desire to do so.

Recommendations are discussed in order of anticipated time frame required for successful accomplishment.

Aircraft Accident Potential Zones


EMI & Radar Interference


Range Hazard Area

Coastal Resiliency


Noise Zones

General Recommendations

5.1 SHORT - TERM RECOMMENDATIONS

5.1.1 Establish an Accomack-Wallops Working Group (AWWG)

- *Context*

The intent is to provide an advisory body to support and track implementation of the JLUS recommendations and ongoing County-WFF-based agencies collaborative strategies and actions. Establishing this group highlights the need for ongoing collaborative efforts between the County, NASA, the Navy, other DOD and VCSFA officials, and the other agencies/organizations for the long term. The current collaborative relationship between WFF and the County will be enhanced by being given more structure. The new structure would be an effective forum for communication, development, and mitigation efforts for collaborative compatibility planning into the future. The AWWG would serve as a two-way communications forum, dealing with County Development and Wallops Operations matters. Development plans in areas surrounding WFF, WFF mission operations changes, and other related matters would be communicated and potential impacts addressed collaboratively. The AWWG would provide advisory level input and support to the County Planning Commission and Board of Supervisors.

- *Action*

Accomack County is to take the lead role in implementing this recommendation. In addition to the County, the AWWG would have resource partners including: NASA, DOD, the Navy, VCSFA, Town of Chincoteague, DOI/USFWS, and A-NPDC. Other entities or agencies could be brought into discussions as applicable (e.g., Chamber of Commerce, business groups, realtors, property owners, etc.). Because a working relationship already exists between the County and primary partners, establishing the AWWG to further cultivate the working relationships is considered easily attainable in the short term.

An example of AWWG usefulness in addressing compatibility issues would be coordinating a public forum to give local residents with properties in or close to APZs the opportunity to have the appropriate agencies provide responses to their specific questions.

This recommendation is timely, given the heightened interest at both the local and state level in retaining federal and military activities in an era of reduced federal spending. The economic impact, particularly in Coastal Virginia, is significant. This is evident at the state level, with the creation of the Commission on Military Installations and Defense Activities (CMIDA) in March, 2013. The Commission's 2013 Initial Report outlines 20 recommendations - two of which are "Encourage Joint Land Use Studies" and "Mitigate Effects of Encroachment". (CMIDA 2013).

5.1.2 Amend/Update the Accomack County Comprehensive Plan to incorporate information in this study.

- *Context*

This action captures pertinent information from the JLUS Report for incorporation in the Accomack County Comprehensive Plan update. The update would make use of such JLUS Report information as the updated aircraft APZ and noise contour data, updated rocket launch range hazard data, EMI and radar interference data, and associated mapping. The updated data would serve to enhance County planning efforts with respect to land use compatibility in areas surrounding WFF well into the future.

- *Action*

Accomack County would have the lead role, with the support of resource partners from the various groups represented in the AWWG. A critical resource document is the Commonwealth of Virginia Senate Bill 1029 (2013) that requires local planning commissions to consult with military installation officials when locality development plans may have adverse effect the installation. Much of the information in this study relates directly to information in the County's Comprehensive Plan. For instance, updating the WFF APZ information, including AICUZ noise zones, adding a discussion of EMI concerns, etc. could all be included in the Comprehensive Plan update.

5.1.3 Pursue available grants and/or supplemental funding sources for JLUS recommendations implementation

- *Context*

The ability to obtain grants or other supplemental funding will greatly assist in implementing the JLUS recommendations. For implementation to be effective for many of these recommendations and strategies, this kind of assistance will be necessary. This is especially true given the limited resources and the realities of the County's available budget, programs and grants. Some valuable resources that can be considered are OEA Economic Adjustment, and the Catalog of Federal Domestic Assistance (CFDA).

- *Action*

This effort would be spearheaded by the AWWG, tapping the varied experience and contacts available from the agencies represented on this group. Assuming establishment of the AWWG takes place in the very near future, implementation of this recommendation is feasible in the short term.

FACT Fund Grant Program

The Virginia Federal Action Contingency Trust (FACT) Fund was created by the Virginia General Assembly in 2012 to counter actions taken by the federal government that may adversely impact the citizens and economy of Virginia. This fund was continued in 2014, with $4,361,000 available in the Fiscal Year (FY) 2015 budget.

In September 2014, three municipalities were awarded FACT Fund grants - all in Coastal Virginia, and all to address encroachment concerns.

- *City of Hampton (Langley): $1,260,000*
- *City of Virginia Beach (NAS Oceana): $1,830,000*
- *City of Chesapeake (NALF Fentress): $1,000,000.*

5.1.4 Establish a process for identifying County strategies to address incompatibilities within the WFF aircraft clear zones

- *Context*

In seeking to promote compatible land use in the areas surrounding the WFF, both existing and potential future land uses should be addressed. This recommendation addresses existing incompatibilities in the clear zones for which a structured process for mitigation is needed. The process would include developing a clear zone strategic action plan that identifies and prioritizes critical incompatible properties, on parcel-by-parcel basis; developing strategies to address the existing incompatibilities; and recommending appropriate actions to discourage operational encroachment. Examples of this strategic action plan include Encroachment Action Plans (EAPs), Clear Zone/APZ Master Plans, etc. There are approximately 75 acres located within the aircraft operational clear zones.

- *Action*

NASA, DOD, and Accomack County are all critical resource partners for this effort. The lead role for implementing this recommendation will be determined by the AWWG. The DOD Instruction 4165.57 Air Installations Compatible Use Zones (AICUZ) and current NASA guidance will be used as technical resources for this initiative. Implementation of this recommendation involves establishment of a process for addressing incompatibilities, not the actual accomplishment of mitigation of existing incompatibilities. This will provide guidance and support for the potential mitigation to the appropriate partner organizations responsible for implementation. This is the basis of considering this to be a short term effort.

For graphical depiction of the clear zones with reference to existing incompatible land use, see Figures 2.14 (p. 35), 4.6 (p. 67), and 4.7 (p. 69). See Appendix F for magnified depiction of impacted areas.

5.1.5 Establish a collaborative review process for requests relating to development of wind turbines, cell towers, radio frequency emitters or structures

- *Context*

This recommendation is intended to discourage the permitting of structures that may cause electromagnetic or radar interference that would adversely impact DOD or NASA mission operations on or associated with the WFF. It is also intended to encourage compatible siting for such development by recommending alternative compatible sites. To effectively determine compatible sites, a collaborative effort between the County, NASA, the DOD, and the Town of Chincoteague will be needed. A change in forms/questionnaires for requestors represents a likely help to identify potential RF emitter sources. As these requests are received, three primary factors considered are power level, frequency and height. Airport overlay districts are typically used by the FAA for approval of requests for developments with potential impact on aircraft operations.

- *Action*

The anticipated lead role is the AWWG, with critical support from the following resource partners: DOD, NASA, Accomack County, and the Town of Chincoteague. The primary resources, however, for reviewing energy development requests will continue to be the established NASA processes for proposal reviews and the DOD Siting Clearinghouse. This recommendation is intended to establish a process to enhance communications. Therefore, assuming near future establishment of the AWWG, implementation is anticipated in the near term.

5.1.6 NASA/Navy notify Accomack County and AWWG of offshore energy development to identify potential operational interference

- *Context*

The intent of this recommendation is to ensure Accomack County is kept apprised of offshore energy development requests as DOD and NASA seek and support useful opportunities for offshore energy developments, while discouraging initiatives that would adversely impact DOD and NASA mission operations at or associated with WFF.

- *Action*

The lead role for this coordinative effort would be the AWWG, with DOD, NASA, Accomack County, and the Town of Chincoteague as resource partners. The established NASA policy and the DOD Siting Clearinghouse are the primary resources for this recommendation as they are tasked to review alternative energy requests, each via their own independent formal processes for proposal reviews. The DOD process is delineated on the DOD Siting Clearinghouse website. Short term implementation is anticipated since the primary enabling action required is the establishment of the AWWG.

5.2 SHORT- TO MID-TERM RECOMMENDATIONS

5.2.1 Establish a range hazard notification area and provide notifications of hazards associated with rocket launches

- *Context*

This recommendation aims at providing an effective tool for increasing awareness and for enhancing notifications of potential rocket launch hazards in the range hazard area. Rocket launches at WFF Wallops Island are inherently hazardous and to meet NASA's range safety criteria, the risk to persons and property must be within acceptable limits. Potential hazards include (1) Within the 10,000 feet arc, debris and direct blast in the event of rocket launch failure on the launch pads or immediately after launch and (2) within the 10,000 feet arc, but also the 20,000 feet arc, dissipated toxic propellant vapors and shattering of windows due to overpressure from a launch failure near the pad.

Safety notifications are a key strategy to mitigating these potential hazards. NASA's existing, robust notification process would be enhanced and would involve three components as follows:

1. Real Estate Disclosure: Involves notification when real estate transactions occur for properties located within the range hazard area. These notifications would be provided by the County and would address the potential hazards and impacts associated with rocket launch events. As there are no known precedents to date with respect to rocket launch facilities, Virginia enabling legislation requiring full real estate disclosure may be pursued by NASA and the County as a next step.
2. Building Permits/Future Construction: Involves notification of potential hazards within the range hazard area and suggests recommended construction materials and methods to help mitigate those hazards. This notification would occur when applications are submitted for building permits.
3. Launch Emergency Notification System (ENS): Involves pre-launch notifications to people within the range hazard area. NASA would work with the County to coordinate and utilize the County's Code Red notification system, and work with them to take advantage of future notification technologies.

An additional (or next) step for mitigating the impact of rocket launch hazards would be to amend the existing County Zoning Ordinance and Subdivision Ordinance. This option encourages compatible land use within the rocket launch hazard area, using the County's zoning and subdivision ordinances. This step would also require enabling legislation, as there are no known precedents around other NASA launch facilities where compatible land uses are defined and/or regulated within the range hazard area.

- *Action*

Accomack County would assume the lead role for implementation, with NASA as a critical resource partner. Several resources (documents, agencies, systems, etc.) needed for implementation are as follows: NASA Range Safety Manual; Accomack County Comprehensive Plan; the potential to integrate with County Code Red Notification System; and the Virginia Commercial Space Flight Authority (VCSFA). Because the resources required to implement are available, efforts to utilize them effectively to accomplish the intended notifications are expected to make implementation possible for the mid-term, and possibly in the short-term.

For magnified graphical depictions of the range hazard area and the land uses within it, see Appendix G map series.

5.3 MID-TERM RECOMMENDATIONS

5.3.1 Establish a WFF Aircraft Operations Overlay District and amend the Accomack County Zoning Ordinance and Subdivision Ordinance for compatible land use in Clear Zone, APZ 1, APZ 2, and other affected areas.

- *Context*

This recommendation serves to establish an effective tool for managing development in areas surrounding WFF with respect to public safety and population density issues. It would enhance the ability to provide specific compatibility guidance for land development within the overlay district and implement other JLUS recommendations. This district would be comprised of all areas within the County's jurisdiction that lie within the WFF Main Base airfield operational footprint, including clear zones, APZ 1 and APZ 2; and potentially areas outside the currently mapped accident potential zones if sufficient rationale exists to warrant inclusion. This district would be distinct from the existing Airport Overlay District in that it relates

specifically to safety and population density as well as WFF aircraft operations encroachment issues. Establishing this overlay district would encourage compatible land uses by utilizing both DOD AICUZ guidance (as shown in Table 5.1) and NASA guidance as resources.

- *Action*

Accomack County would take the lead role in implementing this recommendation, with DOD and NASA as primary resource partners whose subject matter expertise is invaluable. The primary technical source documents that would inform/guide this effort are the DOD Instruction 4165.57 Air Installations Compatible Use Zones (AICUZ) and current NASA safety guidance. Additionally, implementation of this recommendation would provide a valuable tool for pursuing compatible land use in the future, providing an incentive for accomplishment. These two factors support an anticipated mid-term time frame for accomplishment.

For graphical depictions of APZs with reference to existing zoning and future land use, see Figures 4.8 (p. 71). 4.9 (p. 75), and Appendices E and F.

Table 5.1 provides a general reference summary of compatible land uses in APZs.

Table 5.1 DOD-Recommended Land Uses for APZ

DOD Recommended Land Uses for APZ:

CLEAR ZONE	APZ 1	APZ 2
Agricultural (non-livestock)	Agricultural	Agricultural
	Heavy Industrial	Heavy Industrial
	Recreational/ Parks	Recreational/ Parks
	Forestry	Forestry
		Commercial
		Personal Services
		Residential (Single Units, detached)

Note: Public gathering places are discouraged in APZs

5.3.2 Adopt measures for early and full real estate disclosure with respect to properties located within aircraft accident potential and noise zones. Pursue Commonwealth of Virginia legislation to amend 55-517/55-519 (Required disclosures) to include WFF aircraft operations on the WFF Main Base airfield

- *Context*

Currently state legislation addressing military air installations is not applicable to WFF since it is not a military installation. The intent of this recommendation is to enable the applicability of AICUZ data as guidance for the WFF Main Base Airfield in order to facilitate appropriate requirements for real estate disclosure. The guidance would be based on both NASA and DOD/Navy AICUZ guidance for these zones as presented in the JLUS Report and consistent with the proposed WFF Aircraft Operations Overlay District.

This recommendation specifically includes action to pursue special legislative enablement for the applicability to WFF Main Base of military notification requirements per Virginia Statues 15.2-2200, 15.2-2201, 15.2-2204, and 15.2-2211, revised 2013 (3,000-foot boundary notification). This could be accomplished by redefining "military air installations." The critical issue is notification with respect to the WFF airfield for which the preponderance of operations involves military operations, although it is classified as a non-military airfield.

- *Action*

Accomack County and NASA would share the lead role for implementation, with the DOD as a resource partner. The following Virginia legislation applies:

Because implementation of this recommendation requires state-level legislative action to enable its enforceability, a short-term attainment is not possible. Mid-term accomplishment is, however, a possibility only because this is not just a local issue, but much broader, and could receive supportive attention.

For graphical depiction of APZs and noise zones, see the following: Figures 2:14 (p. 35), 2:15 (p. 37), 4.8 (71), 4.9 (75), 4.14 (p. 93), and Appendix F.

"Virginia's Residential Property Disclosure Act (Virginia Code §55-517 et seq.) requires real estate licensees to inform the parties to a transaction with whom they deal of their rights and obligations under the Act. As a licensee providing this information to clients, you must be prepared to answer any questions and to furnish them with a copy of the Act at their request.

What about noise?

If the property is located in a locality in which a military air installation is located, the seller, including builders or owners of new property, must provide purchasers with a disclosure statement setting forth whether the property is located in a noise zone or accident potential zone, or both, if so designated on the official zoning map of the locality. Such disclosure shall state the specific noise or accident potential zone, or both, in which the property is located.

§ 55-519.1. Required disclosures pertaining to a military air installation.

The owner of residential real property located in any locality in which a military air installation is located shall disclose to the purchaser whether the subject parcel is located in a noise zone or accident potential zone, or both, if so designated on the official zoning map by the locality in which the property is located on a form provided by the Real Estate Board. Such disclosure shall state the specific noise zone or accident potential zone, or both, in which the property is located according to the official zoning map."

5.3.3 Provide information regarding incentives for retrofits to windows on existing buildings within the range hazard area

- *Context*

Incentives for property owners to install replacement windows capable of withstanding the effects of rocket launches would be a valuable resource. Currently there are no known incentives. This recommendation involves research of viable solutions and incentive sources. Findings would be communicated to property owners within the rocket launch range hazard area. Ultimately this supports land use compatibility within the range hazard area and simplifies NASA's pre-launch notification efforts.

- *Action*

Accomack County would take the lead role, with NASA as primary technical resource partner. Resource documents include the Accomack County Comprehensive Plan and NASA's Range Safety Manual. A further resource agency is the VCSFA. A mid-term accomplishment is viewed as possible since the recommendation involves research and communication of findings, not actual installation of potential retrofits.

For magnified graphical depictions of the range hazard area and properties located under the arcs, see the Appendix G map series.

5.3.4 Encourage the application of noise attenuation measures within the aircraft noise zones as part of the permitting process for new construction

- *Context*

This recommendation supports the promotion of compatible land use in the areas surrounding the WFF with respect to noise. The means of doing so is via the permitting process by notifying requestors of potential noise impacts for properties within the 65 decibels DNL or greater noise contours.

- *Action*

Accomack County would assume the lead role, with support from DOD and NASA as technical resource partners. The technical information resources that would be communicated to requestors are the DOD Instruction 4165.57 Air Installations Compatible Use Zones (AICUZ) and NASA guidance. Mid-term accomplishment is viewed

Table 5.2 DOD-Recommended Land Uses for Noise

75-79 db DNL	70-74 db DNL	65-69 db DNL
Agricultural	Agricultural	Agricultural
Industrial	Industrial	Industrial
Commercial	Commercial	Commercial
	Recreational/ Parks	Recreational/ Parks
	Schools	Schools
	Hospitals	Hospitals
		Forestry

Note: Residential is discouraged for noise zones 65 db DNL or greater

as probable, since it depends primarily on technical data support from DOD and NASA involving precedent noise attenuation measures used in similar JLUS locations nationwide.

For graphical depiction of the noise contours associated with WFF Main Base airfield operations, see Figure 4.13 (p. 91) and Figure 4.14 (p. 93).

Table 5.2 provides a general reference summary of compatible land uses in aircraft noise zones. Detailed guidance is provided in Appendix E.

5.4 LONG TERM RECOMMENDATIONS

Although the two recommendations included in this time frame are expected to experience full implementation in the long term, it is vital to their realization that communications and collaborative planning for their future implementation begins now, with ongoing efforts, until sufficient information is provided to serve as the basis of their formulation.

5.4.1 Develop a plan for mitigating and/or accommodating the effects of recurrent flooding, storm surge events, and sea level rise for the Navy, NASA, and MARS/VCSFA facilities on WFF Wallops Island

- *Context*

Numerous groups/initiatives are aggressively exploring the impacts of recurrent flooding, storm surge events and sea level rise on coastal areas. The findings to date indicate serious challenges to the resiliency of these coastal areas. This recommendation encourages the use of the findings, conclusions and recommendations of the various pertinent studies to formulate a coordinated mitigation plan. This plan is vital to ensure integration of County, NAVY/SCSC, NASA, USFWS, and NOAA mitigation planning initiatives. The mitigation plan would take into account the latest data available (flood maps, sea level rise, etc.). The plan will incorporate concrete mitigation actions and even potential contingency actions, such as relocation plans for the Navy, NASA, MARS/VCSFA and other agency facilities located on WFF Wallops Island. The mitigation plan will also incorporate planning actions for transportation and other critical infrastructure critical to WFF operations.

- *Action*

NASA, Accomack County and the A-NPDC would coordinate the implementation of this recommendation. Critical partners in the effort are the Navy, the DOD, MARS/VCSFA, and MACRI. Resource studies, legislation or agencies/groups such as the following would be valuable:

- Virginia Subpanel on Recurrent Coastal Flooding MACRI / Climate Adaptation Science Investigation Update
- Virginia Senate Bill 964
- Executive Order 11988 (Federal)
- Executive Order 13690 (Federal)
- The Navy's Task Force Climate Change
- Recurrent Flooding Study for Tidewater, Virginia, Center for Coastal Resources Management, VIMS
- Eastern Shore of Virginia Climate Adaptation Working Group
- Recurrent Flooding Study for Tidewater, Virginia, Center for Coastal Resources Management, VIMS

Implementation is expected to be attainable in the long term for the reasons provided in the previous recommendation.

5.4.2 Develop a plan for mitigating and/or accommodating the effects of recurrent flooding, storm surge events, and sea level rise for the coastal areas of Accomack County within the study area

- *Context*

The previous recommendation focused on federal facilities located on WFF Wallops Island. This recommendation has the same intent with respect to Accomack County coastal areas within the study area. As with the previous recommendation, this recommendation uses the results of the ongoing studies in forging a well-coordinated plan for addressing the impacts of recurrent flooding, storm surge events, and sea level rise on coastal Accomack County. This plan is vital to ensure mitigation planning initiatives cover Accomack County coastal areas within the study area.

As with the previous recommendation, the mitigation plan will take into account the latest data available (flood maps, sea level rise, etc.). The plan will incorporate concrete mitigation actions for affected coastal areas in the study area. The planning actions should also incorporate mitigation plans for transportation infrastructure critical to local residential and business accessibilities.

- *Action*

The coordinative role for implementation would belong to Accomack County and A-NPDC, with support from the following partners: The Town of Chincoteague, MACRI, USFWS/DOI, TNC and NOAA. Resource studies, legislation or agencies/groups such as the following will be valuable:

- MACRI/Climate Adaptation Science Investigation Update
- Accomack-Northampton Planning District Commission
- Virginia Subpanel on Recurrent Coastal Flooding
- Virginia Senate Bill 964
- Recurrent Flooding Study for Tidewater, Virginia, Center for Coastal resources Management, VIMS
- Eastern Shore of Virginia Climate Adaptation working Group

Implementation is expected to be attainable in the long term for the reasons provided in the previous recommendation.

5.5 ON-GOING RECOMMENDATIONS

5.5.1 Provide an annual update to the Accomack County Board of Supervisors regarding JLUS implementation progress

- *Context*

In order to continue to engage the public in efforts to maintain land use compatibility in areas surrounding WFF following completion of this JLUS, the intent of this recommendation is to provide (at a minimum) annual JLUS implementation status via the public forum of the Accomack County Board of Supervisors meetings.

As an extension of the JLUS public participation plan, this effort represents an attempt to enhance continued connectivity with the community for implementation actions for JLUS recommendations. As JLUS implementation issues come before the Board of Supervisors, the information would be accessible to the public, since these meetings are open to the public.

- *Action*

Implementation would be an ongoing effort led by the Accomack County Planning Department. Resource partners in this effort would include Navy/SCSC, DOD, NASA, VCSFA & other agencies participating with the AWWG. Additionally, the Accomack County official website is an available communication medium for JLUS implementation status. Implementation is intended to take place regularly as an ongoing versus one-time effort.

5.5.2 Update the Accomack County GIS database with JLUS Report data following adoption by the County Board of Supervisors

- *Context*

The intent of this recommendation is to enhance the County's tools for monitoring land use changes in the WFF operational footprint. Spatial data developed for the JLUS Report is valuable for foreseeable future land management in the WFF operational footprint. Updating the Accomack County GIS database with the JLUS Report land use data set and APZ and noise zone updates is a useful start. Further, maintaining this database for the region into the future will provide an ongoing resource for data collection and updating of GIS data, enabling accurate analysis for the County, WFF activities, and the AWWG. Most importantly, continued sharing of GIS data between the JLUS partners will assist in monitoring future land use changes, their impacts on compatibility, and the consistent communication of this information.

- *Action*

Accomack County has the lead role in implementation, with DOD and NASA as resource partners. Though near-term implementation actions are feasible, the intent of this recommendation is to provide a continual sharing and updating of data.

APPENDIX CONTENTS

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A LIST OF TABLES

B LIST OF FIGURES

C ACRONYMS

AHJ	*Authorities Having Jurisdiction*
AICUZ	*Air Installations Compatible Use Zones*
ANEC	*A & N Electric Cooperative*
A-NPDC	*Accomack-Northampton Planning District Commission*
APZ	*Accident Potential Zone*
AWWG	*Accomack-Wallops Advisory Group*
BAMS	*Broad Area Maritime Surveillance*
BEACON	*Business, Economic, and Community Outreach*
BOEM	*Bureau of Ocean Energy Management*
BRAC	*Base Realignment and Closure*
CAWG	*Eastern Shore of Virginia Climate Adaptation Working Group*
CEDS	*Comprehensive Economic Development Strategy*
CFDA	*Catalog of Federal Domestic Assistance*
CNICINST	*Commander, Naval Installations Command Instruction*
CZM	*Coastal Zone Management*
DEQ	*Department of Environmental Quality*
DNL	*Average Sound Level*
DOD	*Department of Defense*
DODINST	*Department of Defense Instruction*
DOI	*Department of Interior*
Du/Ac	*Dwelling Unit Per Acre*
EAP	*Encroachment Action Plan*
ELV	*Expendable Launch Vehicle*
EMI	*Electromagnetic Interference*
ERDC	*Engineer Readiness and Development Center*
FAA	*Federal Aviation Administration*
FEMA	*Federal Emergency Management Agency*
FERC	*Federal Energy Regulatory Commission*
FICUN	*Federal Interagency Committee on Urban Noise*
FIRM	*Flood Insurance Rate Maps*
FIS	*Flood Insurance Study*
FLCP	*Fleet Carrier Landing Practice*
GW	*Gigawatts*
HRAIZ	*High Risk of Adverse Impact Zone*
HRPDC	*Hampton roads Planning District Commission*
JEB	*Joint Expeditionary Base*
JLUS	*Joint Land Use Study*
KW	*Kilowatt*
MACRI	*Mid-Atlantic Coastal Resilience Institute*
MARS	*Mid-Atlantic Regional Spaceport*
NACA	*National Advisory Committee for Aeronautics*
NAS	*National Airspace System*
NAS PAX	*Naval Air Station Patuxent River, MD*
NASA	*National Aeronautical and Space Administration*
NAVFAC	*Naval Facilities Engineering Command*
NAWCAD	*Naval Air Warfare Center Aircraft Division*
NEPA	*National Environmental Policy Act*
NESDIS	*National Environmental Satellite, Data and Information Service*
NOAA	*National Oceanic and Atmospheric Administration*
NPS	*National Park Service*
NREL	*National Renewable Energy Laboratory*
NRMG	*Natural resource Management Guide*
NSN	*Naval Station Norfolk*
NWR	*National Wildlife Refuge*
OCS	*Outer Continental Shelf*
OCSLA	*Outer Continental Shelf Lands Act*
OEA	*Office of Economic Adjustment*
PEIS	*Programmatic Environmental Impact Statement*
PSC	*Policy Steering Committee*
PUD	*Planned Unit Development*
QDR	*Quadrennial Defense Review*
REPI	*Readiness & Environmental Protection Integration Program*
RF	*Radio Frequency*
RV	*Recreational Vehicle*
SCSC	*Surface Combat Systems Center*
SM-3	*Standard Missile-3*
SSDS	*Ship Self-Defense System*
SSOPD	*Suborbital and Special Orbital Projects Directorate*
TAC	*Technical Advisory Committee*
TNC	*The Nature Conservancy*
UAS	*Unmanned Aircraft System*
UAV	*Unmanned Aerial Vehicles*

C ACRONYMS (CONTINUED)

USC	*United States Code*
USCG	*United States Coast Guard*
USDA	*United States Department of Agriculture*
USFF	*United States Fleet Forces*
USFWS	*U.S. fish and Wildlife Service*
VACAPES OPAREA	*Virginia Capes Operating Area*
VADCR	*Virginia Department of Conservation and Recreation*
VADGIF	*Virginia Department of Game and Inland Fisheries*
VCR	*Virginia Coast Reserve*
VCSFA	*Virginia Commercial Space Flight Authority*
VDOT	*Virginia Department of Transportation*
VIMS	*Virginia Institute of Marine Science*
VMRC	*Virginia Marine Resources Commission*
WCC	*Weldon Cooper Center*
WEA	*Wind Energy Area*
WFF	*Wallops Flight Facility*
WIETC	*Wallops Island Engineering Test Center*
WRP	*Wallops Research Park*
WWTF	*Wastewater Treatment Facility*

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IN ACCIDENT POTENTIAL ZONES (APZ)

Accomack Zoning District	By-Right	Conditional	Special Exception	AICUZ Guidance Land Use Type	Safety Zone		
					Clear Zone	APZ-I	APZ-II
Agricultural	X			Agriculture (except live stock)	Y[4]	Y[11]	Y[11]
	X			Agriculture related activities	N	Y[11]	Y[11]
		X	X	Amusements - fairgrounds, miniature golf, driving ranges; amusement parks, etc.	N	N	Y
		X	X	Apartment: elevator	N	N	N
		X	X	Apartments: walk-up	N	N	N
			X	Apparel and other finished products; products made from fabrics, leather and similar materials; manufacturing	N	N	N
			X	Auditoriums, concert halls	N	N	N
	X			Cemeteries	N	Y[9]	Y[9]
	X			Cultural activities	N	N	N
	X			Educational services	N	N	N
			X	Finance, insurance and real estate services	N	N	Y
			X	Fishing Activities	N[14]	Y	Y
			X	Food & kindred products; manufacturing	N	N	Y
	X			Forestry Activities	N	Y	Y
	X			Government Services	N	N	Y
			X	Hospitals, nursing homes	N	N	N
	X			Livestock farming and breeding	N	Y[11,12]	Y[11,12]
			X	Lumber and wood products (except furniture); manufacturing	N	Y	Y
			X	Marine craft transportation	N	Y[5]	Y
			X	Miscellaneous	N	N	Y
			X	Miscellaneous manufacturing	N	Y	Y
	X	X	X	Mobile home parks or courts	N	N	N
	X			Nature exhibits	N	Y[10]	Y[10]
		X	X	Other cultural, entertainment and recreation	N	Y[9]	Y[9]
			X	Other medical facilities	N	N	N
		X	X	Other resource production or extraction	N	Y	Y
	X	X	X	Other retail trade	N	N	Y
			X	Outdoor music shells, amphitheaters	N	N	N
		X		Outdoor sports arenas, spectator sports	N	N	N
	X			Parks	N	Y[10]	Y[10]
	X		X	Personal services	N	N	Y
			X	Printing, publishing, and allied industries	N	Y	Y
			X	Professional scientific, and controlling instruments; photographic and optical goods; watches and clocks	N	N	N
	X			Professional services	N	N	Y
		X	X	Public assembly	N	N	N
	X	X		Recreational activities (include golf courses, riding stables, water rec.)	N	Y[10]	Y[10]
			X	Repair Services	N	Y	Y
			X	Residential Hotels	N	N	N
		X	X	Resorts and group camps	N	N	N
		X	X	Retail trade – apparel and accessories	N	N	Y
		X	X	Retail trade – automotive, marine craft, aircraft and accessories	N	Y	Y
		X	X	Retail trade – building materials, hardware and farm equipment	N	Y	Y
		X	X	Retail trade – eating and drinking establishments	N	N	N
	X	X	X	Retail trade - food	N	N	Y
		X	X	Retail trade – furniture, home, furnishings and equipment	N	N	Y
	X	X	X	Single units: detached	N	N	Y[2]
		X	X	Single units: semidetached	N	N	N
			X	Transient lodgings	N	N	N
		X	X	Two units: one above the other	N	N	N
		X	X	Two units: side-by-side	N	N	N
	X	X		Utilities	N	Y[5]	Y
			X	Warehousing and storage	N	Y	Y
		X	X	Wholesale trade	N	Y	Y

IN ACCIDENT POTENTIAL ZONES (APZ)

Accomack Zoning District	By-Right	Conditional	Special Exception	AICUZ Guidance Land Use Type	Safety Zone		
					Clear Zone	APZ-I	APZ-II
General Business		X		Aircraft transportation	N	Y[5]	Y
	X			Amusements - fairgrounds, miniature golf, driving ranges; amusement parks, etc.	N	N	Y
	X		X	Apparel and other finished products; products made from fabrics, leather and similar materials; manufacturing	N	N	N
	X			Auditoriums, concert halls	N	N	N
	X	X		Business services (credit reporting; mail, stenographic, reproduction; advertising)	N	N	Y
	X			Cemeteries	N	Y[9]	Y[9]
		X		Chemicals and allied products; manufacturing	N	N	N
	X		X	Communication	N	Y[5]	Y
	X	X		Contract construction services	N	Y	Y
	X			Cultural activities	N	N	N
	X	X		Educational services	N	N	N
	X			Fabricated metal products; manufacturing	N	N	Y
	X	X		Finance, insurance and real estate services	N	N	Y
	X			Fishing Activities	N[14]	Y	Y
	X		X	Food & kindred products; manufacturing	N	N	Y
	X			Furniture and fixtures; manufacturing	N	Y	Y
	X			Government Services	N	N	Y
	X	X		Hospitals, nursing homes	N	N	N
			X	Livestock farming and breeding	N	Y[11,12]	Y[11,12]
	X			Lumber and wood products (except furniture); manufacturing	N	Y	Y
	X			Marine craft transportation	N	Y[5]	Y
	X	X	X	Miscellaneous	N	N	Y
	X		X	Miscellaneous manufacturing	N	Y	Y
	X			Nature exhibits	N	Y[10]	Y[10]
	X			Other cultural, entertainment and recreation	N	Y[9]	Y[9]
	X			Other medical facilities	N	N	N
		X		Other residential	N	N	N
		X	X	Other resource production or extraction	N	Y	Y
	X	X		Other retail trade	N	N	Y
			X	Other transportation, communication and utilities	N	Y[5]	Y
	X	X		Outdoor sports arenas, spectator sports	N	N	N
	X			Paper and allied products; manufacturing	N	Y	Y
	X	X	X	Personal services	N	N	Y
	X		X	Professional scientific, and controlling instruments; photographic and optical goods; watches and clocks	N	N	N
	X			Professional services	N	N	Y
	X			Public assembly	N	N	N
	X			Recreational activities (include golf courses, riding stables, water rec.)	N	Y[10]	Y[10]
	X	X		Repair Services	N	Y	Y
	X			Residential Hotels	N	N	N
	X			Resorts and group camps	N	N	N
	X	X		Retail trade – apparel and accessories	N	N	Y
	X	X		Retail trade – automotive, marine craft, aircraft and accessories	N	Y	Y
	X	X		Retail trade – building materials, hardware and farm equipment	N	Y	Y
	X	X		Retail trade – eating and drinking establishments	N	N	N
	X	X		Retail trade - food	N	N	Y
	X	X		Retail trade – furniture, home, furnishings and equipment	N	N	Y
		X		Retail trade – shopping centers, Home Improvement Store, Discount Club, Electronics Superstore	N	N	Y
	X		X	Single units: detached	N	N	Y[2]
			X	Solid waste disposal (Landfills, incineration, etc.)	N	N	N
	X			Stone, clay and glass products; manufacturing	N	N	Y
	X			Transient lodgings	N	N	N
	X	X	X	Utilities	N	Y[5]	Y
	X	X	X	Warehousing and storage	N	Y	Y
	X	X		Wholesale trade	N	Y	Y

IN ACCIDENT POTENTIAL ZONES (APZ)

Accomack Zoning District	By-Right	Conditional	Special Exception	AICUZ Guidance Land Use Type	Safety Zone		
					Clear Zone	APZ-I	APZ-II
Residential			X	Apartment: elevator	N	N	N
			X	Apartments: walk-up	N	N	N
		X		Business services (credit reporting; mail, stenographic, reproduction; advertising)	N	N	Y
	X			Cultural activities	N	N	N
	X			Educational services	N	N	N
		X	X	Finance, insurance and real estate services	N	N	Y
			X	Fishing Activities	N[14]	Y	Y
			X	Food & kindred products; manufacturing	N	N	Y
	X			Government Services	N	N	Y
			X	Hospitals, nursing homes	N	N	N
			X	Marine craft transportation	N	Y[5]	Y
			X	Mobile home parks or courts	N	N	N
			X	Other medical facilities	N	N	N
	X	X	X	Other retail trade	N	N	Y
	X			Parks	N	Y[10]	Y[10]
	X		X	Personal services	N	N	Y
			X	Printing, publishing, and allied industries	N	Y	Y
	X	X	X	Professional services	N	N	Y
			X	Recreational activities (include golf courses, riding stables, water rec.)	N	Y[10]	Y[10]
			X	Residential Hotels	N	N	N
			X	Resorts and group camps	N	N	N
		X	X	Retail trade – apparel and accessories	N	N	Y
		X	X	Retail trade – automotive, marine craft, aircraft and accessories	N	Y	Y
		X	X	Retail trade – building materials, hardware and farm equipment	N	Y	Y
	X	X	X	Retail trade - food	N	N	Y
		X	X	Retail trade – furniture, home, furnishings and equipment	N	N	Y
		X		Retail trade – shopping centers, Home Improvement Store, Discount Club, Electronics Superstore	N	N	Y
	X			Single units: detached	N	N	Y[2]
	X			Single units: semidetached	N	N	N
			X	Transient lodgings	N	N	N
	X			Two units: one above the other	N	N	N
	X			Two units: side-by-side	N	N	N
	X	X		Utilities	N	Y[5]	Y
			X	Warehousing and storage	N	Y	Y
No compatible zoning district identified				Automobile parking	N	Y[5]	Y
				Group quarters	N	N	N
				Highway and street right-of-way	N	Y[5]	Y
				Mining Activities	N	Y	Y
				Motor vehicle transportation	N	Y[5]	Y
				Petroleum refining and related industries	N	N	N
				Primary metal products; manufacturing	N	N	Y
				Railroad, rapid rail transit, and street railway transportation	N	Y[5]	Y
				Rubber and misc. plastic products; manufacturing	N	N	N
				Single units: attached row	N	N	N
				Textile mill products; manufacturing	N	N	Y

Residential - special exception for all land uses not expressly permitted in the zoning code

IN NOISE ZONES

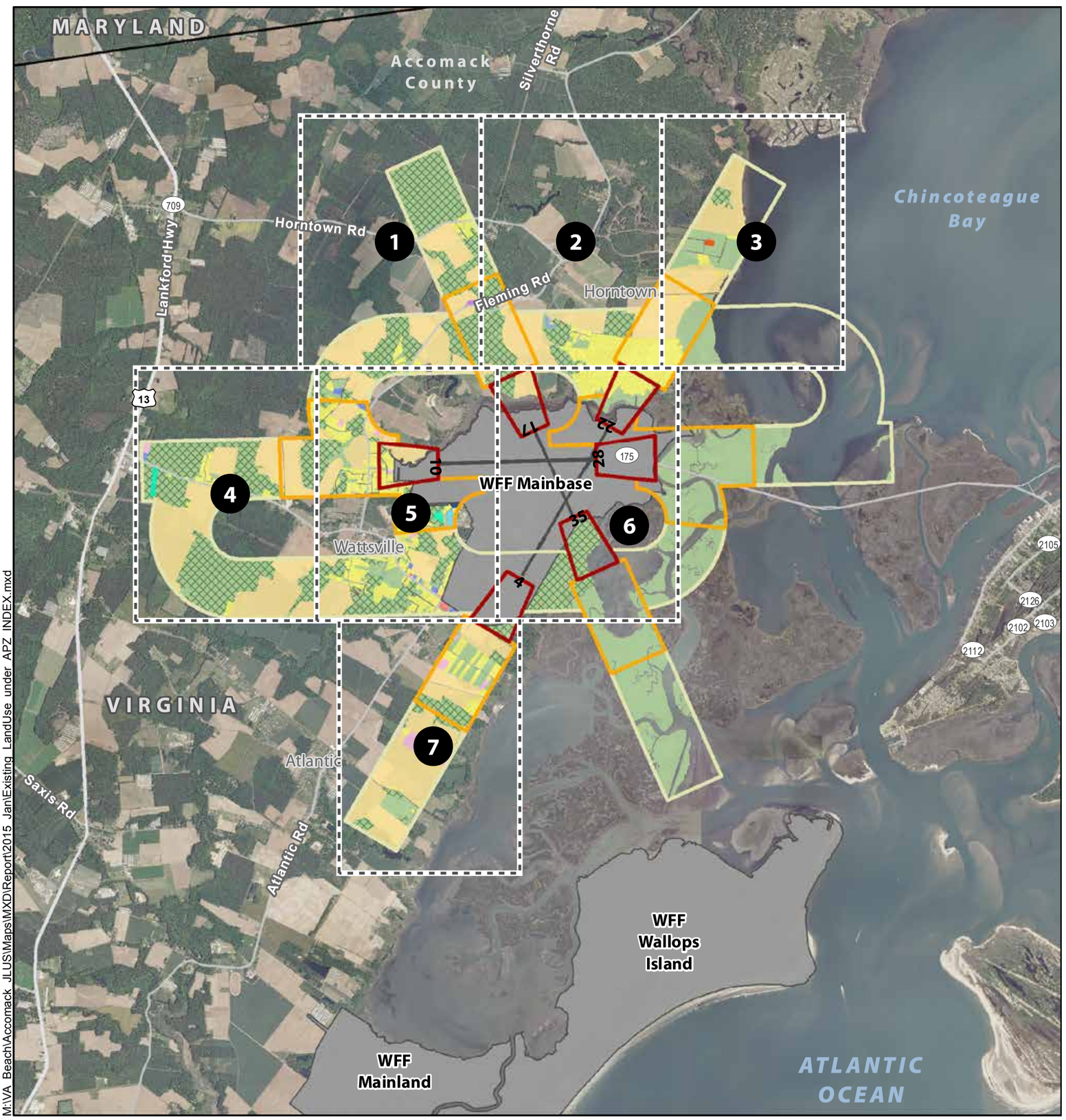
Accomack Zoning District	By-Right	Conditional	Special Exception	AICUZ Guidance Land Use Type	Noise Contour Level <55	55 - 64	65 - 69	70 - 74	75 - 79	80 -84	85+
Agricultural	X			Agriculture (except live stock)	Y	Y	Y[8]	Y[9]	Y[10]	Y[10,11]	Y[10,11]
	X			Agriculture related activities	Y	Y	Y[8]	Y[9]	Y[10]	Y[10,11]	Y[10,11]
		X	X	Amusements	Y	Y	Y	Y	N	N	N
	X			Animal breeding	Y	Y	Y[8]	Y[9]	N	N	N
		X	X	Apartment: elevator	Y	Y[1]	N[1]	N[1]	N	N	N
		X	X	Apartments: walk-up	Y	Y[1]	N[1]	N[1]	N	N	N
			X	Apparel and other finished products; products made from fabrics, leather and similar materials; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
			X	Auditoriums, concert halls	Y	Y	25	30	N	N	N
	X			Cemeteries	Y	Y	Y	Y[2]	Y[3]	Y[4,11]	Y[6,11]
	X			Cultural activities (& churches)	Y	Y[1]	25	30	N	N	N
	X			Educational services	Y	Y[1]	25	30	N	N	N
			X	Finance, insurance and real estate services	Y	Y	Y	25	30	N	N
			X	Fishing Activities	Y	Y	Y	Y	Y	Y	Y
			X	Food & kindred products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X			Forestry Activities	Y	Y	Y[8]	Y[9]	Y[10]	Y[10,11]	Y[10,11]
	X			Government Services	Y	Y[1]	Y[1]	25	30	N	N
			X	Hospitals, other medical fac.	Y	Y[1]	25	30	N	N	N
	X		X	Household Units	Y	Y[1]	N[1]	N[1]	N	N	N
	X			Livestock farming	Y	Y	Y[8]	Y[9]	N	N	N
			X	Lumber and wood products (except furniture); manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
			X	Marine craft transportation	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
			X	Miscellaneous	Y	Y	Y	25	30	N	N
			X	Miscellaneous manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X	X	X	Mobile home parks or courts	Y	Y[1]	N	N	N	N	N
	X			Nature exhibits	Y	Y[1]	Y[1]	N	N	N	N
		X	X	Other cultural, entertainment and recreation	Y	Y[1]	Y[1]	Y[1]	N	N	N
		X	X	Other resource production or extraction	Y	Y	Y	Y	Y	Y	Y
	X	X	X	Other retail trade	Y	Y	Y	25	30	N	N
			X	Outdoor music shells, amphitheaters	Y	Y[1]	N	N	N	N	N
		X		Outdoor sports arenas, spectator sports	Y	Y	Y[7]	Y[7]	N	N	N
	X			Parks	Y	Y[1]	Y[1]	Y[1]	N	N	N
	X		X	Personal services	Y	Y	Y	25	30	N	N
			X	Printing, publishing, and allied industries	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
			X	Professional scientific, and controlling instruments; photographic and optical goods; watches and clocks	Y	Y	Y	25	30	N	N
	X			Professional services	Y	Y	Y	25	30	N	N
		X	X	Public assembly	Y	Y[1]	Y	N	N	N	N
	X	X		Recreational activities (include golf courses, riding stables, water rec.)	Y	Y[1]	Y[1]	25	30	N	N
			X	Repair Services	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
			X	Residential Hotels	Y	Y[1]	N[1]	N[1]	N	N	N
		X	X	Resorts and group camps	Y	Y[1]	Y[1]	Y[1]	N	N	N
	X	X	X	Retail trade – apparel and accessories	Y	Y	Y	25	30	N	N
		X	X	Retail trade – automotive, marine craft, aircraft and accessories	Y	Y	Y	25	30	N	N
		X	X	Retail trade – building materials, hardware and farm equipment	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
		X	X	Retail trade – eating and drinking establishments	Y	Y	Y	25	30	N	N
	X	X	X	Retail trade - food	Y	Y	Y	25	30	N	N
		X	X	Retail trade – furniture, home, furnishings and equipment	Y	Y	Y	25	30	N	N
	X	X	X	Single units: detached	Y	Y[1]	N[1]	N[1]	N	N	N
		X	X	Single units: semidetached	Y	Y[1]	N[1]	N[1]	N	N	N
			X	Transient lodgings	Y	Y[1]	N[1]	N[1]	N[1]	N	N
		X	X	Two units: one above the other	Y	Y[1]	N[1]	N[1]	N	N	N
		X	X	Two units: side-by-side	Y	Y[1]	N[1]	N[1]	N	N	N
	X	X		Utilities	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
			X	Warehousing and storage	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
		X	X	Wholesale trade	Y	Y	Y	Y[2]	Y[3]	Y[4]	N

IN NOISE ZONES

Accomack Zoning District	Noise Contour Level										
	By-Right	Conditional	Special Exception	AICUZ Guidance Land Use Type	<55	55 - 64	65 - 69	70 - 74	75 - 79	80 -84	85+
General Business		X		Aircraft transportation	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X			Amusements	Y	Y	Y	Y	N	N	N
	X			Animal breeding	Y	Y	Y[8]	Y[9]	N	N	N
	X		X	Apparel and other finished products; products made from fabrics, leather and similar materials; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X			Auditoriums, concert halls	Y	Y	25	30	N	N	N
	X	X		Business services	Y	Y	Y	25	30	N	N
	X			Cemeteries	Y	Y	Y	Y[2]	Y[3]	Y[4,11]	Y[6,11]
		X		Chemicals and allied products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X		X	Communication	Y	Y	Y	255	305	N	N
	X	X		Contract construction services	Y	Y	Y	25	30	N	N
	X			Cultural activities (& churches)	Y	Y[1]	25	30	N	N	N
	X	X		Educational services	Y	Y[1]	25	30	N	N	N
	X			Fabricated metal products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X	X		Finance, insurance and real estate services	Y	Y	Y	25	30	N	N
	X			Fishing Activities	Y	Y	Y	Y	Y	Y	Y
	X		X	Food & kindred products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X			Furniture and fixtures; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X			Government Services	Y	Y[1]	Y[1]	25	30	N	N
	X	X		Hospitals, other medical fac.	Y	Y[1]	25	30	N	N	N
	X		X	Household Units	Y	Y[1]	N[1]	N[1]	N	N	N
			X	Livestock farming	Y	Y	Y[8]	Y[9]	N	N	N
	X			Lumber and wood products (except furniture); manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X			Marine craft transportation	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X	X	X	Miscellaneous	Y	Y	Y	25	30	N	N
	X		X	Miscellaneous manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X			Nature exhibits	Y	Y[1]	Y[1]	N	N	N	N
	X			Nursing Homes	Y	Y	N[1]	N[1]	N	N	N
	X			Other cultural, entertainment and recreation	Y	Y[1]	Y[1]	Y[1]	N	N	N
		X		Other residential	Y	Y[1]	N[1]	N[1]	N	N	N
		X	X	Other resource production or extraction	Y	Y	Y	Y	Y	Y	Y
	X	X		Other retail trade	Y	Y	Y	25	30	N	N
			X	Other transportation, communication and utilities	Y	Y	Y	255	305	N	N
	X	X		Outdoor sports arenas, spectator sports	Y	Y	Y[7]	Y[7]	N	N	N
	X			Paper and allied products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X	X	X	Personal services	Y	Y	Y	25	30	N	N
	X		X	Professional scientific, and controlling instruments; photographic and optical goods; watches and clocks	Y	Y	Y	25	30	N	N
	X			Professional services	Y	Y	Y	25	30	N	N
	X			Public assembly	Y	Y[1]	Y	N	N	N	N
	X			Recreational activities (include golf courses, riding stables, water rec.)	Y	Y[1]	Y[1]	25	30	N	N
	X	X		Repair Services	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X			Residential Hotels	Y	Y[1]	N[1]	N[1]	N	N	N
	X			Resorts and group camps	Y	Y[1]	Y[1]	Y[1]	N	N	N
	X	X		Retail trade – apparel and accessories	Y	Y	Y	25	30	N	N
	X	X		Retail trade – automotive, marine craft, aircraft and accessories	Y	Y	Y	25	30	N	N
	X	X		Retail trade – building materials, hardware and farm equipment	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X	X		Retail trade – eating and drinking establishments	Y	Y	Y	25	30	N	N
	X	X		Retail trade - food	Y	Y	Y	25	30	N	N
	X	X		Retail trade – furniture, home, furnishings and equipment	Y	Y	Y	25	30	N	N
		X		Retail trade – shopping centers	Y	Y	Y	25	30	N	N
	X		X	Single units: detached	Y	Y[1]	N[1]	N[1]	N	N	N
	X			Stone, clay and glass products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X			Transient lodgings	Y	Y[1]	N[1]	N[1]	N[1]	N	N
	X	X	X	Utilities	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X	X	X	Warehousing and storage	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X	X		Wholesale trade	Y	Y	Y	Y[2]	Y[3]	Y[4]	N

IN NOISE ZONES

Accomack Zoning District	Noise Contour Level										
	By-Right	Conditional	Special Exception	AICUZ Guidance Land Use Type	<55	55 - 64	65 - 69	70 - 74	75 - 79	80 -84	85+
Residential			X	Apartment: elevator	Y	Y[1]	N[1]	N[1]	N	N	N
			X	Apartments: walk-up	Y	Y[1]	N[1]	N[1]	N	N	N
		X		Business services	Y	Y	Y	25	30	N	N
	X			Cultural activities (& churches)	Y	Y[1]	25	30	N	N	N
	X			Educational services	Y	Y[1]	25	30	N	N	N
		X	X	Finance, insurance and real estate services	Y	Y	Y	25	30	N	N
			X	Fishing Activities	Y	Y	Y	Y	Y	Y	Y
			X	Food & kindred products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X			Government Services	Y	Y[1]	Y[1]	25	30	N	N
			X	Hospitals, other medical fac.	Y	Y[1]	25	30	N	N	N
	X			Household Units	Y	Y[1]	N[1]	N[1]	N	N	N
			X	Marine craft transportation	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
			X	Mobile home parks or courts	Y	Y[1]	N	N	N	N	N
	X	X	X	Other retail trade	Y	Y	Y	25	30	N	N
	X			Parks	Y	Y[1]	Y[1]	Y[1]	N	N	N
	X		X	Personal services	Y	Y	Y	25	30	N	N
			X	Printing, publishing, and allied industries	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X	X	X	Professional services	Y	Y	Y	25	30	N	N
			X	Recreational activities (include golf courses, riding stables, water rec.)	Y	Y[1]	Y[1]	25	30	N	N
			X	Residential Hotels	Y	Y[1]	N[1]	N[1]	N	N	N
			X	Resorts and group camps	Y	Y[1]	Y[1]	Y[1]	N	N	N
	X	X	X	Retail trade – apparel and accessories	Y	Y	Y	25	30	N	N
		X	X	Retail trade – automotive, marine craft, aircraft and accessories	Y	Y	Y	25	30	N	N
		X	X	Retail trade – building materials, hardware and farm equipment	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
	X	X	X	Retail trade - food	Y	Y	Y	25	30	N	N
		X	X	Retail trade – furniture, home, furnishings and equipment	Y	Y	Y	25	30	N	N
		X		Retail trade – shopping centers	Y	Y	Y	25	30	N	N
	X			Single units: detached	Y	Y[1]	N[1]	N[1]	N	N	N
	X			Single units: semidetached	Y	Y[1]	N[1]	N[1]	N	N	N
			X	Transient lodgings	Y	Y[1]	N[1]	N[1]	N[1]	N	N
	X			Two units: one above the other	Y	Y[1]	N[1]	N[1]	N	N	N
	X			Two units: side-by-side	Y	Y[1]	N[1]	N[1]	N	N	N
	X	X		Utilities	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
			X	Warehousing and storage	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
				Automobile parking	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
				Group quarters	Y	Y[1]	N[1]	N[1]	N	N	N
				Highway and street right-of-way	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
				Mining Activities	Y	Y	Y	Y	Y	Y	Y
				Motor vehicle transportation	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
				Petroleum refining and related industries	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
				Primary metal products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
				Railroad, rapid rail transit, and street railway transportation	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
				Rubber and misc. plastic products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N
		X		Single units: attached row	Y	Y[1]	N[1]	N[1]	N	N	N
				Textile mill products; manufacturing	Y	Y	Y	Y[2]	Y[3]	Y[4]	N



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N

0 0.5 1 Miles

SOURCE: Accomack County (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NAIP 2012; NASA (received) 2014; WorldView Solutions Inc 2007.

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Legend

- State Boundary
- Major Road
- Wallops Flight Facility Installation Area
- Runway

Accident Potential Zones
- Clear Zone
- Accident Potential Zone I
- Accident Potential Zone II

Existing Land Use
- Agriculture
- Undeveloped
- Forestry
- Single Unit Residential
- Livestock
- Services
- Resource Extraction
- Outdoor Recreation
- Water
- Mobile Home Park
- Vacant
- Educational Services
- Public Assembly
- Retail
- Government Services
- Utility
- Military

Existing Land Use Under Accident Potential Zones Overview, Joint Land Use Study,

Accomack County, Virginia

* Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team. Single Unit Residential land use designation densities unknown, this analysis assumes 1-2 DUs/acre.

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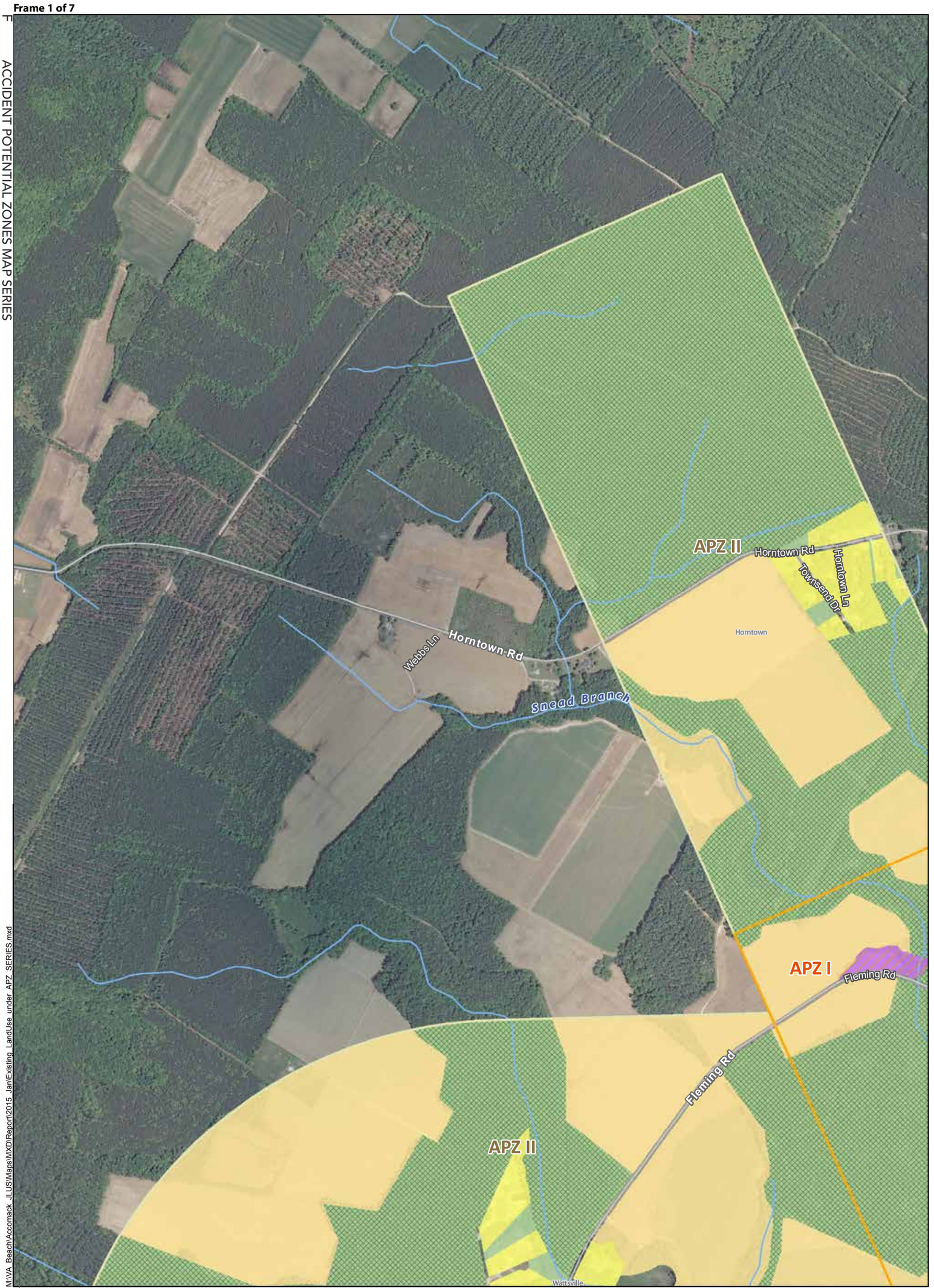

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Legend

- Major Road
- Local Road
- Stream
- Wallops Flight Facility Installation Area
- Runway

Accident Potential Zones

- Clear Zone
- Accident Potential Zone I
- Accident Potential Zone II

- Incompatible Existing Land Use

Existing Land Use

- Agriculture
- Undeveloped
- Forestry
- Single Unit Residential
- Government Services

N

0 500 1,000 Feet

SOURCE: Accomack County (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NAIP 2012; NASA (received) 2014; USGS 2012; VA-DCR 2014; WorldView Solutions Inc 2007.

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Existing Land Use Under Accident Potential Zones Map Series, Frame 1 of 7, Joint Land Use Study,

Accomack County, Virginia

* Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team. Single Unit Residential land use designation densities unknown, this analysis assumes 1-2 DUs/acre.

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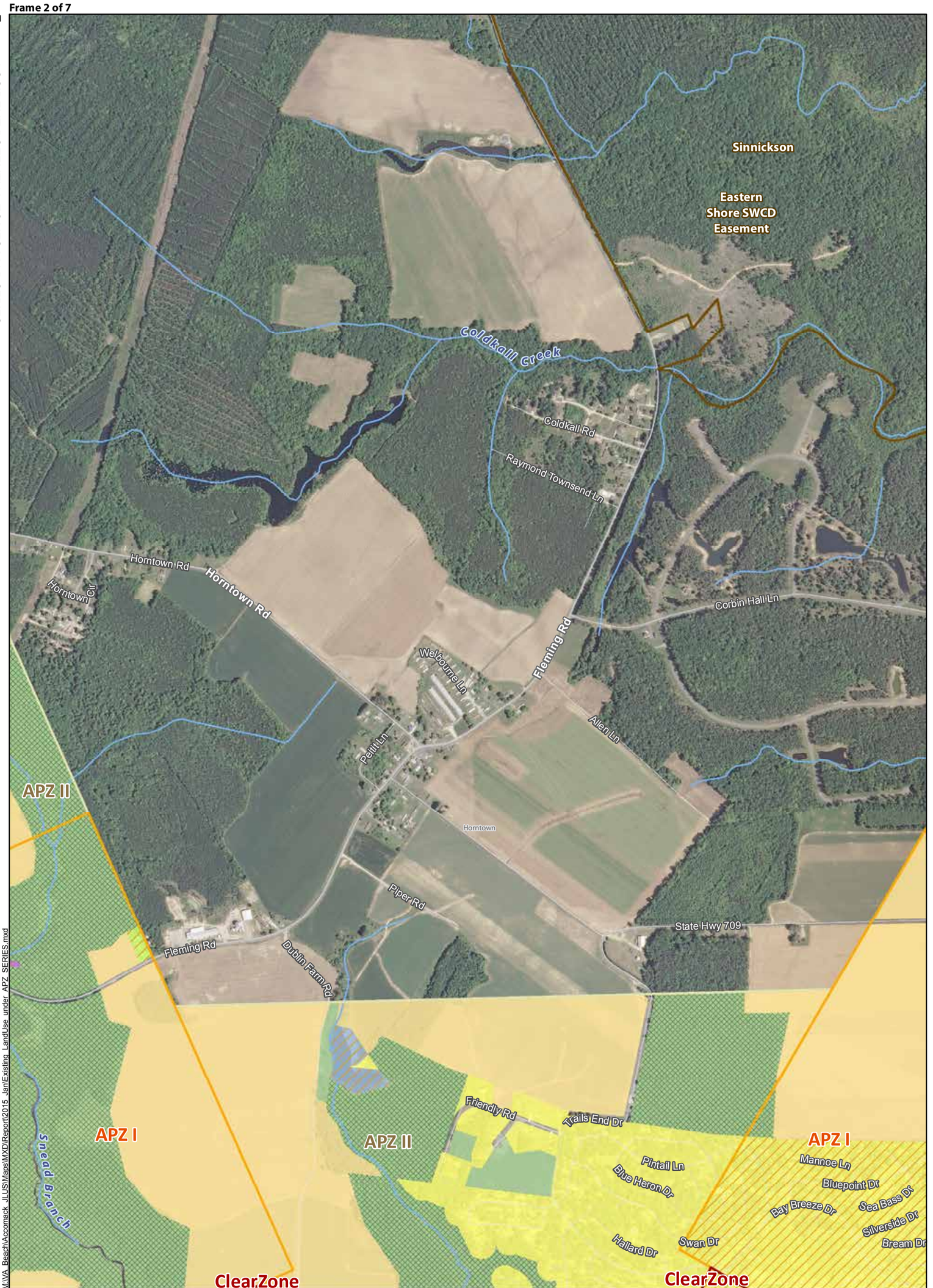
Frame 2 of 7



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0 500 1,000 Feet

SOURCE: Accomack County (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NAIP 2012; NASA (received) 2014; USGS 2012; VA-DCR 2014; WorldView Solutions Inc 2007.

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Legend

- Major Road
- Local Road
- Stream
- Wallops Flight Facility Installation Area
- Runway
- Conservation Easement

Accident Potential Zones
- Clear Zone
- Accident Potential Zone I
- Accident Potential Zone II

- Incompatible Existing Land Use

Existing Land Use
- Agriculture
- Undeveloped
- Forestry
- Single Unit Residential
- Water
- Mobile Home Park
- Government Services

Existing Land Use Under Accident Potential Zones Map Series, Frame 2 of 7, Joint Land Use Study,
Accomack County, Virginia

* Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team. Single Unit Residential land use designation densities unknown, this analysis assumes 1-2 DUs/acre.

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Frame 3 of 7

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Legend

- Local Road
- Stream
- Wallops Flight Facility Installation Area
- Runway
- Conservation Easement

Accident Potential Zones

- Clear Zone
- Accident Potential Zone I
- Accident Potential Zone II

- Incompatible Existing Land Use

Existing Land Use

- Agriculture
- Undeveloped
- Forestry
- Single Unit Residential
- Public Assembly

0 500 1,000 Feet

SOURCE: Accomack County (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NAIP 2012; NASA (received) 2014; USGS 2012; VA-DCR 2014; WorldView Solutions Inc 2007.

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Existing Land Use Under Accident Potential Zones Map Series, Frame 3 of 7, Joint Land Use Study,

Accomack County, Virginia

* Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team. Single Unit Residential land use designation densities unknown, this analysis assumes 1-2 DUs/acre.

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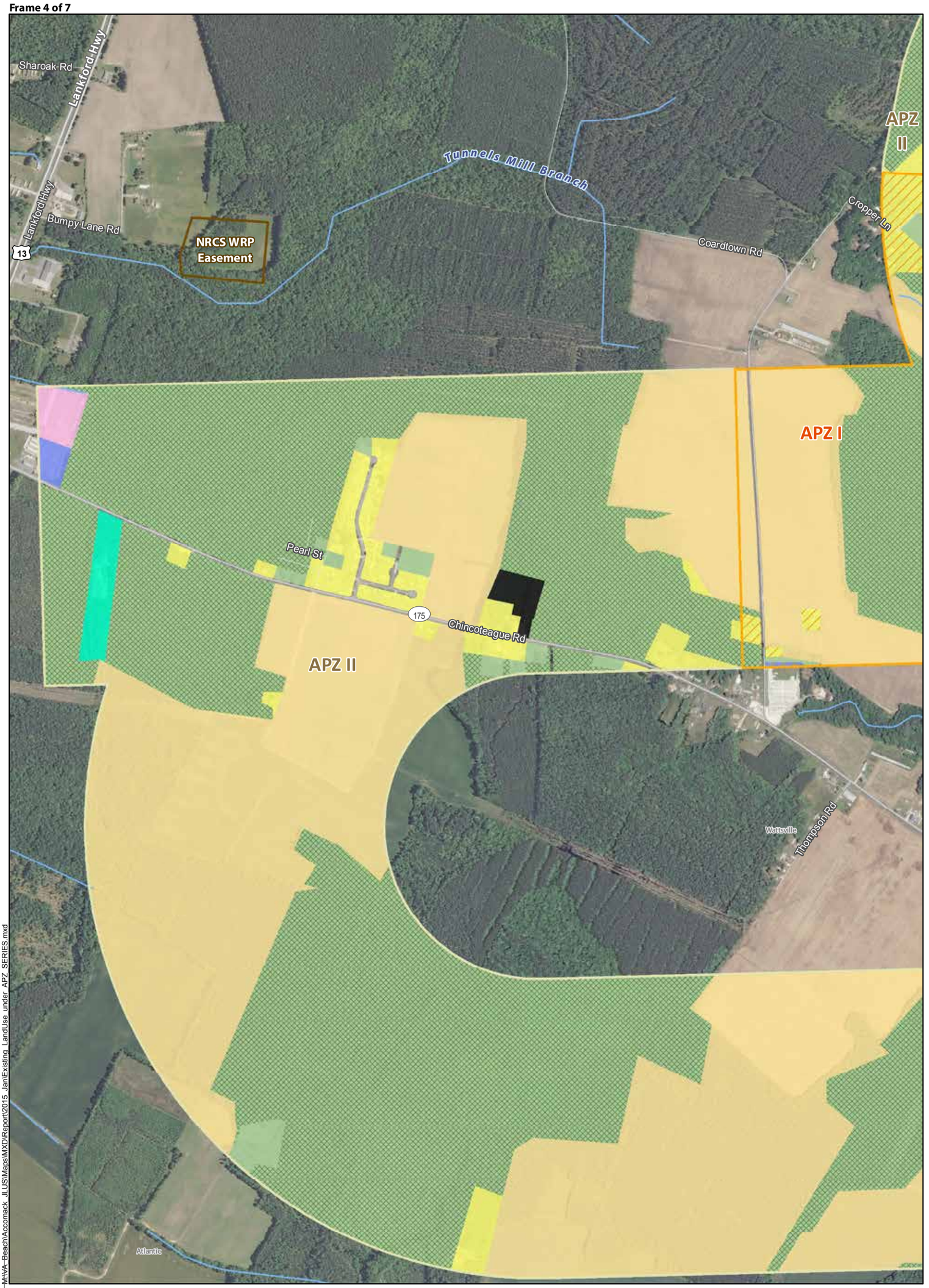
Frame 4 of 7



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Legend

- Major Road
- Local Road
- Stream
- Wallops Flight Facility Installation Area
- Runway
- Conservation Easement

Accident Potential Zones

- Clear Zone
- Accident Potential Zone I
- Accident Potential Zone II
- Incompatible Existing Land Use

Existing Land Use

- Agriculture
- Undeveloped
- Forestry
- Single Unit Residential
- Livestock
- Services
- Outdoor Recreation
- Vacant
- Public Assembly

0 500 1,000 Feet

SOURCE: Accomack County (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NAIP 2012; NASA (received) 2014; USGS 2012; VA-DCR 2014; WorldView Solutions Inc 2007.

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Existing Land Use Under Accident Potential Zones Map Series, Frame 4 of 7, Joint Land Use Study,

Accomack County, Virginia

*Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team. Single Unit Residential land use designation densities unknown, this analysis assumes 1-2 DUs/acre.

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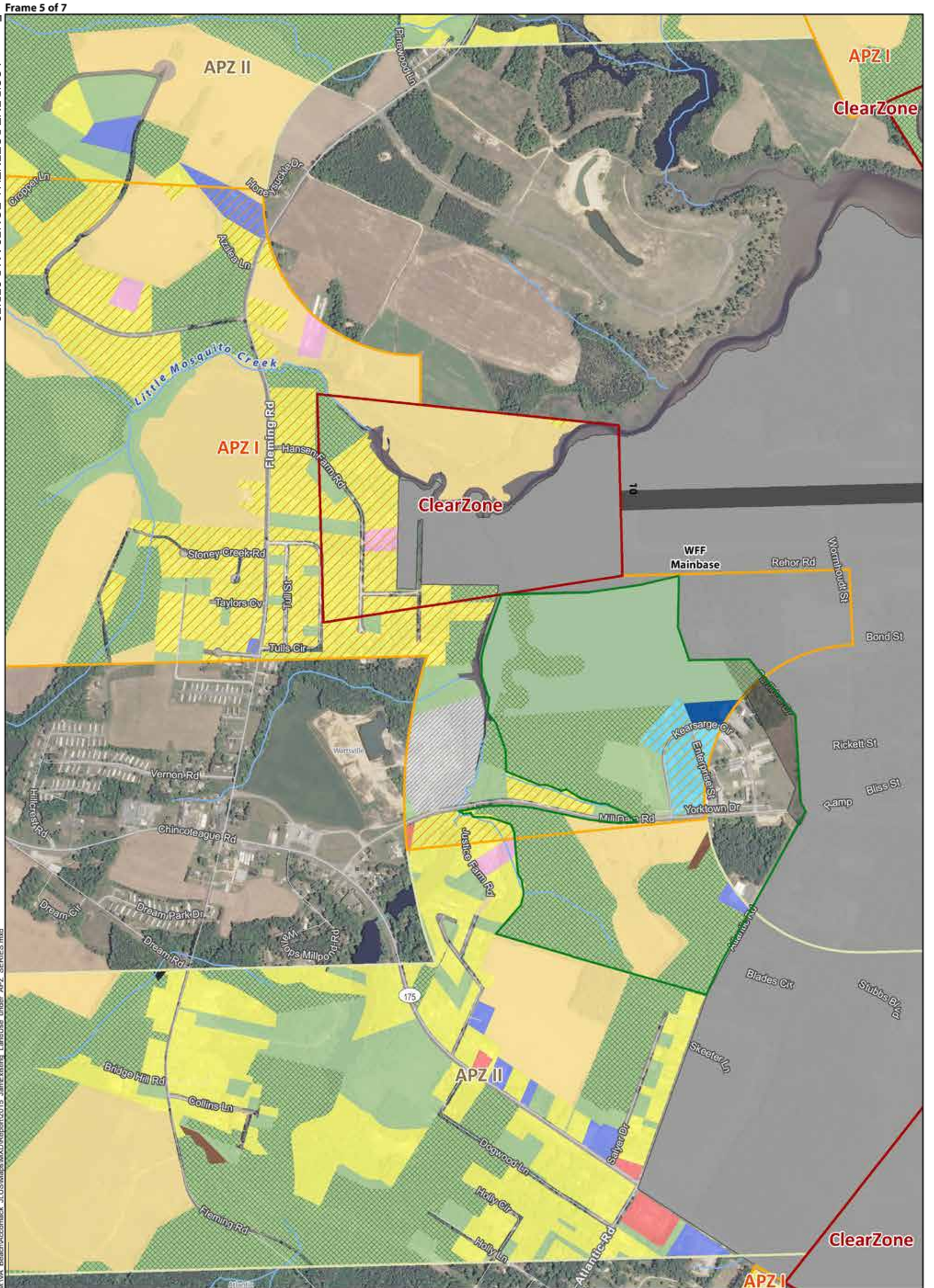

Legend

- Major Road
- Local Road
- Stream
- Wallops Flight Facility Installation Area
- Runway

Accident Potential Zones
- Clear Zone
- Accident Potential Zone I
- Accident Potential Zone II

Incompatible Existing Land Use

Existing Land Use
- Agriculture
- Undeveloped
- Forestry
- Single Unit Residential
- Livestock
- Services
- Proposed WRP
- Resource Extraction
- Outdoor Recreation
- Mobile Home Park
- Vacant
- Educational Services
- Retail
- Utility
- Military

0 500 1,000 Feet

SOURCE: Accomack County (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NAIP 2012; NASA (received) 2014; USGS 2012; VA-DCR 2014; WorldView Solutions Inc 2007.

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Existing Land Use Under Accident Potential Zones Map Series, Frame 5 of 7, Joint Land Use Study,

Accomack County, Virginia

* Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team. Single Unit Residential land use designation densities unknown, this analysis assumes 1-2 DUs/acre.

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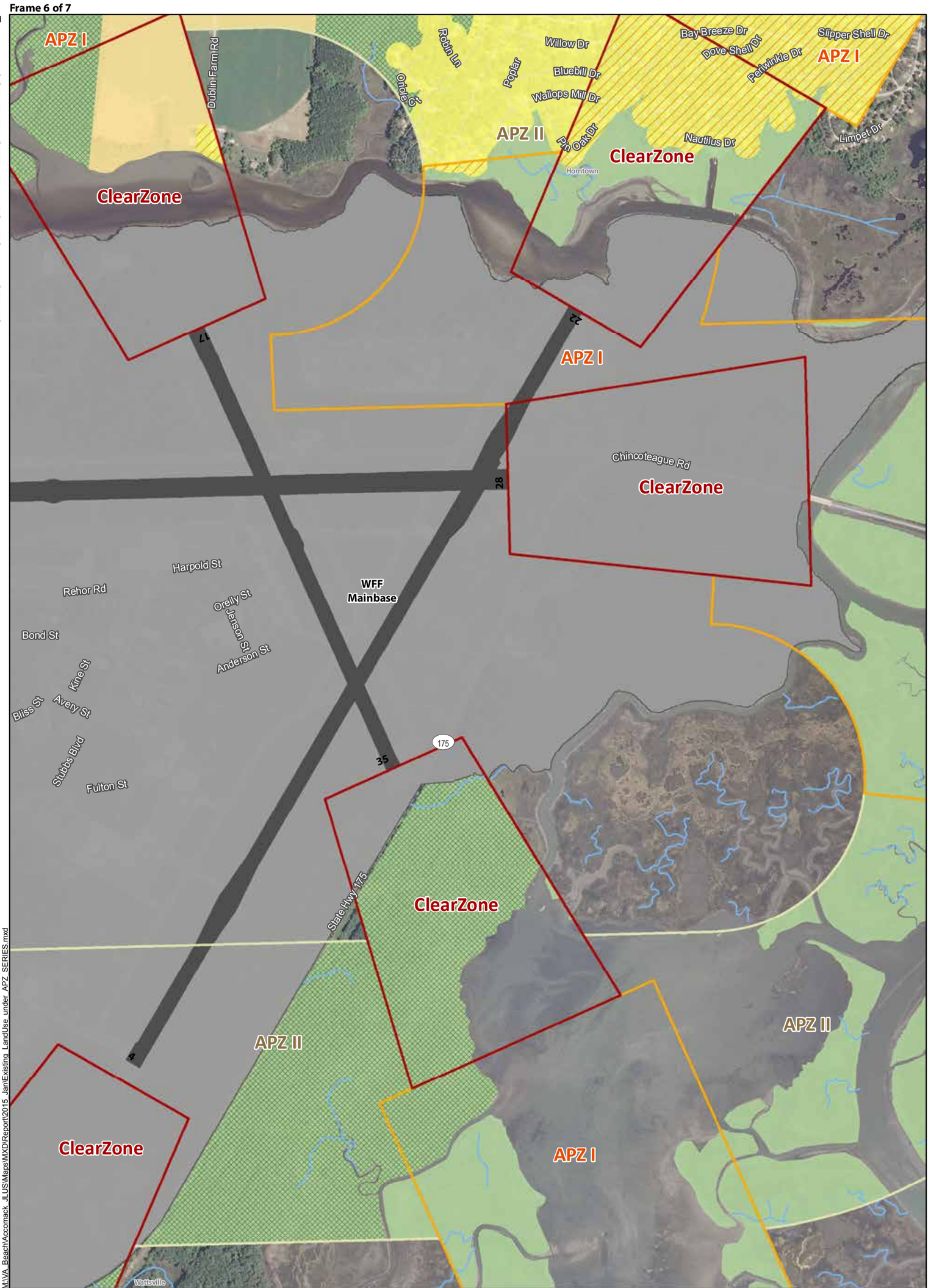
Frame 6 of 7



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SOURCE: Accomack County (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NAIP 2012; NASA (received) 2014; USGS 2012; VA-DCR 2014; WorldView Solutions Inc 2007.

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Legend

- Major Road
- Local Road
- Stream
- Wallops Flight Facility Installation Area
- Runway

Accident Potential Zones

- Clear Zone
- Accident Potential Zone I
- Accident Potential Zone II
- Incompatible Existing Land Use

Existing Land Use

- Agriculture
- Undeveloped
- Forestry
- Single Unit Residential

Existing Land Use Under Accident Potential Zones Map Series, Frame 6 of 7, Joint Land Use Study,

Accomack County, Virginia

* Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team. Single Unit Residential land use designation densities unknown, this analysis assumes 1-2 DUs/acre.

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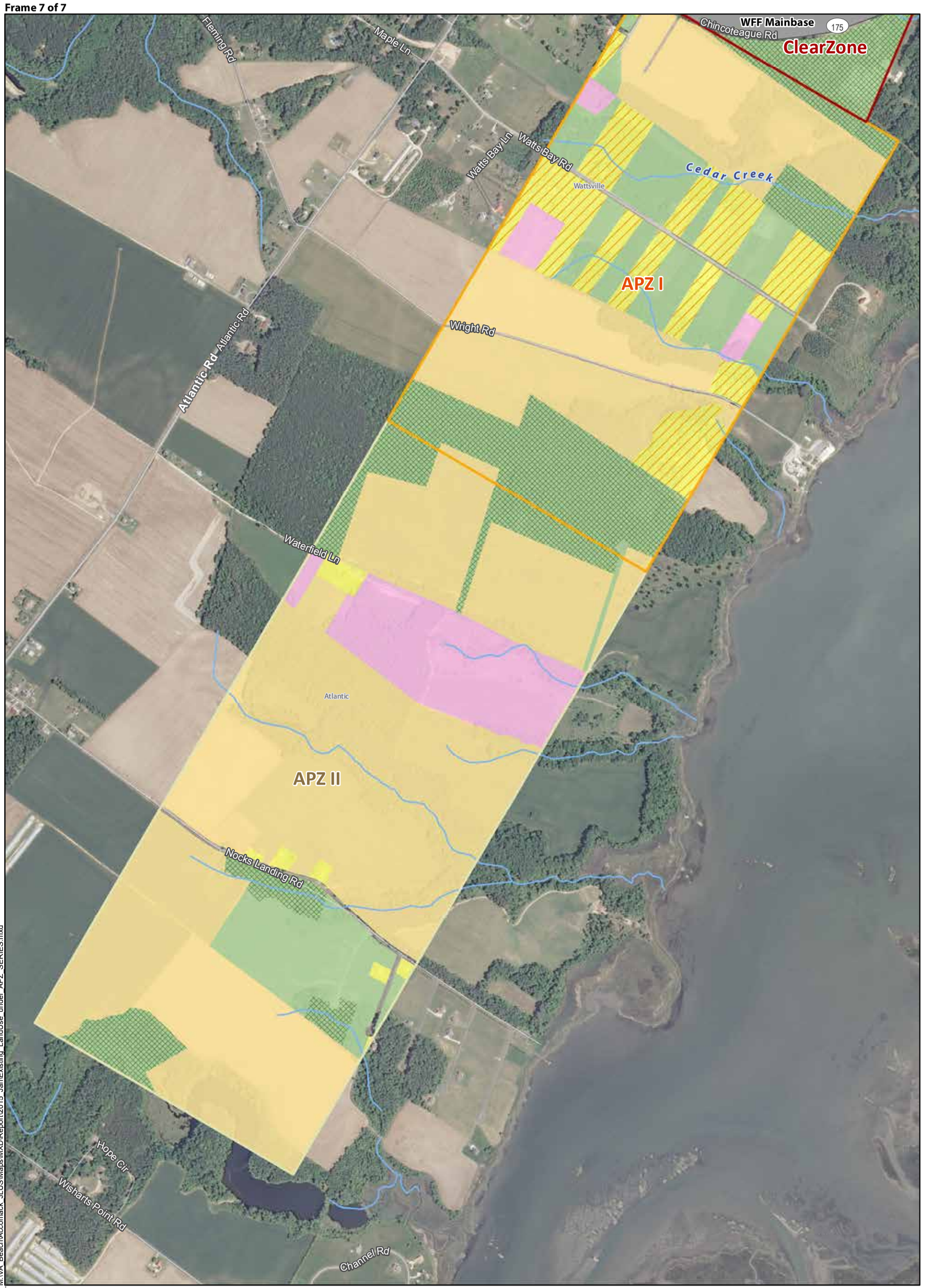
Frame 7 of 7



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Legend

- Major Road
- Local Road
- Stream
- Wallops Flight Facility Installation Area
- Runway

Accident Potential Zones

- Clear Zone
- Accident Potential Zone I
- Accident Potential Zone II

Incompatible Existing Land Use

Existing Land Use

- Agriculture
- Undeveloped
- Forestry
- Single Unit Residential
- Livestock

0 500 1,000 Feet

SOURCE: Accomack County (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NAIP 2012; NASA (received) 2014; USGS 2012; VA-DCR 2014; WorldView Solutions Inc 2007.

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Existing Land Use Under Accident Potential Zones Map Series, Frame 7 of 7, Joint Land Use Study,

Accomack County, Virginia

* Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team. Single Unit Residential land use designation densities unknown, this analysis assumes 1-2 DUs/acre.

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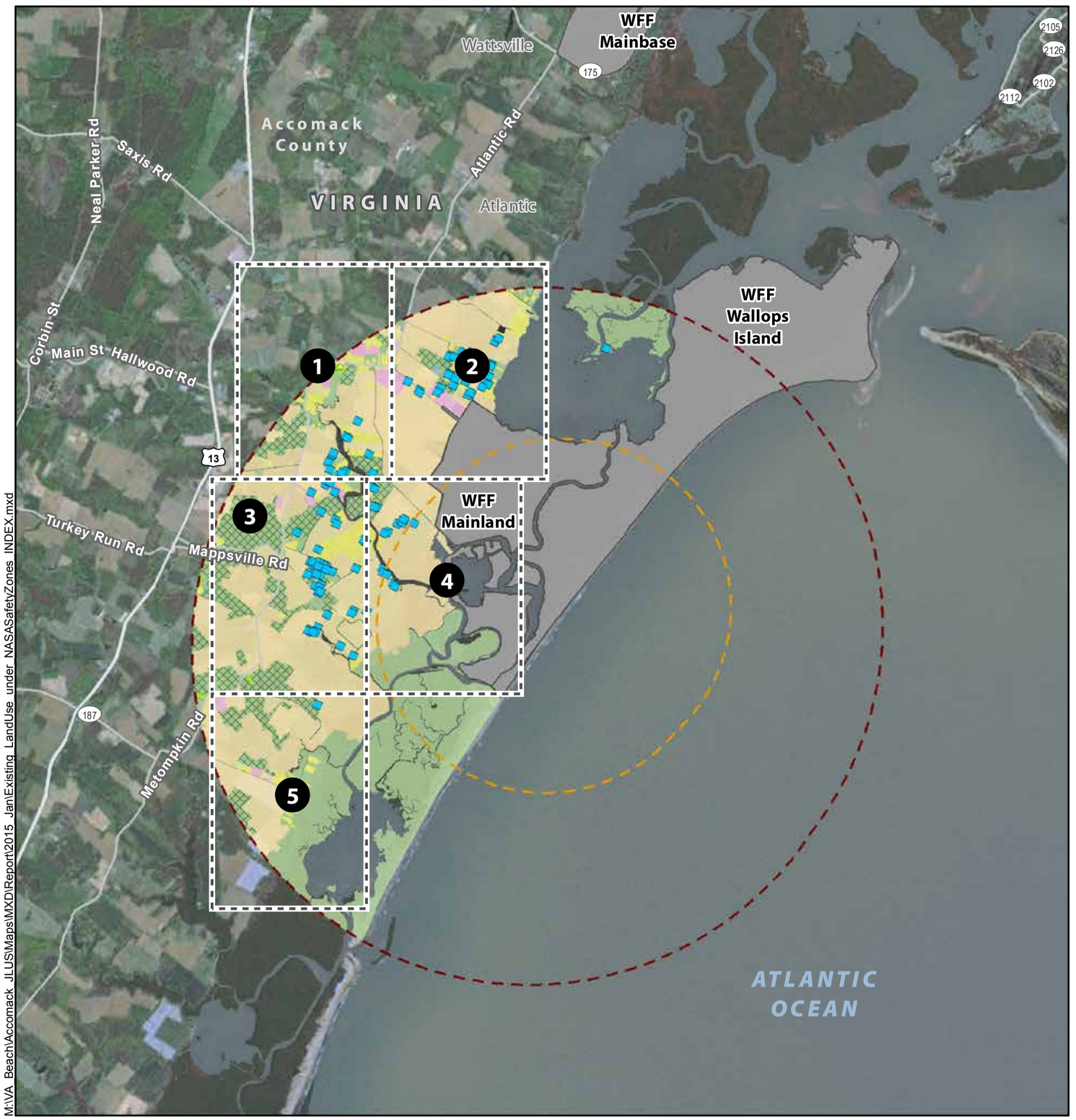

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SOURCE: Accomack County 2007, (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NASA (received) 2014; WorldView Solutions Inc 2007.

© 2014 Ecology and Environment, Inc.

Legend

- Map Frame
- NASA Field Verified Structures
- Interstate
- Major Road
- Wallops Flight Facility Installation Area
- NASA 10,000 Fl. Combined Hazard Zone
- NASA 20,000 Fl. Combined Hazard Zone

Existing Land Use

- Agriculture
- Undeveloped
- Forestry
- Single Unit Residential
- Livestock
- Services
- Water
- Mobile Home Park
- Vacant
- Public Assembly
- Utility

Existing Land Use Under NASA Saftey Zones Overview, Joint Land Use Study,

Accomack County, Virginia

* Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team.

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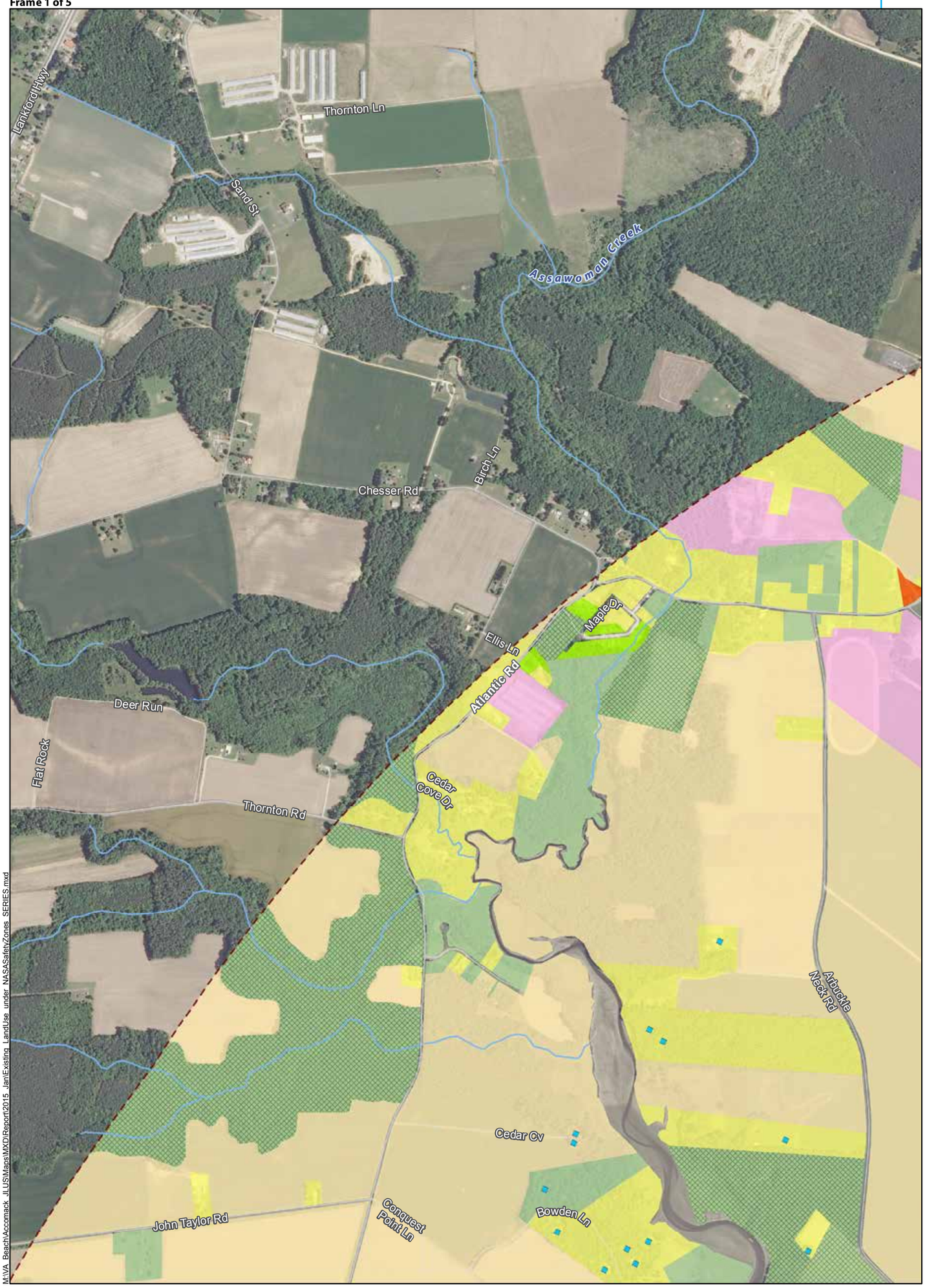
Frame 1 of 5



SOURCE: Accomack County 2007, (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NAIP 2012; USGS 2012; VA-DCR 2014; WorldView Solutions Inc 2007.

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Legend

- NASA Field Verified Structures
- Major Road
- Local Road
- Stream
- Wallops Flight Facility Installation Area
- Conservation Easement
- NASA 10,000 Fl. Combined Hazard Zone
- NASA 20,000 Fl. Combined Hazard Zone

Existing Land Use

- Agriculture
- Undeveloped
- Forestry
- Single Unit Residential
- Livestock
- Mobile Home Park
- Public Assembly
- Utility

* Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team.

Existing Land Use Under NASA Saftey Zones Map Series, Frame 1 of 5, Joint Land Use Study,
Accomack County, Virginia

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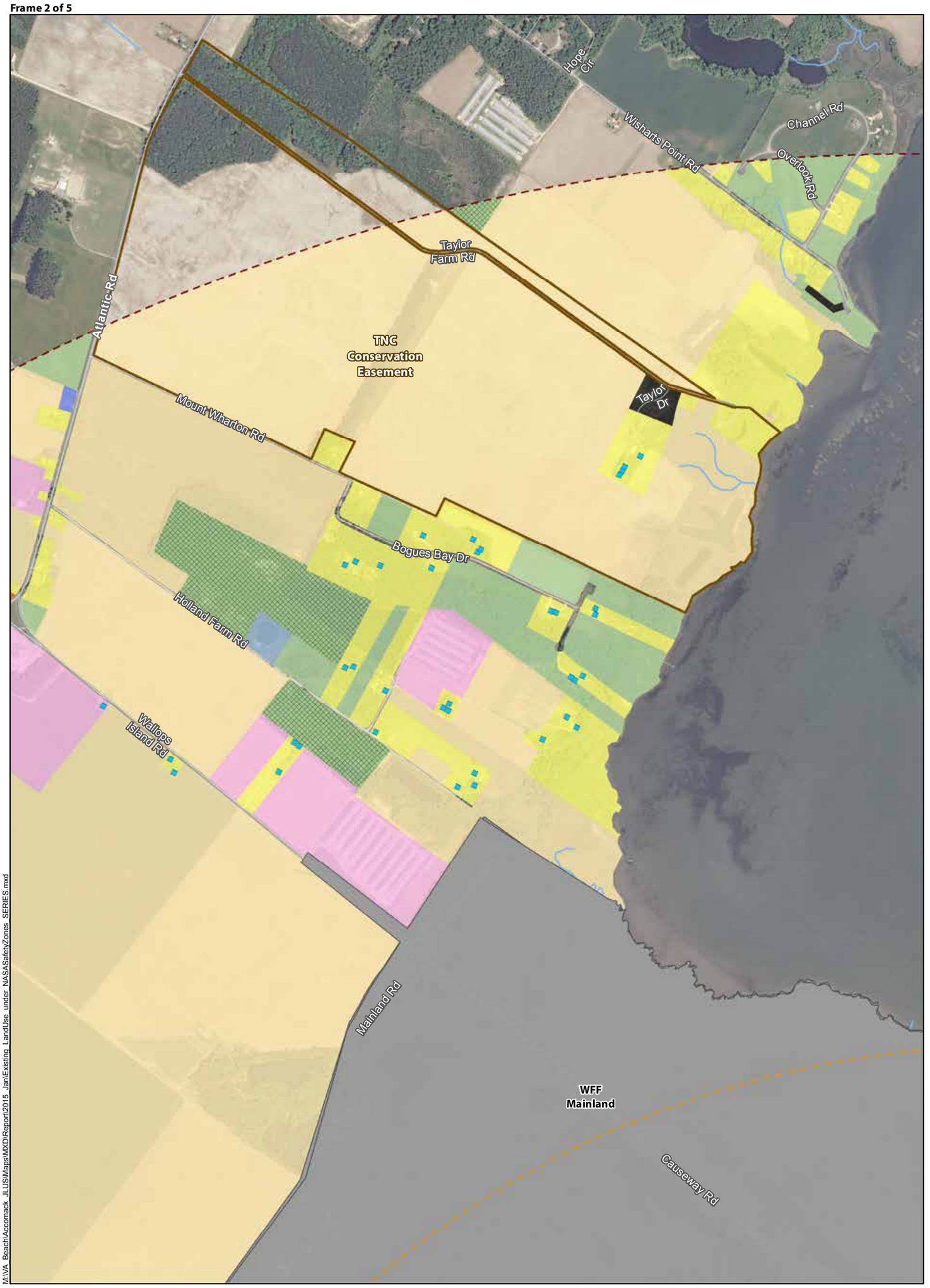
Frame 2 of 5



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SOURCE: Accomack County 2007, (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NAIP 2012; USGS 2012; VA-DCR 2014; WorldView Solutions Inc 2007.

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Legend

- NASA Field Verified Structures
- Major Road
- Local Road
- Stream
- Wallops Flight Facility Installation Area
- Conservation Easement
- NASA 10,000 Fl. Combined Hazard Zone
- NASA 20,000 Fl. Combined Hazard Zone

Existing Land Use

- Agriculture
- Undeveloped
- Forestry
- Single Unit Residential
- Livestock
- Services
- Water
- Vacant
- Public Assembly

* Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team.

Existing Land Use Under NASA Saftey Zones Map Series, Frame 2 of 5, Joint Land Use Study,

Accomack County, Virginia

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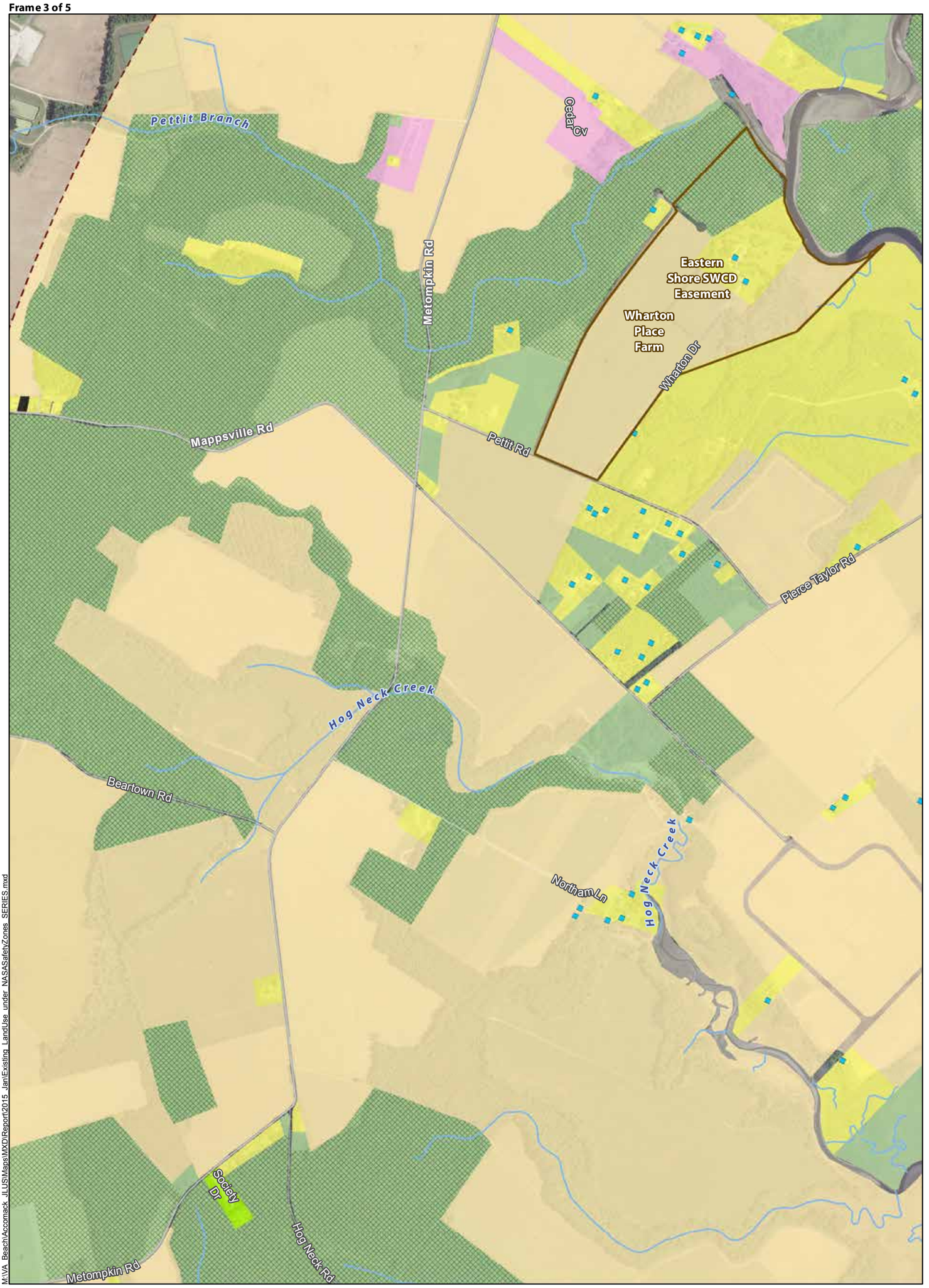
Frame 3 of 5



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SOURCE: Accomack County 2007, (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NAIP 2012; USGS 2012; VA-DCR 2014; WorldView Solutions Inc 2007.

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Legend

- NASA Field Verified Structures
- Major Road
- Local Road
- Stream
- Wallops Flight Facility Installation Area
- Conservation Easement
- NASA 10,000 Fl. Combined Hazard Zone
- NASA 20,000 Fl. Combined Hazard Zone

Existing Land Use

- Agriculture
- Undeveloped
- Forestry
- Single Unit Residential
- Livestock
- Mobile Home Park
- Vacant

* Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team.

Existing Land Use Under NASA Saftey Zones Map Series, Frame 3 of 5, Joint Land Use Study,

Accomack County, Virginia

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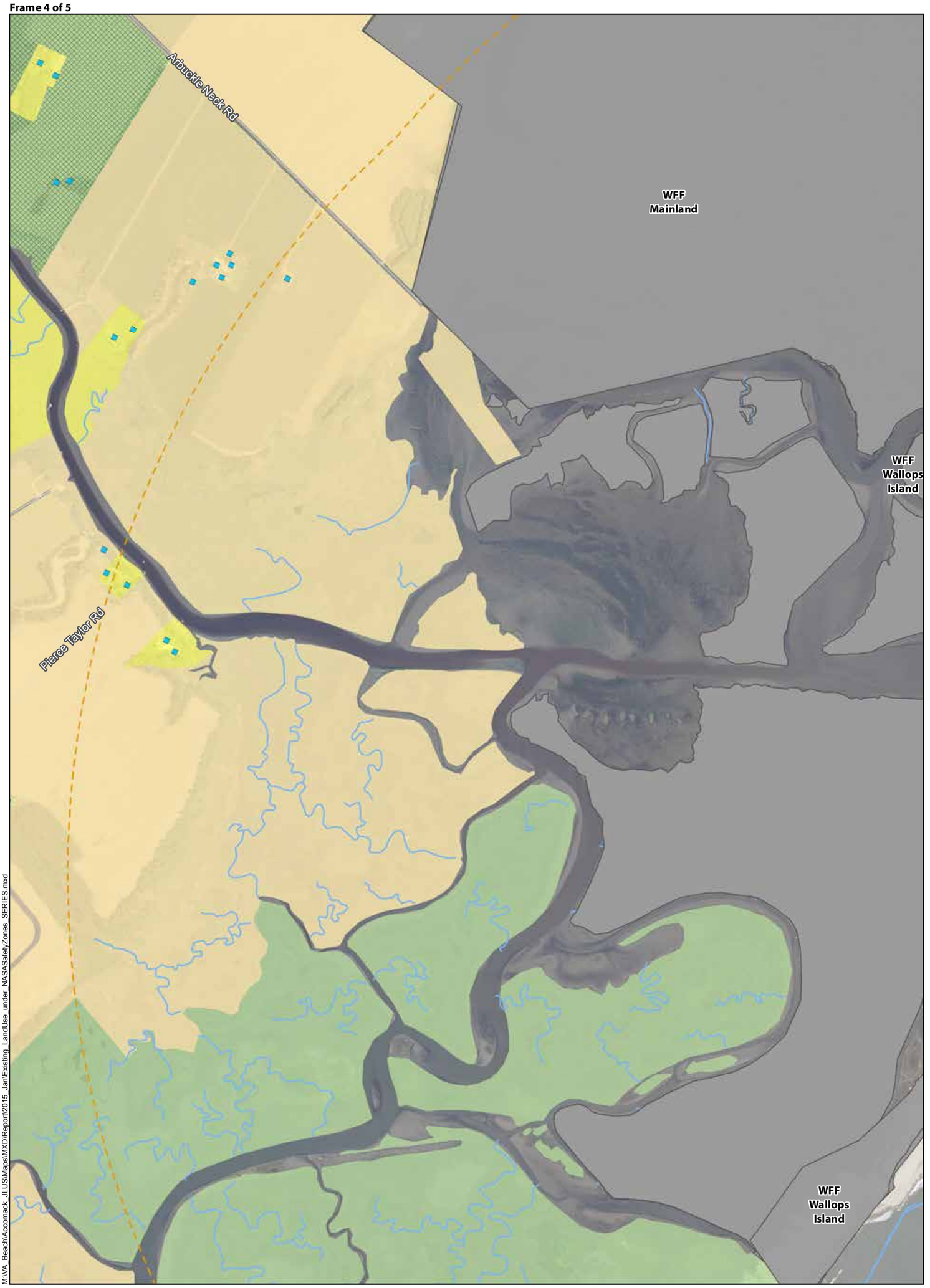
Frame 4 of 5



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SOURCE: Accomack County 2007, (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NAIP 2012; USGS 2012; VA-DCR 2014; WorldView Solutions Inc 2007.

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Legend

- NASA Field Verified Structures
- Local Road
- Stream
- Wallops Flight Facility Installation Area
- Conservation Easement
- NASA 10,000 Fl. Combined Hazard Zone
- NASA 20,000 Fl. Combined Hazard Zone

Existing Land Use

- Agriculture
- Undeveloped
- Forestry
- Single Unit Residential

* Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team.

Existing Land Use Under NASA Saftey Zones Map Series, Frame 4 of 5, Joint Land Use Study,

Accomack County, Virginia

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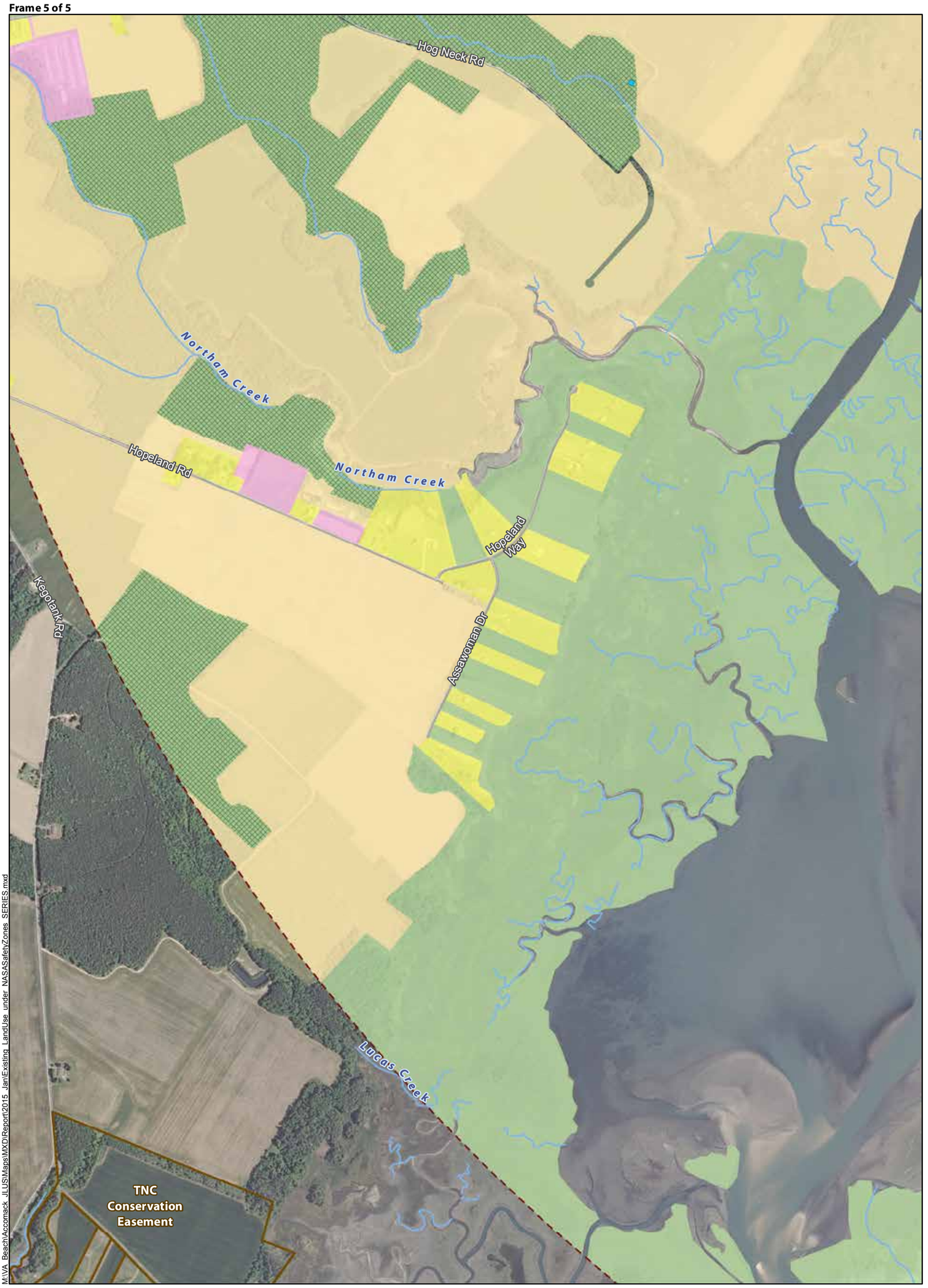
Frame 5 of 5



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Legend

- NASA Field Verified Structures
- Major Road
- Local Road
- Stream
- Wallops Flight Facility Installation Area
- Conservation Easement
- NASA 10,000 Fl. Combined Hazard Zone
- NASA 20,000 Fl. Combined Hazard Zone

Existing Land Use
- Agriculture
- Undeveloped
- Forestry
- Single Unit Residential
- Livestock

0 500 1,000 Feet

SOURCE: Accomack County 2007, (received) 2014; Ecology and Environment 2014; ESRI 2010, 2012; NAIP 2012; USGS 2012; VA-DCR 2014; WorldView Solutions Inc 2007.

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* Note: Existing Land Use designations that are depicted in this figure were verified by an Ecology and Environment, Inc. field team.

Existing Land Use Under NASA Saftey Zones Map Series, Frame 5 of 5, Joint Land Use Study,
Accomack County, Virginia

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Accomack County Joint Land Use Study (JLUS)
Kickoff Meeting Summary

11 April 2013

Attachments: A - Attendees Sign-in Sheet

Addendums: (Not Included)

B – Meeting Agenda and Packet of Materials

Introduction

The Accomack County JLUS Kick-Off Meeting (open to the public) was held on 11 April 2013 at 10:00 AM at the Lockheed Martin Building located at 33531 Chincoteague Road, Wallops Island, VA. The meeting was conducted according to the attached Kick-Off Meeting Agenda (Attachment B), beginning with project and personnel introductions. The following materials were included in the Agenda Packet and were distributed to attendees: Policy Steering Committee (PSC) and Technical Advisory Committee (TAC) points of contact & role, Project Process and Schedule, Potential Stakeholder List, Draft Project Map, Draft Public Participation Plan, Draft Informational Brochure and list of files currently in the contractor's JLUS project library (data needed for JLUS development).

Welcome

Welcome and opening remarks were provided by John Giangrant, Accomack County JLUS Project Manager (PM), and the Accomac Town Manager, Steve Minor. They provided a brief history of the Joint Land Use Study (JLUS) process that has occurred to date and thanked the participants for attending. The Navy installation Commander, John P. Robinson, offered welcoming remarks and discussed the mutual interest in the JLUS project. Additionally, the Office of Economic Adjustment (OEA) program manager Amber Levofsky offered remarks and discussed the importance of Wallops facilities to the Department of Defense (DOD) mission.

Committee and Project Team Introductions

The PM introduced members of the PSC and the TAC and discussed their respective roles and responsibilities for the project.

NASA Wallops Island, Navy Surface Combat Systems Command (SCSC) representatives and Clark Nexsen/Ecology and Environment Project Team members were also introduced.

The Project Team led a discussion of the formal Project Plan of Action & Milestones.

Study Area

The project team introduced a map with draft preliminary study areas delineated. Significant group discussion ensued regarding the preliminary study areas, with the following points raised:

- Extend primary further south down the peninsula to accord with the current Accomack County Comprehensive Plan
- Include 10,000-foot NASA impact cone, halfway down the peninsula to the inlet
- The NASA Programmatic Environmental Impact Statement (PEIS) can also help inform proper boundaries
- Include and identify NASA rocket pad locations
- Potentially de-emphasize delineated boxes
- Include all Navy mission sets
- Include all NASA mission sets
- Overlay Operational Area (OPAREA) boundaries
- Add airspace/Federal Aviation Administration (FAA) restrictions
- Expand line to show the full Chincoteague wildlife refuge area
- The study area(s) should be well defined as to what they actually represent to avoid public misunderstanding
- Potential shipping impacts on flight operations

There was further discussion regarding the planning horizon for the JLUS. The issue of JLUS scope with reference to how far forward the JLUS will look in reference to federal activities. NASA's PEIS (currently in preparation) covers a 15 year planning horizon. OEA concurred that typically JLUS incorporates a 15-25 year planning horizon. Additional discussion regarding horizon and scope of the effort included sea level rise as an issue area to be reviewed.

Additional considerations identified by the committees for the study area and project scope included:

- A county sponsored Industrial Park
- Aerospace
- Coastal Institute, UAVs
- NASA rocket launches are delayed due to vessel traffic, county jurisdiction extends 3 miles into the water
- Potential 6604C review
- Reviewing counties adjacent to Accomack on Maryland border
- Impact of wind turbines
- Recurrent flooding
- Include the Airport Business Park representative in the JLUS development

OEA commented that the JLUS is a community driven review of military operations in their jurisdiction. The study area scope can be expanded as needed to fully address all the pertinent issues at hand. The team and committees should work to develop an action plan that protects both sets of interests, the community and the federal activities. Committee members should consider where development is appropriate and how incompatible land uses can be mitigated. There was discussion in reference to the county's need to understand Navy and federal operations in the area in order to effectively plan for the future.

Public Participation Plan

The project team provided an overview on the tools that will be used to facilitate public participation throughout the project.

NASA Wallops has three major planning documents in preparation: a PEIS, a Master Plan and a Strategic Plan. A draft document for each of these initiatives is expected to be published in mid-May this year and will be made available to the JLUS Project Team.

NASA has concerns regarding the coordination of the PEIS and JLUS public information plans since the two will be developing simultaneously and we need to ensure the two efforts are clearly distinguished for the public. The JLUS Project Team will let the NASA PEIS take the lead on meeting dates and coordination of key messages to ensure coordination between the studies occurs.

Action Items

- Project team to schedule Policy Committee meeting for the week of/day of 4/29
- PM to set up and schedule monthly Technical Advisory Committee meetings
- PM to distribute brochure electronically to committees for feedback
- Project team to revise map and remove study area boundaries for Policy Committee Meeting
- Project Team to develop draft purpose statement for Policy Committee review
- Bring the draft to the policy meeting on 4/29
- Project team to review and identify salient sections of other relevant JLUS documents and provide to the PSC to assist in establishing consensus on JLUS scope
- PM to distribute Stakeholder List to PSC and TAC members to ensure contact information is available to the Project Team

Meeting summary notes compiled and prepared by:

CLARK • NEXSEN
Architecture & Engineering

ACCOMACK COUNTY, VIRGINIA
JOINT LAND USE STUDY KICK-OFF MEETING
APRIL 11, 2013

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
George Parker	Vice Chair Planning Commission	Accomack County	757-787-1162		grparker@esva.net	P.O. Box 638 Onley, VA 23418
Dave Lumgair	Planning Commission	Accomack County	757-472-3849		drlumgair@verizon.net	P.O Box 7 Craddockville, VA 23341
Phil Hickman	Chair Planning Commission	Accomack County	757-894-1778	727-824-3595	hickspudl@yahoo.com	P.O. Box 310 Horntown, VA 23355
David Fluhart	Director, Building & Zoning	Accomack County	757-787-5721	757-787-8948	dfluhart@co.accomack.va.gov	P.O. Box 93 Accomack, VA 23301
Kevin Holcomb	Supervisory Wildlife Biologist	U.S. Fish & Wildlife Service Chincoteague VA	757-336-6122 Ext. 319	757-336-5273	Kevin_Holcombe@fws.gov	P.O. Box 62 Chincoteague, VA 23336
Louis Hinds	Refuge Manager	U.S. Fish & Wildlife Service Chincoteague VA	757-336-6122 Ext. 328	757-336-5273	Louis_Hinds@fws.gov	P.O. Box 62 Chincoteague, VA 23336
Robert Ritter	Town Manager	Town of Chincoteague	757-336-6519	757-336-7905	rritter@chincoteague-va.gov	6150 Community Drive Chincoteague, VA 23336
Wanda Thornton	Vice Chair, Board of Supervisors	Accomack County	757-894-1318	757-336-0543	wjt-shore@verizon.net	P.O. Box 8 Chincoteague, VA 23336
Bill Neville	Director of Planning	Town of Chincoteague	757-336-6519	757-336-7905	wneville@chincoteague-va.gov	6150 Community Drive Chincoteague, VA 23336
Steve Parker	Director	The Nature Conservancy	757-442-3049	757-442-5418	sparker@tnc.org	Box 158 Nassawadox, VA 23413

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Global Environmental Specialists

ACCOMACK COUNTY, VIRGINIA
JOINT LAND USE STUDY KICK-OFF MEETING
APRIL 11, 2013

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
Josh Bundick	Lead, Environmental Planning	NASA Wallops	757-824-2319	757-824-1819	Josh.Bundick@nasa.gov	34200 Fulton St. Wallops Island, VA 23337
Steve Miner	County Administrator	Accomack County	757-787-5700	757-87-2468	sminer@co.accomack.va.us	P.O. 388 Accomack, VA 23301
CDR John Robinson	Commanding Officer	SCSC Wallops Navy	757-824-2272	757-824-2043	John.p.robinson2@navy.mil	30 Battle Group Way Wallops Island, VA 23337
Michael Jump	Executive. Director	SCSC Wallops Navy	757-824-1669	757-824-2043	michael.jump1@navy.mil	30 Battle Group Way Wallops Island, VA 23337
Caroline Massey	Assistant Director Management Operations	NASA Wallops	757-824-1959	757-824-1819	caroline.r.massey@nasa.gov	34200 Fulton St. Wallops Island, VA 23337
Rich Morrison	Director, Planning	Accomack County	757 787-5726	757-789-3116	rmorrison@co.accomack.va.us	P.O. Box 686 Accomac, Virginia 23301
John Giangrant	JLUS Project Manager	Accomack County	757-787-5726	757-789-3116	jgiangrant@co.accomack.va.us	P.O. Box 686 Accomac, Virginia 23301
Amber Levofsky	Project Manager	Office of Economic Adjustment	(703) 697-2096	703-607-0170	Amber.Levofsky@wso.whs.mil	2231 Crystal Drive, Suite 520 Arlington, VA 22202
Walter Cole	Director of Planning	Clark Nexsen	757-351-1213	757-455-5638	wcole@clarknexsen.com	6160 Kempsville Circle, Suite 200A Norfolk, VA 23502
Lee Smith	Senior Planner	Clark Nexsen	757-961-7967	757-455-5638	lsmith@clarknexsen.com	6160 Kempsville Circle, Suite 200A Norfolk, VA 23502

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ACCOMACK COUNTY, VIRGINIA
JOINT LAND USE STUDY KICK-OFF MEETING
APRIL 11, 2013

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
Cindy Shurling	Senior Environmental Planner	Ecology & Environment	757-456-5356 Ext. 5004	757-456-5356	cshurling@ene.com	348 Southport Circle, Suite 101, Virginia Beach, VA 23452
Jennifer Neyland	Land Use Planner	Ecology & Environment	757-456-5356 Ext. 5010	757-456-5356	jneyland@ene.com	348 Southport Circle, Suite 101, Virginia Beach, VA 23452
Ron Rice	Senior Planner	Clark Nexsen	757-961-7949	757-455-5638	rrice@clarknexsen.com	6160 Kempsville Circle, Suite 200A Norfolk, VA 23502
Bob Baldwin	Regional Community Plans & Liaison Officer	NAVFAC Mid-Atlantic	757-341-0232		Robert.a.baldwin@navy.mil	
Brian Ballard	Community Plans & Liaison Officer	NAVFAC JEB Little Creek Fort Story	757-462-8421		brian.p.ballard@navy.mil	

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Accomack County
Joint Land Use Study
Kick-Off Meeting
Agenda

I. Welcome – John Giangrant

II. Committee Introductions – John Giangrant

- Policy Steering Committee - Roles and Responsibilities
- Technical Advisory Committee - Roles and Responsibilities

III. Project Introduction – John Giangant

IV. Team Introductions – John Giangant

- Clark Nexsen / Ecology & Environment

V. Project Plan of Action & Milestones – Lee Smith / Cindy Shurling

- Phases
- Tasks
- Milestones
- Meetings

VI. Public Participation Plan – Lee Smith / Cindy Shurling

- Plan Summary
- Brochure
- Website
- Public Workshops (3)

VII. Open Comment – Lee Smith / Cindy Shurling

Accomack County JLUS
Policy Steering Committee

Member Name	Organization	Title	E-mail	Telephone
Wanda Thornton	Accomack County	Vice Chair, Board of Supervisors		
Ron S. Wolff	Accomack County	Board of Supervisors		
Grayson C. Chesser	Accomack County	Board of Supervisors		
E. Phillip Hickman	Accomack County	Chair, Planning Commission		
Caroline Massey	NASA	Assistant Director, Management Operations		
Steven B. Miner	Accomack County	County Administrator		
CDR John P. Robinson	US Navy	Commanding Officer SCSC		
Mike Jump	SCSC – Wallops Island	Executive Director		
Cathie France	State of Virginia	Deputy Director of Energy Policy		
John H. Tarr	Town of Chincoteage	Mayor		
Robert G. Ritter	Town of Chincoteage	Town Manager		

Accomack County JLUS
Technical Advisory Committee

Member Name	Organization	Title	E-mail	Telephone
Bill Neville	Town of Chincoteague	Director of Planning		
George T. Parker	Accomack County	Vice Chair, Planning Commission		
David Lumgair, Jr.	Accomack County	Planning Commission		
Rich Morrison	Accomack County	Director, Planning		
David Fluhart	Accomack County	Director, Building and Zoning		
Debra Ryon	SCSC – Wallops Island	Facilities Engineer		
Brian Ballard	NAVFAC JEB Little Creek Ft. Story	Community Planning Liaison Officer		
Josh Bundick	NASA	Lead, Environmental Planning		
Steve Parker	The Nature Conservancy	Director		
Lou Hinds	US Fish and Wildlife	Refuge Manager		
Kevin Holcomb	US Fish and Wildlife	Supervisory Wildlife Biologist		
Henry Schoenborn	SCSC – Wallops Island	Special Projects Manager		
Amber Levofsky	Office of Economic Adjustment	Project Manager		
Robert Baldwin	NAVFAC, Mid-Atlantic	Regional Community Planning Officer		
Jill Jester	SCSC	Public Affairs Officer		

Project Process

Phase 1: Discovery and Analysis

Task 1: JLUS Kick-Off

- Project Plan / Goals and Objectives
- Public Participation Plan
- 2 weeks

Task 2: Data Gathering

- Define Study Area
- Gather Existing Plans
- GIS Mapping of Info
- 6 to 10 weeks

Task 3: Data Analysis

- Identify and Map Areas of Concern
- Develop Mitigation Strategies
- 8 weeks

Phase 2: Crafting the Plan

Task 4: Recommendations

- Compatibility Mapping
- Recommendations to Existing Plans/Policies
- 10 weeks

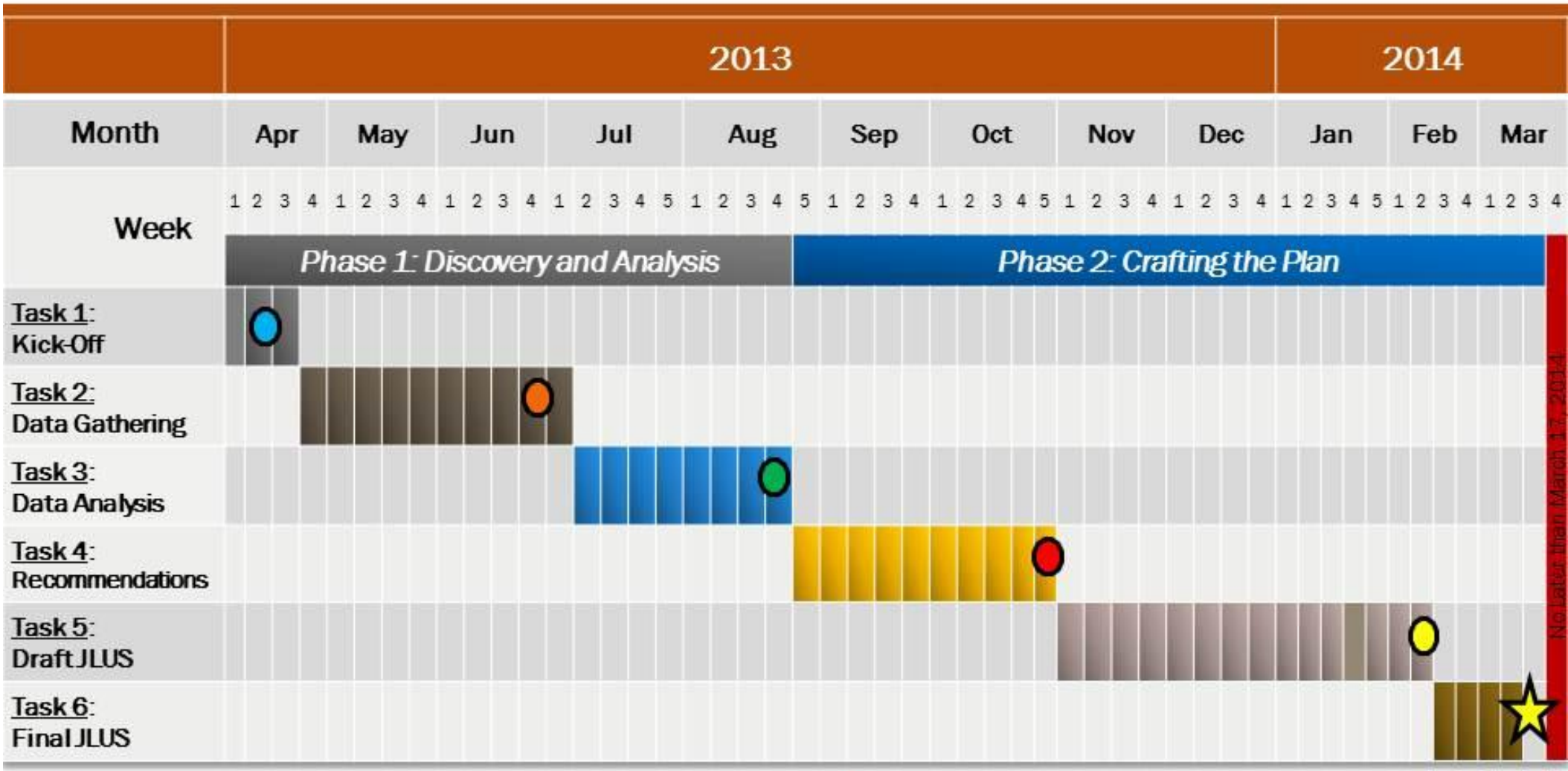
Task 5: Draft JLUS Report

- Draft JLUS Plan
- Public Hearing
- Final Draft
- 15 weeks

Task 6: Final JLUS Report

- Final JLUS Plan
- Executive Summary
- Document Presentations
- 5 weeks

Project Plan of Action & Milestones



- Kick-Off Meeting
- PSC/TAC Meeting / Public Open House
- PSC/TAC Review Meeting
- PSC/TAC Meeting / Public Open House
- PSC/TAC Meeting / Public Information Meeting
- Final JLUS Report / Executive Summary Presentation

PUBLIC PARTICIPATION PLAN

The Public Participation Plan for the Accomack County Joint Use Land Study involves a vigorous pursuit of public involvement throughout the development process. In order to optimize public participation, the following measures will be implemented:

1. Informational Brochure

An Informational Brochure will be published and made readily available to the public at the outset of the study. It will inform the public of the nature, need, goals and expected outcomes of the study. A draft brochure will be provided to the TAC and the Navy Public Affairs Officer for review and comment prior to final publishing.

2. JLUS Website

A website will be established and maintained for the purpose of presenting information and providing an email forum for receiving public comments and questions regarding the study. The website will be regularly updated to enable reporting of current project data and progress, points of contact for various issues and announcements of scheduled meetings that are open to public attendance. All information will be reviewed and approved by the TAC prior to release.

Following the completion of the JLUS final report, the JLUS Website will continue to be employed for communicating updated status and news regarding JLUS implementation initiatives.

3. Public Information Meetings

A total of three public information meetings will be conducted to provide current information regarding the study and to receive feedback from the public. The proceedings and public comments will be documented for project team review and response. The three meetings will take place at the inventory, analysis and draft plan stages of study development, each following TAC meetings earlier in the same day.

4. Regular Briefings

The Accomack County JLUS PM will provide periodic progress briefings to the County Board of Supervisors, County Planning Commission, and the Town of Chincoteague. These briefings are anticipated to occur monthly.

5. Findings and Recommendations Brochure

A Findings and Recommendations Brochure will be prepared and published providing a synopsis of the key findings and recommendations presented in the draft JLUS report. This brochure will be made available in draft form to the TAC and the Navy Public Affairs Officer at the time of submission of the draft JLUS report. Upon TAC approval, the brochure will be made available to the public to encourage widespread and well-informed participation in the third and final public information meeting.

ACCOMACK COUNTY VIRGINIA JOINT LAND USE STUDY

PUBLIC PARTICIPATION PLAN

SCHEDULE OF EVENTS

MONTH	WEEK	EVENT
April	1	
	2	Kick-Off Meeting
	3	Informational Brochure published + Website in service
	4	
May	1	Stakeholder Interviews
	2	
	3	
	4	
	5	
June	1	Draft Report Intro & Statement of Goals & Needs Submission
	2	
	3	
	4	PSC/TAC Meeting + Public Open House #1
July	1	
	2	
	3	
	4	
	5	
August	1	
	2	
	3	
	4	Land Use Analysis & Maps Submission & Presentation to PSC/TAC
September	1	
	2	
	3	
	4	

MONTH	WEEK	EVENT
October	1	
	2	Preliminary Recommendations Report Submission
	3	
	4	
	5	PSC/TAC Meeting + Public Open House #2
November	1	
	2	
	3	
	4	
December	1	
	2	
	3	
	4	
January	1	
	2	
	3	Draft JLUS Report Submission + Findings & Recommendations Brochures published
	4	
	5	
February	1	
	2	PSC/TAC Meeting + Public Info Meeting #3
	3	
	4	
March	1	Final JLUS Report Submission
	2	
	3	Executive Summary Presentation
	4	

Project Area Map

To be Completed

Accomack County Joint Land Use Study (JLUS)
Policy Steering Committee (PSC) Meeting #1 Summary

29 April 2013

Attachments: A – Attendees Sign-in Sheet

Addendums: (Not Included)

B – Meeting Agenda and Packet of Materials

The first Policy Steering Committee (PSC) meeting was held on 29 April 2013 at 2:00 PM at the Lockheed Martin Building located at 33531 Chincoteague Road, Wallops Island, VA. The meeting was conducted according to the attached Kick-Off Meeting Agenda. The following materials were distributed to attendees as part of the meeting packet (Attachment B): Draft Accomack County JLUS Purpose Statement; Organizational Structure; Scope of Work; PSC member list, PSC Roles & Responsibilities, Project Process and Schedule, draft PSC Purpose Statement, Technical Advisory Committee(TAC) member list. Additionally, an overview briefing on the JLUS process was provided by OEA.

Welcome & Introductions

Welcome and opening remarks were provided by John Giangrant, Accomack County JLUS Project Manager (PM). Introductions of PSC members and contractor team members followed.

Purpose Statement

The group reviewed and provided feedback on the draft purpose statement developed for the JLUS project. It was recommended that language be incorporated into the purpose statement regarding:

- Municipal county and town officials
- Department of Defense (DOD) rather than solely Navy
- Promoting joint planning, continue joint planning that is already ongoing
- Clearly identifying that the JLUS is a county plan, rather than DOD
- Revise verbiage to eliminate the word “conflict”

OEA JLUS Presentation and Organizational Discussion

OEA provided a presentation on the JLUS program and the intended goals and outcomes of the process. Noteworthy discussion points addressed during the brief included:

- Inclusion of a 15-20 year planning horizon in the JLUS report
- Recommendations generated in the report should include costs associated with each action
- Importance of the implementation component of the JLUS report/process

The presentation generated more detailed discussion regarding the roles and responsibilities of the PSC throughout the process. It was recommended that additional stakeholders be added to the TAC roster, including: State agencies, Virginia Institute of Marine Science (VIMS), and the Virginia Marine Resources Commission (VMRC). The group selected a PSC Chair and PSC Vice-Chair. The PSC Chair selected is Ron Wolff, Accomack County Board of Supervisors, and the Vice Chair is Commander John Robinson, SCSC Commanding Officer.

Communication Protocols

NASA reiterated the need to ensure coordination between the rollout of the Programmatic Environmental Impact Statement (PEIS) and the JLUS project. The overlap of the two documents will require the development of a detailed public outreach plan. It was suggested that frequently asked questions (FAQ) differentiating the two documents be developed and included on the JLUS website.

It was requested that PSC meetings be scheduled one week prior to all public meetings throughout the process to allow the PSC to provide feedback on materials. It was also requested that the project team communicate (via email) meeting summaries and outcomes to the PSC from all TAC meetings throughout the process.

Contractor Team Actions

- Revise Purpose Statement per comments
- Complete revisions to Informational Brochure
- Complete preparation of JLUS website

Meeting summary notes compiled and prepared by:

CLARK • NEXSEN
Architecture & Engineering

ACCOMACK COUNTY, VIRGINIA
JOINT LAND USE STUDY
Policy Steering Committee Meeting – April 29, 2013

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
Ron Wolff	Accomack County Board of Supervisors	Accomack County	757-894-1209		Rswolff1@verizon.net	P.O. Box 41 Atlantic, VA 23303
Steve Miner	County Administrator	Accomack County	757-787-5700	757-87-2468	sminer@co.accomack.va.us	P.O. 388 Accomack, VA 23301
Grayson Chesser	Accomack County Board of Supervisors	Accomack County	757-824-9666			P.O. Box 12 Sanford, VA 23426
Robert Ritter	Town Manager	Town of Chincoteague	757-336-6519	757-336-7905	rritter@chincoteague-va.gov	3165 Municipal Drive Chincoteague, VA 23336
Phil Hickman	Chair Planning Commission	Accomack County	757-894-1778	727-824-3595	hickspudl@yahoo.com	P.O. Box 310 Horntown, VA 23355
Michael Jump	Executive Director	SCSC Wallops Navy	757-824-1669	757-824-2043	michael.jump1@navy.mil	30 Battle Group Way Wallops Island, VA 23337
CDR John Robinson	Commanding Officer	SCSC Wallops Navy	757-824-2272	757-824-2043	John.p.robinson2@navy.mil	30 Battle Group Way Wallops Island, VA 23337
Caroline Massey	Assistant Director Management Operations	NASA Wallops	757-824-1959	757-824-1819	caroline.r.massey@nasa.gov	F-6 Wallops Island, VA 23356
Rich Morrison	Director, Planning	Accomack County	757 787-5726	757-789-3116	rmorrison@co.accomack.va.us	P.O. Box 686 Accomac, Virginia 23301
John Giangrant	JLUS Project Manager	Accomack County	757-787-5726	757-789-3116	jgiangrant@co.accomack.va.us	P.O. Box 686 Accomac, Virginia 23301

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ecology and environment, inc.
Global Environmental Specialists

ACCOMACK COUNTY, VIRGINIA
JOINT LAND USE STUDY
Policy Steering Committee Meeting – April 29, 2013

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
Amber Levofsky	Project Manager	Office of Economic Adjustment	(703) 697-2096	703-607-0170	Amber.Levofsky@wso.whs.mil	2231 Crystal Drive, Suite 520 Arlington, VA 22202
Debby Ryon	Facilities Engineer	SCSC Wallops Navy	757-824-2053		debra.ryon@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
Robert Baldwin	Regional Community Plans & Liaison Officer	NAVFAC Mid-Atlantic	757-341-0232		robert.a.baldwin@navy.mil	
Brian Ballard	Community Plans & Liaison Officer	NAVFAC JEB Little Creek Fort Story	757-462-8421		brian.p.ballard@navy.mil	
Walter Cole	Director of Planning	Clark Nexsen	757-351-1213	757-455-5638	wcole@clarknexsen.com	6160 Kempsville Circle, Suite 200A Norfolk, VA 23502
Lee Smith	Senior Planner	Clark Nexsen	757-961-7967	757-455-5638	lsmith@clarknexsen.com	6160 Kempsville Circle, Suite 200A Norfolk, VA 23502
Jennifer Neyland	Land Use Planner	Ecology & Environment	757-456-5356 Ext. 5010	757-456-5356	jneyland@ene.com	348 Southport Circle, Suite 101, Virginia Beach, VA 23452
Ron Rice	Senior Planner	Clark Nexsen	757-961-7949	757-455-5638	rrice@clarknexsen.com	6160 Kempsville Circle, Suite 200A Norfolk, VA 23502

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Accomack County
Joint Land Use Study
Policy Steering Committee Meeting
Agenda

April 29, 2013

I. Welcome / Introduction – John Giangrant

II. Draft Project Purpose Statement – Walt Cole

III. Joint Land Use Study Overview – Amber Levofsky, OEA

- PowerPoint Presentation *"Joint Land Use Study: A Tool to Promote Compatible Use"*

IV. Accomack County JLUS Organizational Structure and Plan Process – Walt Cole / Lee Smith / Amber Levofsky

- Participant Roles and Responsibilities. Including Policy Steering Committee, Technical Advisory Committee, OEA, Accomack County, consultant
- Project / Process / Schedule / Scope of Work

V. Policy Steering Committee – Walt Cole / John Giangrant / Lee Smith

- PSC Purpose / Mission Statement
- Selection of Committee Chair and Vice-Chair
- Technical Advisory Committee (TAC)

VI. Today's Action Items

- Approve Project Purpose Statement and PSC purpose/mission statement

VII. Next Steps – Lee Smith

- 5/2/2013 TAC Meeting to identify project study area and stakeholder interviews
- PSC approval of TAC recommended project study are

Accomack County
Joint Land Use Study
Purpose Statement (Draft)

The purpose of the Accomack County Joint Land Use Study is to bring together county officials, the community, and military installation officials in a collaborative effort to identify and analyze potential land use conflicts between civilian development and Navy operations. Through consensus efforts, the JLUS will recommend strategies to mitigate identified conflicts and recommended alternative solutions that reduce adverse impacts on military operations while enhancing the well-being and economic development of the community.

Accomack County
Joint Land Use Study
Organizational Structure

Responsibilities

Control
Coordination
Accountability
Grant Management

Participants

Board of Supervisors
County Administration
Program Manager
Planning Consultant Team (CN/E&E)

Study Design/Oversight
Policy Direction
Recommendation Approvals
Draft & Final Report Approvals
Implementation Monitoring

Policy Steering Committee

Leadership Representation From:

- *Accomack County*
- *Town of Chincoteague*
- *State of Virginia*
- *US NAVY / SCSC Wallops Island*
- *NASA*

Report to PSC
Identify Technical Issues
Research Issues
Develop Strategies

Technical Advisory Committee

Staff Representation From:

- *County Planning Commission*
- *County Planning Staff*
- *County Building and Zoning*
- *The Nature Conservancy*
- *US NAVY Facilities*
- *US Fish and Wildlife*
- *SCSC Wallops Island*
- *NASA*
- *Others to be added as Identified*

SCHEDULE OF EVENTS

MONTH	WEEK	EVENT
April	**1**	
	2	Kick-Off Meeting (4/11/13)
	3	
	4	PSC Meeting (4/29/13)
May	**1**	TAC Meeting (5/2/13)
	2	PSC Approval of TAC Recommendations
	3	Stakeholder Interviews
	4	
	5	
June	**1**	Regular scheduled TAC mtg. 1st Thurs. every month
	2	Draft Report Intro & Statement of Goals & Needs Submission
	3	
	4	PSC/TAC Meeting + Public Open House #1
July	**1**	Regular scheduled TAC mtg. 1st Thurs. every month
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	4	
March	**1**	Final JLUS Report Submission
	2	
	3	Executive Summary Presentation
	4	

County of Accomack, Virginia
Request for Proposals #261
CONSULTING SERVICES
for a
Joint Land Use Study for the County of Accomack, Virginia, and
Navy Surface Combat Systems Center Wallops Island, Virginia

INSTRUCTIONS FOR OFFERORS

1. One original and four (4) copies of the Proposal are due to the following address by **4:00 P.M. on Friday, March 1, 2013:**

   County of Accomack
   Attn: Purchasing and Contracts Manager
   23296 Courthouse Avenue, Suite 203
   Post Office Box 388
   Accomac VA 23301

   Proposals may be submitted by mail or delivered in person.

2. A non-mandatory, pre-proposal conference will be conducted in the Board Chambers, Room 104, 23296 Courthouse Ave., Accomac VA 23301, at 2:00 P.M. on Wednesday, February l3, and 2013.

3. Offerors shall be responsible for the actual delivery of submittals during business hours to address indicated above. It shall not be sufficient to show that the submittal was mailed in time to be received before the scheduled closing time. Proposals received in the Office of the County Administrator after the date and time prescribed shall not be considered for contract award and shall be returned to the offeror.

4. Each offeror agrees that proposals will remain firm for a period of sixty (60) calendar days after the date specified for receipt of proposals.

5. The County of Accomack reserves the right to reject any and all submittals and to request clarification of information from any offerors. Offerors may be required to submit additional information which the County may deem necessary to further evaluate the offeror's qualifications.

6. A Selection Committee will review and evaluate all proposals submitted in response to this request for proposals. The Committee shall conduct a preliminary evaluation of all proposals on the basis of the information provided with the proposal, and the evaluation criteria listed herein. The Committee shall make recommendation to the County Board of Supervisors, and the Board of Supervisors shall make the final decision. The County shall be the sole judge as to the merits of qualifications submitted by offerors. The decision of the County shall be final. In the event the County determines in writing, and in its sole discretion that only one offeror is fully qualified, or that one offeror is clearly more highly qualified and suitable than the others under consideration, a contract may be negotiated and awarded to that offeror.

7. The County of Accomack does not discriminate against faith-based organizations in accordance with the Code of Virginia, §2.2-431 0 and 2.2-4343.1 *Code of Virginia* as amended, or against a bidder or offeror because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment.

8. The County's *General Conditions and Instructions to Offerors* is included herein to provide general vendor requirements related to insurance, licensure, and state procurement law

9. All offerors must complete and return the enclosed Small and Minority Business Enterprises form with the proposal documents.

Task 1: Joint Land Use Study

1.1 JLUS Kickoff Meeting

The selected consultant will hold a project kickoff meeting with the Policy Steering Committee (PSC) and Technical Advisory Committee (TAC) to discuss the tasks, schedule, and logistics for the project, and tasks upcoming in the next phases of the project. The Team will also discuss the project public participation plan.

1.2 Initiate Public Participation Program

The consultant will initiate a public participation program that consists at a minimum of the following elements:

- JLUS Information Brochure

  The consultant, with the help of the T AC, shall prepare an informational brochure for the public describing the study's purpose, goals and benefits. Press releases will also be prepared and given to the County for distribution to the media. The consultant will submit the brochure and press releases to the Navy Public Affairs Officer for review and comment prior to finalizing the work product.

- JLUS Website

  The consultant will work with the PM and Navy to establish a Wallops JLUS website. The JLUS website will be used to display information, meeting schedules and announcements, as well as to provide maps, contact information and an e-mail forum for public comments and questions. The TAC will approve all public information materials prior to release.

- Public Information Meetings

  The consultant will conduct a total of three Public Information sessions, as outlined below, and evaluate public feedback. The Public Information sessions will be held during the inventory, analysis, and draft plan stages of the project, following TAC meetings earlier in the day.

- Briefings

  With support from the consultant, the PM will deliver periodic project updates to the County Board of Supervisors, County Planning Commission, and the Town of Chincoteague on a schedule determined by the County.

- JLUS Findings and Recommendation Brochures

The consultant, with the help of the TAC, shall prepare a brochure for the public describing key findings and recommendations of the draft JLUS report. The brochure will be used to raise public awareness in advance of the public information meetings.

1.3 Consultant Development of Supplies Budget

The consultant, with the assistance of the project manager, shall develop a supplies budget from within the consultant fees. The anticipated supplies are as follows:

• Pens	• Envelopes	• Compact discs
• Pencils	• Manila envelopes	• Plotter ink
• Markers	• File folders	• Plotter paper
• Tape	• Card stock paper	• Postage costs
• Staples	• Easel paper	• Printing costs
• Adhesive notes	• Printing paper	• Meeting notification costs

- Paperclips
- Binder clips
- Legal notepads
- 3-ring binders
- Printer toner
- Printer staples
- Thumb drives / USB
- Memory card

Task* 1 *Deliverables

- One initial meeting with the PSC and T AC for RFP review and one kickoff meeting with the PSC and TAC to discuss the project schedule, tasks, logistics, and public participation plan
- Study outline, time line, plan of action, and milestones developed by the consultant
- Public participation plan
- Establishment and maintenance of project website
- Supplies budget

Task 2: Data Inventory and Mapping

2.1 Identification of Study Areas

The consultant will work with the TAC to create a map of the JLUS study areas. It is envisioned that three (3) study areas will be defined as part of the study: Primary Study Area - area of intense study closest to Navy (and adjacent federal agency) operations; Secondary Study Area - area within influence of Navy (and other federal operations) that are of concern, but not deemed as critical as Primary Study Area; and General Study Area - identification of areas of the County that are appropriate for those land uses and activities that are of concern in the Primary and Secondary Study Areas. It is anticipated that several documents including releasable components of the Navy's September 2010 Encroachment Action Plan for Wallops Island, Accomack County Comprehensive Plan from 2008, Airport Overlay Zoning from 2004 and others will serve as the basis for determining study areas.

2.2 Existing and Future Military Operations

The Consultant in consultation with the Navy and NASA will collect information on all current Navy operations at Surface Combat Systems Center (SCSC) and NASA Wallops. Part of this effort will also look at future potential operations at these facilities as identified by 000. Future potential operations will be limited to publicly released operations under review with supporting technical documents. The consultant will review publically available GIS data (including Navy and NASA, if available) as part of task.

2.3 Existing and Planned Land Uses

Using GIS or other available mapping data, the consultant will develop existing parcel-based land use and zoning maps for the study areas, as well as future land use maps associated with the County's adopted municipal comprehensive plan. Existing land use data will be updated based on aerial photography or field reconnaissance if necessary. As part of this task, the consultant will inventory other relevant County, neighboring community, and regional plans and studies for information relevant to current and future land uses. This task will also identify approved but not yet built development projects. Neighboring federal, state, and regional facility land uses will also be identified.

2.4 Zoning Codes and Related Regulations

The consultant will review and evaluate building codes, zoning ordinances, subdivision regulations and other municipal, state and federal regulations in effect for the study area that control, reduce, or increase potential conflicts between land uses, air uses, and Navy operations. The information will be presented in a map and/or written format as appropriate.

2.5 Demographic Trends and Population Growth

The consultant will evaluate growth and demographic trends for the last 20 years in the County and estimate current resident population and demographics by census block within the study area, based on 2010 Census and American Community Survey data. The information will be presented in a map and/or written format as appropriate.

2.6 Environmental Conditions

The consultant will complete an inventory analysis of environmental conditions in the study area. The inventory will be based on existing environmental data available at the local, state and federal level. The environmental analysis will include environmental conditions affecting land development including:

- Existing natural areas, parklands and environmentally protected areas
- Wetlands, floodplains and open water
- Wildlife habitat
- Properties subject to conservation easements/deed restrictions
- Properties enrolled in the County's Agricultural and Forestal Districts
- Properties subject to current and future recurrent flooding, soil erosion, and storm damage

The environmental data will be presented in a map and/or written format as appropriate.

2.7 Public Infrastructure

The consultant will identify any public infrastructure or community facility improvements currently proposed within the study area. As a part of the public infrastructure analysis, an inventory of any planned roadway and/or water and sewer improvements in the study areas will be evaluated. The capacities of existing infrastructure to support current operations will be identified as part of this effort. In addition, the locations of energy production and distribution facilities and the generators/potential generators of electromagnetic and frequency spectrums will be identified. The information will be presented in a map and/or written format as appropriate.

2.8 Data Collection - T AC Meeting and Public Open House #1

The consultant will meet with the T AC in this phase of the project to review and discuss all mapping produced and data collected as part of this phase of the project. This meeting will be followed by a public Open House, at a location to be determined, to allow public review and input on the mapping and project data collected to date.

Task* 2 *Deliverables:

- GIS maps as described above, made available to the County as ESRI files using a version acceptable to the County
- Interviews with local government officials and staff, and Navy and NASA representatives
- Written summary of existing policies and regulations for the County
- Draft Report Introduction and Statement of Goals and Needs
- Presentation to T AC and the general public
- Maintain project website

Task 3: Analysis of Existing and Future Land Use and Potential Conflicts with Military Mission

3.1 Identification of Compatible and Incompatible Land Uses

The consultant will identify land uses and activities that are compatible and incompatible with Navy operations for the Primary and Secondary Study areas, with special attention given to RFI and EMI encroachment. Identification of compatible and incompatible land uses with other neighboring federal agencies (including other military operations) for the Primary and Secondary Study area will also be developed with direct input from DoD staff. An evaluation of the General Study area will be made to determine whether there are appropriate areas outside of the Primary and Secondary Study area to locate land uses deemed incompatible in the Primary or Secondary study areas. This task will also identify land based impacts and connections to the existing power grid and distribution system from potential offshore energy projects.

3.2 Identification of Existing Incompatible Land Uses or Activities and Development of Mitigation Options and Strategies

The consultant will identify any existing incompatible land uses and develop mitigation options and strategies.

3.3 Analysis of Natural Buffers and Conservation Opportunities

Using data from the environmental inventory in Task 2 and other available information from the T AC, the consultant will analyze the potential to use natural areas and other existing restricted areas as buffer areas around Wallops to reduce potential conflicts. This analysis will also include research into available conservation opportunities and partnering to expand existing buffers and/or add new ones.

3.4 Existing and Future Land Uses – PSC / TAC Meeting

The land use analysis and maps will be presented to the T AC and PSC for review and comment.

Task* 3 *Deliverables:

- Maps, documentation and analysis
- Maintain project website
- Local staff will provide data already available as part of the County property data base and GIS layers, using ERSI versions that they currently are using
- Draft report of data, analysis, and findings to be posted on the webpage
- Consultant will compile list of comments and suggestions from PSC and TAC members

Task 4; Develop Land Use Policy and Regulatory Compatibility Recommendations

4.1 Develop Land-Use Compatibility Maps

Prepare maps showing future land uses compatible with Navy operations.

4.2 Propose Changes to the Adopted Comprehensive Plan

This task will identify potential changes to the written policies of the comprehensive plan to ensure compatibility with Navy operations.

4.3 Identify Potential New Measures to Encourage Land Use Compatibility

This task will entail identifying both regulatory and non-regulatory measures to encourage land use compatibility within the study area, including on the installation. Part of this task will include identifying best practices used by other communities adjacent to military installations. One specific focus of this research on best practices will identify mitigation measures for potential electromagnetic interference issues.

Additionally, the consultant will provide information to the County to ensure its familiarity with the DoD Energy Siting Clearing House and how to access and best utilize the information obtained from the Clearing House.

4.4 Prepare Recommendations

These recommendations should consider options such as building code standards, land exchanges, development incentive programs, conservation easements, business permitting, opportunities to leverage DoD Readiness and Environmental Protection Initiative (REP I) land protection funding, performance standards, special overlay zones, and special procedures for reviewing developments within the study areas including early notification to the Navy on proposed projects. The Department of Defense Siting Clearinghouse requirements and standards published in Title 32, Code of Federal Regulations, Part 211 shall advise and guide the process to facilitate the early submission of renewable energy project proposals to the Clearinghouse for military mission compatibility review.

4.5 Preliminary Recommendations – PSC / TAC Meeting and Public Open House #2

The consultant will meet with the PSC and TAC to review the preliminary recommendations developed during this phase of the project. The meeting will be followed by a public Open House to allow public review and input on Preliminary JLUS recommendations. Mapping and other data as appropriate will be posted on the project website.

- Maps and draft land use compatibility analysis and assessment of proposed changes to the adopted comprehensive plans. The maps will be made available to the County as ESRI files using a version acceptable to the County
- Draft report identifying all recommendations, within the context of military- civilian responsibilities, documenting the interrelated nature of the recommendations and highlighting their mutual costs/benefits
- Compilation of recommendations specific the County with regard to policies, ordinances, land use controls, electromagnetic interference and other pertinent measures
- Maintain project website
- Compile a list of comments and suggestions from PSC and T AC members and the general public
- Create suggested language for inclusion in Accomack County Comprehensive Plan update
- Create model zoning ordinance language

Task 5; Preparation of Draft JLUS Report

5.1 Draft Report Preparation

The consultant will assemble the mapping and analysis completed for the JLUS into a draft report for public review and comment. The report will be provided to both the PSC and T AC for internal review and comment. All comments will be addressed and considered in preparation of a final draft for public distribution.

5.2 Draft JLUS Presentation / Meeting

This task will include a presentation of all components of the draft JLUS report to the PSC and T AC prior to holding a Public Information meeting of the draft JLUS recommendations. Draft documents and maps will also be posted to the project web site for project team review and comment.

5.3 Draft JLUS Public Information Meeting

The consultant along with PSC and TAC members will hold a public information meeting to receive comments on the draft JLUS.

Task* 5 *Deliverables:

- Hard copies and CDs of the draft report
- PowerPoint presentation and/or handouts as necessary
- Findings and recommendations brochure

Task 6; Preparation of Final JLUS Report

6.1 Draft Report Responses to Comments and TAC Meeting

The consultant will review public comments received and prepare responses to these comments. The consultant will meet with the TAC to review these responses and discuss methods to revise the document prior to preparation of the final report.

6.2 Final Report Preparation

The consultant will prepare a revised final report incorporating comments and/or including an appendix with comment responses received during the draft review. The final report will be posted to the project web site for team review. As part of the final plan the consultant will prepare a detailed and prioritized strategy to implement key findings and recommendations with input from the PM, PSC, and TAC. This strategy will include recommended methods for measuring effectiveness of implementation measures over time. The consultant will also prepare an executive summary containing key findings, recommendations, and implementation strategies. The consultant shall prepare a chart, table, or some other method to graphically depict key findings that illustrate costs, responsible parties, timing (short term, midterm, and long term) and prioritization. The final report (including all maps and exhibits) shall be submitted to Accomack County in an editable electronic format.

6.3 Finalize Report and Project Close-Out

The consultant will prepare and submit the Final JLUS document and all supporting digital data to the County for distribution to the Navy, OEA, and other project stakeholders.

6.4 Presentation of Executive Summary

The consultant will present the Executive Summary and other information deemed relevant to the County Board of Supervisors, Town Council of Chincoteague, Navy, other nearby federal agencies, and other groups or stakeholders that were engaged in the JLUS process.

6.5 Formation of a JLUS Implementation Committee

An implementation committee will be selected from members of the PSC and TAC to carry out the adopted recommendations of the Joint Land Use Study. The committee will use the detailed and prioritized strategy section of the final JLUS plan to guide this effort. This committee will continue to meet as needed to monitor implementation and continue the planning and coordination dialogue between the County and the Navy.

Task* 6 *Deliverables:

- A final version of the JLUS Plan including Executive Summary and Implementation Strategy that is properly formatted and able to be posted on the County's website
- Twelve (12) hard copies of the final JLUS Plan including Executive Summary and Implementation Strategy
- Twenty (20) copies of the Executive Summary
- All mapping data to be provided to the County in ESRI format
- A CD for OEA
- A CD for Accomack County

All documents (including maps and exhibits) created as part of this JLUS study including the drafts and final copies of the JLUS are the property of the County of Accomack. Other documents that are considered County property include, but are not limited to:

- Contracts
- Requests for Proposal
- Scope of Work
- Others

Accomack County
Policy Steering Committee
Joint Land Use Study
Purpose Statement (Draft)

The purpose of the Policy Steering Committee is to provide oversight and policy direction for the development of the Accomack County Joint Land Use Study. This will be accomplished through approvals of recommended study area determinations and policy recommendations, draft and final written reports, and implementation monitoring policies.

Accomack County JLUS
Policy Steering Committee

Member Name	Organization	Title
Wanda Thornton	Accomack County	Board of Supervisors
Ron Wolff	Accomack County	Board of Supervisors
Grayson Chesser	Accomack County	Board of Supervisors
Phillip Hickman	Accomack County	Chair, AC Planning Commission
Caroline Massey	NASA	Assistant Director, Management Operations
Steve Miner	Accomack County	County Administrator
CDR John P. Robinson	US Navy	Commanding Officer SCSC
Mike Jump	SCSC-Wallops Island	Executive Director
Cathie France	State of Virginia	Deputy Director of Energy Policy
John H. Tarr	Town of Chincoteage	Mayor
Robert G. Ritter	Town of Chincoteage	Town Manager

Accomack County JLUS
Technical Advisory Committee

Member Name	Organization	Title
Bill Neville	Town of Chincoteague	Director of Planning
George T. Parker	Accomack County	Vice Chair, Planning Commission
David Lumgair, Jr.	Accomack County	AC Planning Commission
Rich Morrison	Accomack County	Director, Planning
David Fluhart	Accomack County	Director, Building and Zoning
Debbie Ryon	SCSC- Wallops Island	Facilities Engineer
Josh Bundick	NASA	Lead, Environmental Planning
Steve Parker	The Nature Conservancy	Director
Lou Hinds	US Fish and Wildlife	Refuge Manager
Kevin Holcomb	US Fish and Wildlife	Supervisory Wildlife Biologist
Henry Schoenborn	SCSC-Wallops Island	Special Projects Manager
Robert Baldwin	NAVFAC, Mid-Atlantic	Regional Community Plans & Liaison Officer
Brian Ballard	NAVFAC JEB Little Creek Ft. Story	Community Plans & Liaison Officer
Non-Member Representation	**Organization**	**Title**
Amber Levofsky	Office of Economic Adjustment	Project Manager
Jill Jester	SCSC-Wallops Island	Public Affairs Officer

Roll and Responsibilities

- Formed to report to the PSC and assist in identifying the technical issues involved in the development of a JLUS.
- Provides the technical expertise within their professional area of interest as it relates to the development of the local JLUS.
- Formulates/drafts policy recommendations alternatives and strategies.
- Consists of local experts in the area, including: local government and federal installation professional planners, local government planning commission members, staff, local business and professional representatives, and downtown and neighborhood representatives.
- Can request assistance of others to serve as needed to supplement technical expertise as significant impacts are identified.

Accomack County
Joint Land Use Study
Policy Steering Committee
Action Items

April 29, 2013

Today's Action Items

- Approve Project Purpose Statement
- PSC purpose/mission statement

PSC Approval of TAC Recommendations of May 2, 2013

1. JLUS Outline
2. JLUS Study Area

Accomack County Joint Land Use Study (JLUS)
Technical Advisory Committee (TAC) Meeting #1 Summary

2 May 2013

Attachments: A – Attendees Sign-in Sheet

Addendums: (not included)

B – Meeting Agenda and Packet of Materials

C – Wallops Operational Maps

D – Revised Draft Informational Brochure

The first Technical Advisory Committee (TAC) meeting was held on 2 May 2013 at 9:00 AM at the Lockheed Martin Building located at 33531 Chincoteague Road, Wallops Island, VA. The meeting was conducted according to the attached Kick-Off Meeting Agenda, beginning with project and personnel introductions. The following materials were distributed to attendees as part of the meeting packet (Attachment B): Draft Accomack County JLUS Purpose Statement; Organizational Structure; Scope of Work; TAC member list, TAC Roles & Responsibilities, Project Process and Schedule, TAC Action Items for the meeting, list of next steps for the TAC, potential stakeholder contact list and Public Participation Plan. Additionally, Wallops operational maps (Attachment C) and a revised Draft Informational Brochure (Attachment D) were distributed to attendees.

Welcome & Introductions

Welcome and opening remarks were provided by John Giangrant, Accomack County JLUS Project Manager (PM). Introductions of TAC members and contractor team members followed.

Project & Agenda Overviews

The contractor PM provided a project overview, purpose statement, organizational structure and process for accomplishing the JLUS development. Each of the TAC Meeting Agenda items and associated materials was presented to stage discussions. The focus of today's meeting was identified as the determination of a study area that would be presented to the Policy Steering Committee (PSC) for approval.

Study Area

A lengthy discussion of the study area took place. TAC members view the study area as a high level tool for focusing the data collection effort, not a delineated area of concern. A recommendation was made to re-characterize the study areas as a "data gathering area". The data analysis phase of the JLUS process will narrow this broader area down to a more clearly defined and informed "study area." This thought was discussed substantially and prevailed as a consensus of the TAC. As a result, a definitive

identification of the project study area will await further data gathering and analysis versus an immediate study area recommendation to the PSC.

SCSC indicated that more mapping data was needed in order to inform analysis (e.g., radar maps and Patuxent River operations maps, etc.). It was recognized that the majority of data needed to proceed with analysis was already in the possession of the contractor team. NASA recommended that the contractor team send out a data call for assistance to accurately identify any remaining data relative to Wallops operational impact areas.

Ongoing PSC and TAC Involvement

Earlier distribution of Meeting Agenda packets was requested to facilitate increased engagement by the TAC. Additionally, it was requested that a contact list of all project team and committee participants be distributed to enhance communications.

Public Participation Plan

There was TAC consensus that the OEA PM PowerPoint slide 'Factors Affecting Missions & Growth in the 'JLUS 101' overview (provided at the 29 April 2013 PSC Meeting) would be a useful tool in communicating the purpose of the JLUS with the public and should be included on the brochure.

There was discussion regarding the communication of Federal activities that occur at Wallops Island. The installation's operations involve several Federal stakeholders (the discussion specifically centered on NASA and the Navy), however the public perception is that facility conducts primarily 'NASA' operations at Wallops. The TAC agreed the JLUS facilitate much needed educational and relational development.

Brochure: The contractor distributed copies of the revised Information Brochure and requested comments by the end of the following week (5/10) via email.

Website: It was requested that to maximize public involvement the team should communicate the location of the JLUS website and all public meetings through several different media avenues. This should include development and issuing of press releases to the Eastern Shore News, the Post and the local radio station. Specific points of contact were provided for each news source. Additionally, it was emphasized that the first press release be issued shortly to accommodate the first public meeting tentatively scheduled for late June.

Stakeholders: The team should include contacts (subject matter experts) from offshore and onshore energy initiatives in the JLUS.

Public Meetings: TAC consensus was the public meetings should be held from 4:00 PM to 7:00 PM, facilitating increased participation. The event wills be structured as open house style (drop in as you can make it) rather than a formal meeting and presentation.

Action Items:

1) Navy to schedule briefing and tour of Wallops Island facilities
2) Contractor to start TAC meetings at 9:30 AM versus 9:00 AM.
3) Contractor to provide summary of data collected to date to Federal stakeholders to facilitate additional data gathering
4) Contractor to finalize website/brochure/public outreach plan
5) TAC members to review list of potential stakeholders and provide feedback

Meeting summary notes compiled and prepared by:

CLARK • NEXSEN
Architecture & Engineering

ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Technical Advisory Committee Meeting
May 2, 2013

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
Shari Silbert	Environmental Scientist Code 250	NASA	757-824-2327	757-824-1819	Shari.A.Silbert@nasa.gov	NASA WFF Bldg F160 RM L165 Wallops Island VA 23337
Kevin Holcomb	Supervisory Wildlife Biologist	U.S. Fish & Wildlife Service Chincoteague VA	757-336-6122 Ext. 319	757-336-5273	Kevin_Holcombe@fws.gov	P.O. Box 62 Chincoteague, VA 23336
Henry Schoenborn	Special Program Manager	SCSC	757-824-6801		henry.schoenborn@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
Rich Morrison	Director, Planning	Accomack County	757 787-5726	757-789-3116	rmorrison@co.accomack.va.us	P.O. Box 686 Accomac, Virginia 23301
Dave Lumgair	Planning Commission	Accomack County	757-472-3849		drlumgair@verizon.net	P.O Box 7 Craddockville, VA 23341
George Parker	Vice Chair Planning Commission	Accomack County	757-787-1162		grparker@esva.net	P.O. Box 638 Onley, VA 23418
David Fluhart	Director, Building & Zoning	Accomack County	757-787-5721	757-787-8948	dfluhart@co.accomack.va.gov	P.O. Box 93 Accomack, VA 23301
Bill Neville	Director of Planning	Town of Chincoteague	757-336-6519	757-336-7905	wneville@chincoteague-va.gov	6150 Community Drive Chincoteague, VA 23336
Bob Baldwin	Regional Community Plans & Liaison Officer	NAVFAC Mid-Atlantic	757-341-0232		robert.a.baldwin@navy.mil	
Debby Ryon	Facilities Engineer	SCSC Wallops Navy	757-824-2053		debra.ryon@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337

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Global Environmental Specialists

ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Technical Advisory Committee Meeting
May 2, 2013

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
Brian Ballard	Community Plans & Liaison Officer	NAVFAC JEB Little Creek Fort Story	757-462-8421		brian.p.ballard@navy.mil	
John Giangrant	JLUS Project Manager	Accomack County	757-787-5726	757-789-3116	jgiangrant@co.accomack.va.us	P.O. Box 686 Accomac, Virginia 23301
Walter Cole	Director of Planning	Clark Nexsen	757-351-1213	757-455-5638	wcole@clarknexsen.com	6160 Kempsville Circle, Suite 200A Norfolk, VA 23502
Lee Smith	Senior Planner	Clark Nexsen	757-961-7967	757-455-5638	lsmith@clarknexsen.com	6160 Kempsville Circle, Suite 200A Norfolk, VA 23502
Jennifer Neyland	Land Use Planner	Ecology & Environment	757-456-5356 Ext. 5010	757-456-5356	jneyland@ene.com	348 Southport Circle, Suite 101, Virginia Beach, VA 23452
Ron Rice	Senior Planner	Clark Nexsen	757-961-7949	757-455-5638	rrice@clarknexsen.com	6160 Kempsville Circle, Suite 200A Norfolk, VA 23502

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Accomack County
Joint Land Use Study
Technical Advisory Committee Meeting
Agenda

May 02, 2013

I. Welcome / Introduction – John Giangrant

II. Joint Land Use Study Overview – Lee Smith

III. Draft Project Purpose Statement – Lee Smith

IV. Accomack County JLUS Organizational Structure and Plan Process – Lee Smith

- Participant Roles and Responsibilities.
  - Accomack County
  - Policy Steering Committee
  - Technical Advisory Committee
- Project / Process / Schedule / Scope of Work

V. Technical Advisory Committee – Lee Smith

- TAC Purpose / Mission Statement
- TAC Work plan

VI. Today's Action Items

- Develop JLUS study area for PSC review and approval
- Develop JLUS study outline for PSC review and approval *(Time permitting)*

VII. Next Steps – Lee Smith

- Stakeholder Identification Process
- Review information and layout of JLUS Public Participation Plan
  - Brochure / Website
- Next TAC Meeting – June 6, 2013

Accomack County
Joint Land Use Study
Purpose Statement (Draft)

The purpose of the Accomack County Joint Land Use Study is to bring together county and town officials, the community, and military installation officials in a collaborative effort to identify and analyze current and future land use patterns between civilian development and Department of Defense operations. Through consensus efforts, the JLUS will recommend strategies to mitigate identified conflicts and recommended alternative solutions that reduce adverse impacts on military operations while enhancing the well-being and economic development of the community.

Accomack County
Joint Land Use Study
Organizational Structure

Responsibilities

Control
Coordination
Accountability
Grant Management

Participants

Board of Supervisors
County Administration
Program Manager
Planning Consultant Team (CN/E&E)

Study Design/Oversight
Policy Direction
Recommendation Approvals
Draft & Final Report Approvals
Implementation Monitoring

Policy Steering Committee

Leadership Representation From:

- *Accomack County*
- *Town of Chincoteague*
- *State of Virginia*
- *US NAVY / SCSC Wallops Island*
- *NASA*

Report to PSC
Identify Technical Issues
Research Issues
Develop Strategies

Technical Advisory Committee

Staff Representation From:

- *County Planning Commission*
- *County Planning Staff*
- *County Building and Zoning*
- *Chincoteague Planning Director*
- *The Nature Conservancy*
- *US NAVY Facilities*
- *US Fish and Wildlife*
- *SCSC Wallops Island*
- *NASA*
- *Others to be added as Identified*

SCOPE OF WORK

Task 1: Joint Land Use Study

1.1 JLUS Kickoff Meeting

The selected consultant will hold a project kickoff meeting with the Policy Steering Committee (PSC) and Technical Advisory Committee (TAC) to discuss the tasks, schedule, and logistics for the project, and tasks upcoming in the next phases of the project. The Team will also discuss the project public participation plan.

1.2 Initiate Public Participation Program

The consultant will initiate a public participation program that consists at a minimum of the following elements:

- JLUS Information Brochure

  The consultant, with the help of the T AC, shall prepare an informational brochure for the public describing the study's purpose, goals and benefits. Press releases will also be prepared and given to the County for distribution to the media. The consultant will submit the brochure and press releases to the Navy Public Affairs Officer for review and comment prior to finalizing the work product.

- JLUS Website

  The consultant will work with the PM and Navy to establish a Wallops JLUS website. The JLUS website will be used to display information, meeting schedules and announcements, as well as to provide maps, contact information and an e-mail forum for public comments and questions. The TAC will approve all public information materials prior to release.

- Public Information Meetings

  The consultant will conduct a total of three Public Information sessions, as outlined below, and evaluate public feedback. The Public Information sessions will be held during the inventory, analysis, and draft plan stages of the project, following TAC meetings earlier in the day.

- Briefings

  With support from the consultant, the PM will deliver periodic project updates to the County Board of Supervisors, County Planning Commission, and the Town of Chincoteague on a schedule determined by the County.

- JLUS Findings and Recommendation Brochures

The consultant, with the help of the TAC, shall prepare a brochure for the public describing key findings and recommendations of the draft JLUS report. The brochure will be used to raise public awareness in advance of the public information meetings.

1.3 Consultant Development of Supplies Budget

The consultant, with the assistance of the project manager, shall develop a supplies budget from within the consultant fees. The anticipated supplies are as follows:

- Pens
- Pencils
- Markers
- Tape
- Staples
- Adhesive notes
- Envelopes
- Manila envelopes
- File folders
- Card stock paper
- Easel paper
- Printing paper
- Compact discs
- Plotter ink
- Plotter paper
- Postage costs
- Printing costs
- Meeting notification costs

- Paperclips
- Binder clips
- Legal notepads
- 3-ring binders
- Printer toner
- Printer staples
- Thumb drives / USB
- Memory card

Task* 1 *Deliverables

- One initial meeting with the PSC and T AC for RFP review and one kickoff meeting with the PSC and TAC to discuss the project schedule, tasks, logistics, and public participation plan
- Study outline, time line, plan of action, and milestones developed by the consultant
- Public participation plan
- Establishment and maintenance of project website
- Supplies budget

Task 2: Data Inventory and Mapping

2.1 Identification of Study Areas

The consultant will work with the TAC to create a map of the JLUS study areas. It is envisioned that three (3) study areas will be defined as part of the study: Primary Study Area - area of intense study closest to Navy (and adjacent federal agency) operations; Secondary Study Area - area within influence of Navy (and other federal operations) that are of concern, but not deemed as critical as Primary Study Area; and General Study Area - identification of areas of the County that are appropriate for those land uses and activities that are of concern in the Primary and Secondary Study Areas. It is anticipated that several documents including releasable components of the Navy's September 2010 Encroachment Action Plan for Wallops Island, Accomack County Comprehensive Plan from 2008, Airport Overlay Zoning from 2004 and others will serve as the basis for determining study areas.

2.2 Existing and Future Military Operations

The Consultant in consultation with the Navy and NASA will collect information on all current Navy operations at Surface Combat Systems Center (SCSC) and NASA Wallops. Part of this effort will also look at future potential operations at these facilities as identified by 000. Future potential operations will be limited to publicly released operations under review with supporting technical documents. The consultant will review publically available GIS data (including Navy and NASA, if available) as part of task.

2.3 Existing and Planned Land Uses

Using GIS or other available mapping data, the consultant will develop existing parcel-based land use and zoning maps for the study areas, as well as future land use maps associated with the County's adopted municipal comprehensive plan. Existing land use data will be updated based on aerial photography or field reconnaissance if necessary. As part of this task, the consultant will inventory other relevant County, neighboring community, and regional plans and studies for information relevant to current and future land uses. This task will also identify approved but not yet built development projects. Neighboring federal, state, and regional facility land uses will also be identified.

2.4 Zoning Codes and Related Regulations

The consultant will review and evaluate building codes, zoning ordinances, subdivision regulations and other municipal, state and federal regulations in effect for the study area that control, reduce, or

increase potential conflicts between land uses, air uses, and Navy operations. The information will be presented in a map and/or written format as appropriate.

2.5 Demographic Trends and Population Growth

The consultant will evaluate growth and demographic trends for the last 20 years in the County and estimate current resident population and demographics by census block within the study area, based on 2010 Census and American Community Survey data. The information will be presented in a map and/or written format as appropriate.

2.6 Environmental Conditions

The consultant will complete an inventory analysis of environmental conditions in the study area. The inventory will be based on existing environmental data available at the local, state and federal level. The environmental analysis will include environmental conditions affecting land development including:

- Existing natural areas, parklands and environmentally protected areas
- Wetlands, floodplains and open water
- Wildlife habitat
- Properties subject to conservation easements/deed restrictions
- Properties enrolled in the County's Agricultural and Forestal Districts
- Properties subject to current and future recurrent flooding, soil erosion, and storm damage

The environmental data will be presented in a map and/or written format as appropriate.

2.7 Public Infrastructure

The consultant will identify any public infrastructure or community facility improvements currently proposed within the study area. As a part of the public infrastructure analysis, an inventory of any planned roadway and/or water and sewer improvements in the study areas will be evaluated. The capacities of existing infrastructure to support current operations will be identified as part of this effort. In addition, the locations of energy production and distribution facilities and the generators/potential generators of electromagnetic and frequency spectrums will be identified. The information will be presented in a map and/or written format as appropriate.

2.8 Data Collection - T AC Meeting and Public Open House #1

The consultant will meet with the T AC in this phase of the project to review and discuss all mapping produced and data collected as part of this phase of the project. This meeting will be followed by a public Open House, at a location to be determined, to allow public review and input on the mapping and project data collected to date.

Task* 2 *Deliverables:

- GIS maps as described above, made available to the County as ESRI files using a version acceptable to the County
- Interviews with local government officials and staff, and Navy and NASA representatives
- Written summary of existing policies and regulations for the County
- Draft Report Introduction and Statement of Goals and Needs
- Presentation to T AC and the general public
- Maintain project website

Task 3: Analysis of Existing and Future Land Use and Potential Conflicts with Military Mission

3.1 Identification of Compatible and Incompatible Land Uses

The consultant will identify land uses and activities that are compatible and incompatible with Navy operations for the Primary and Secondary Study areas, with special attention given to RFI and EMI encroachment. Identification of compatible and incompatible land uses with other neighboring federal agencies (including other military operations) for the Primary and Secondary Study area will also be developed with direct input from DoD staff. An evaluation of the General Study area will be made to determine whether there are appropriate areas outside of the Primary and Secondary Study area to locate land uses deemed incompatible in the Primary or Secondary study areas. This task will also identify land based impacts and connections to the existing power grid and distribution system from potential offshore energy projects.

3.2 Identification of Existing Incompatible Land Uses or Activities and Development of Mitigation Options and Strategies

The consultant will identify any existing incompatible land uses and develop mitigation options and strategies.

3.3 Analysis of Natural Buffers and Conservation Opportunities

Using data from the environmental inventory in Task 2 and other available information from the T AC, the consultant will analyze the potential to use natural areas and other existing restricted areas as buffer areas around Wallops to reduce potential conflicts. This analysis will also include research into available conservation opportunities and partnering to expand existing buffers and/or add new ones.

3.4 Existing and Future Land Uses – PSC / TAC Meeting

The land use analysis and maps will be presented to the T AC and PSC for review and comment.

Task* 3 *Deliverables:

- Maps, documentation and analysis
- Maintain project website
- Local staff will provide data already available as part of the County property data base and GIS layers, using ERSI versions that they currently are using
- Draft report of data, analysis, and findings to be posted on the webpage
- Consultant will compile list of comments and suggestions from PSC and TAC members

Task 4; Develop Land Use Policy and Regulatory Compatibility Recommendations

4.1 Develop Land-Use Compatibility Maps

Prepare maps showing future land uses compatible with Navy operations.

4.2 Propose Changes to the Adopted Comprehensive Plan

This task will identify potential changes to the written policies of the comprehensive plan to ensure compatibility with Navy operations.

4.3 Identify Potential New Measures to Encourage Land Use Compatibility

This task will entail identifying both regulatory and non-regulatory measures to encourage land use compatibility within the study area, including on the installation. Part of this task will include identifying best practices used by other communities adjacent to military installations. One specific focus of this research on best practices will identify mitigation measures for potential electromagnetic interference issues.

Additionally, the consultant will provide information to the County to ensure its familiarity with the DoD Energy Siting Clearing House and how to access and best utilize the information obtained from the Clearing House.

4.4 Prepare Recommendations

These recommendations should consider options such as building code standards, land exchanges, development incentive programs, conservation easements, business permitting, opportunities to leverage DoD Readiness and Environmental Protection Initiative (REP I) land protection funding, performance standards, special overlay zones, and special procedures for reviewing developments within the study areas including early notification to the Navy on proposed projects. The Department of Defense Siting Clearinghouse requirements and standards published in Title 32, Code of Federal Regulations, Part 211 shall advise and guide the process to facilitate the early submission of renewable energy project proposals to the Clearinghouse for military mission compatibility review.

4.5 Preliminary Recommendations – PSC / TAC Meeting and Public Open House #2

The consultant will meet with the PSC and TAC to review the preliminary recommendations developed during this phase of the project. The meeting will be followed by a public Open House to allow public review and input on Preliminary JLUS recommendations. Mapping and other data as appropriate will be posted on the project website.

- Maps and draft land use compatibility analysis and assessment of proposed changes to the adopted comprehensive plans. The maps will be made available to the County as ESRI files using a version acceptable to the County
- Draft report identifying all recommendations, within the context of military- civilian responsibilities, documenting the interrelated nature of the recommendations and highlighting their mutual costs/benefits
- Compilation of recommendations specific the County with regard to policies, ordinances, land use controls, electromagnetic interference and other pertinent measures
- Maintain project website
- Compile a list of comments and suggestions from PSC and T AC members and the general public
- Create suggested language for inclusion in Accomack County Comprehensive Plan update
- Create model zoning ordinance language

Task 5; Preparation of Draft JLUS Report

5.1 Draft Report Preparation

The consultant will assemble the mapping and analysis completed for the JLUS into a draft report for public review and comment. The report will be provided to both the PSC and T AC for internal review and comment. All comments will be addressed and considered in preparation of a final draft for public distribution.

5.2 Draft JLUS Presentation / Meeting

This task will include a presentation of all components of the draft JLUS report to the PSC and T AC prior to holding a Public Information meeting of the draft JLUS recommendations. Draft documents and maps will also be posted to the project web site for project team review and comment.

5.3 Draft JLUS Public Information Meeting

The consultant along with PSC and TAC members will hold a public information meeting to receive comments on the draft JLUS.

Task* 5 *Deliverables:

- Hard copies and CDs of the draft report
- PowerPoint presentation and/or handouts as necessary
- Findings and recommendations brochure

Task 6; Preparation of Final JLUS Report

6.1 Draft Report Responses to Comments and TAC Meeting

The consultant will review public comments received and prepare responses to these comments. The consultant will meet with the TAC to review these responses and discuss methods to revise the document prior to preparation of the final report.

6.2 Final Report Preparation

The consultant will prepare a revised final report incorporating comments and/or including an appendix with comment responses received during the draft review. The final report will be posted to the project web site for team review. As part of the final plan the consultant will prepare a detailed and prioritized strategy to implement key findings and recommendations with input from the PM, PSC, and TAC. This strategy will include recommended methods for measuring effectiveness of implementation measures over time. The consultant will also prepare an executive summary containing key findings, recommendations, and implementation strategies. The consultant shall prepare a chart, table, or some other method to graphically depict key findings that illustrate costs, responsible parties, timing (short term, midterm, and long term) and prioritization. The final report (including all maps and exhibits) shall be submitted to Accomack County in an editable electronic format.

6.3 Finalize Report and Project Close-Out

The consultant will prepare and submit the Final JLUS document and all supporting digital data to the County for distribution to the Navy, OEA, and other project stakeholders.

6.4 Presentation of Executive Summary

The consultant will present the Executive Summary and other information deemed relevant to the County Board of Supervisors, Town Council of Chincoteague, Navy, other nearby federal agencies, and other groups or stakeholders that were engaged in the JLUS process.

6.5 Formation of a JLUS Implementation Committee

An implementation committee will be selected from members of the PSC and TAC to carry out the adopted recommendations of the Joint Land Use Study. The committee will use the detailed and prioritized strategy section of the final JLUS plan to guide this effort. This committee will continue to meet as needed to monitor implementation and continue the planning and coordination dialogue between the County and the Navy.

Task* 6 *Deliverables:

- A final version of the JLUS Plan including Executive Summary and Implementation Strategy that is properly formatted and able to be posted on the County's website
- Twelve (12) hard copies of the final JLUS Plan including Executive Summary and Implementation Strategy
- Twenty (20) copies of the Executive Summary
- All mapping data to be provided to the County in ESRI format
- A CD for OEA
- A CD for Accomack County

All documents (including maps and exhibits) created as part of this JLUS study including the drafts and final copies of the JLUS are the property of the County of Accomack. Other documents that are considered County property include, but are not limited to:

- Contracts
- Requests for Proposal
- Scope of Work
- Others

Accomack County JLUS
Technical Advisory Committee

Member Name	Organization	Title
Bill Neville	Town of Chincoteague	Director of Planning
George T. Parker	Accomack County	Vice Chair, Planning Commission
David Lumgair, Jr.	Accomack County	AC Planning Commission
Rich Morrison	Accomack County	Director, Planning
David Fluhart	Accomack County	Director, Building and Zoning
Debbie Ryon	SCSC- Wallops Island	Facilities Engineer
Josh Bundick	NASA	Lead, Environmental Planning
Steve Parker	The Nature Conservancy	Director
Lou Hinds	US Fish and Wildlife	Refuge Manager
Kevin Holcomb	US Fish and Wildlife	Supervisory Wildlife Biologist
Henry Schoenborn	SCSC-Wallops Island	Special Projects Manager
Robert Baldwin	NAVFAC, Mid-Atlantic	Regional Community Plans & Liaison Officer
Brian Ballard	NAVFAC JEB Little Creek Ft. Story	Community Plans & Liaison Officer

Roll and Responsibilities

- Formed to report to the PSC and assist in identifying the technical issues involved in the development of a JLUS.
- Provides the technical expertise within their professional area of interest as it relates to the development of the local JLUS.
- Formulates/drafts policy recommendations alternatives and strategies.
- Consists of local experts in the area, including: local government and federal installation professional planners, local government planning commission members, staff, local business and professional representatives, and downtown and neighborhood representatives.
- Can request assistance of others to serve as needed to supplement technical expertise as significant impacts are identified.

Project Process

Phase 1: Discovery and Analysis

Task 1: JLUS Kick-Off
- Project Plan / Goals and Objectives
- Public Participation Plan
- 2 weeks

Task 2: Data Gathering
- Define Study Area
- Gather Existing Plans
- GIS Mapping of Info
- 6 to 10 weeks

Task 3: Data Analysis
- Identify and Map Areas of Concern
- Develop Mitigation Strategies
- 8 weeks

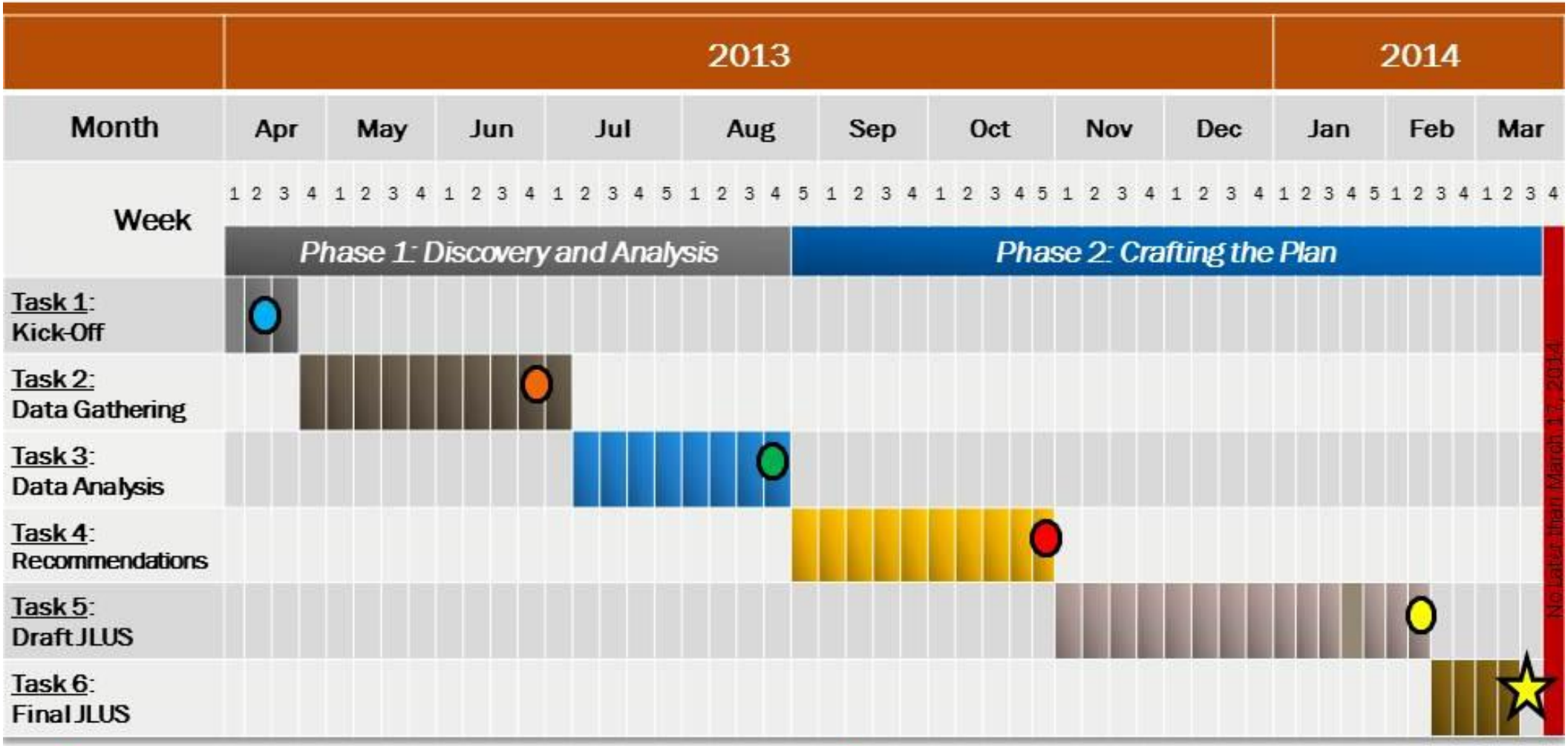
Phase 2: Crafting the Plan

Task 4: Recommendations
- Compatibility Mapping
- Recommendations to Existing Plans/Policies
- 10 weeks

Task 5: Draft JLUS Report
- Draft JLUS Plan
- Public Hearing
- Final Draft
- 15 weeks

Task 6: Final JLUS Report
- Final JLUS Plan
- Executive Summary
- Document Presentations
- 5 weeks

Project Plan of Action & Milestones



Kick-Off Meeting

PSC/TAC Meeting / Public Open House

PSC/TAC Review Meeting

PSC/TAC Meeting / Public Open House

PSC/TAC Meeting / Public Information Meeting

Final JLUS Report / Executive Summary Presentation

SCHEDULE OF EVENTS

MONTH	WEEK	EVENT
April	**1**	
	2	Kick-Off Meeting (4/11/13)
	3	
	4	PSC Meeting (4/29/13)
May	**1**	TAC Meeting (5/2/13)
	2	PSC Approval of TAC Recommendations
	3	Stakeholder Interviews
	4	
	5	
June	**1**	Regular scheduled TAC mtg. 1st Thurs. every month
	2	Draft Report Intro & Statement of Goals & Needs Submission
	3	
	4	PSC/TAC Meeting + Public Open House #1
July	**1**	Regular scheduled TAC mtg. 1st Thurs. every month
	2	
	3	
	4	
	5	
August	**1**	Regular scheduled TAC mtg. 1st Thurs. every month
	2	
	3	
	4	Land Use Analysis & Maps Submission & Presentation to PSC/TAC
September	**1**	Regular scheduled TAC mtg. 1st Thurs. every month
	2	
	3	
	4	

MONTH	WEEK	EVENT
October	**1**	Regular scheduled TAC mtg. 1st Thurs. every month
	2	Preliminary Recommendations Report Submission
	3	
	4	
	5	PSC/TAC Meeting + Public Open House #2
November	**1**	Regular scheduled TAC mtg. 1st Thurs. every month
	2	
	3	
	4	
December	**1**	Regular scheduled TAC mtg. 1st Thurs. every month
	2	
	3	
	4	
January	**1**	Regular scheduled TAC mtg. 1st Thurs. every month
	2	
	3	Draft JLUS Report Submission + Findings & Recommendations Brochures published
	4	
	5	
February	**1**	Regular scheduled TAC mtg. 1st Thurs. every month
	2	PSC/TAC Meeting + Public Info Meeting #3
	3	
	4	
March	**1**	Final JLUS Report Submission
	2	
	3	Executive Summary Presentation
	4	

Accomack County
Joint Land Use Study
Technical Advisory Committee
Action Items

May 02, 2013

Today's Action Items

- Define JLUS Study Area for recommendation to PSC

  To be worked on during today's meeting

- Define JLUS Study Outline for recommendations to PSC *(Time permitting)*

1. Finalize JLUS Study Outline for recommendations to PSC *(if necessary)*
2. Begin Stakeholder Identification Process
3. Review information and layout of JLUS Public Participation Plan
   - Brochure / Website
4. Next TAC Meeting – June 6, 2013

POTENTIAL STAKEHOLDER CONTACT LIST

As part of the Joint Land Use Study (JLUS) we would like to identify and interview as many affected stakeholders as possible. These stakeholders could be individuals, businesses, groups or organizations. We would like to employ your assistance in establishing who these stakeholders are, and how we may be able to contact them.

Below is a sample list to generate ideas as to who you may consider to be a stakeholder in this process. Also included is a simple table to use so you can provide us with the appropriate name and contact information. Everyone has the potential for being a stakeholder, and we are interested in everyone's input. The only requests are:

1. If listing a group or organization, please make sure to provide contact information for a specific individual that we can reach, and has the authority to speak on behalf of the organization.
2. Please make sure the contact person you provide is willing to participate and aware that we will be contacting them.

Our goal is to begin conducting stakeholder interviews in early May and continue the entire month. Your assistance is greatly appreciated.

Potential Stakeholders List

Public / Governmental

- Military (Planners, Operators, etc)
- Cities, Counties & Special Districts (School, Utility watershed, etc.) in Study Area
- State agencies and legislative representatives
- Federal agencies: NASA, USCG, FWLS, Dept. of Interior, etc.
- School Board
- Other……

Private / Citizenry

- Neighborhood Associations
- Building Industry Associations
- Environmental and Conservation Groups
- Realtor Associations
- Chambers of Commerce
- Farm Bureau/Agriculture Groups
- Fishing / Aquaculture Groups
- Land Owners & Area Residents
- Recreational Users
- Energy Developers / Transmission Line Authorities
- Major industries and businesses in the Study Area
- Others…

POTENTIAL STAKEHOLDER CONTACT LIST

NAME	ORGANIZATION	TELEPHONE	E-MAIL
Ex. John Q. Public	Downtown Merchants Association	757-555-1234	JQP@dtmerchants.com

PUBLIC PARTICIPATION PLAN

The Public Participation Plan for the Accomack County Joint Use Land Study involves a vigorous pursuit of public involvement throughout the development process. In order to optimize public participation, the following measures will be implemented:

1. Informational Brochure

An Informational Brochure will be published and made readily available to the public at the outset of the study. It will inform the public of the nature, need, goals and expected outcomes of the study. A draft brochure will be provided to the TAC and the Navy Public Affairs Officer for review and comment prior to final publishing.

2. JLUS Website

A website will be established and maintained for the purpose of presenting information and providing an email forum for receiving public comments and questions regarding the study. The website will be regularly updated to enable reporting of current project data and progress, points of contact for various issues and announcements of scheduled meetings that are open to public attendance. All information will be reviewed and approved by the TAC prior to release.

Following the completion of the JLUS final report, the JLUS Website will continue to be employed for communicating updated status and news regarding JLUS implementation initiatives.

3. Public Information Meetings

A total of three public information meetings will be conducted to provide current information regarding the study and to receive feedback from the public. The proceedings and public comments will be documented for project team review and response. The three meetings will take place at the inventory, analysis and draft plan stages of study development, each following TAC meetings earlier in the same day.

4. Regular Briefings

The Accomack County JLUS PM will provide periodic progress briefings to the County Board of Supervisors, County Planning Commission, and the Town of Chincoteague. These briefings are anticipated to occur monthly.

5. Findings and Recommendations Brochure

A Findings and Recommendations Brochure will be prepared and published providing a synopsis of the key findings and recommendations presented in the draft JLUS report. This brochure will be made available in draft form to the TAC and the Navy Public Affairs Officer at the time of submission of the draft JLUS report. Upon TAC approval, the brochure will be made available to the public to encourage widespread and well-informed participation in the third and final public information meeting.

Why is a JLUS needed for Accomack County?

With growing military operations at Wallops Island, the Department of Defense (DoD) began an effort to secure funds to work with Accomack County to perform a JLUS. The primary area of concern, or study area, of the Accomack County JLUS will be the lands closest to the Navy and other federal agency operations occurring at the Wallops Installation. The JLUS efforts will determine if there is potential for conflict between military and civilian land development plans, and devise technically feasible, politically sensible, and financially realistic strategies to mitigate these inconsistencies.

Who is responsible for the project?

Through a grant provided by the federal Office of Economic Adjustment (OEA), Accomack County, OEA and the US Navy- SCSC Wallops Island will provide the control, coordination and accountability for the development of the JLUS. A project steering committee has been established to provide guidance, oversight and policy direction to the study, while a technical advisory committee will provide local, professional expertise in the research and identification of issues relevant to the study.

The Accomack County Project Manager will administer the daily activities of the program and will be responsible for coordinating the efforts of the most important participants in the process – you.

GRAPHIC / PHOTO

For More Information

Please visit the Accomack County JLUS Project website for information on the progress of the study:

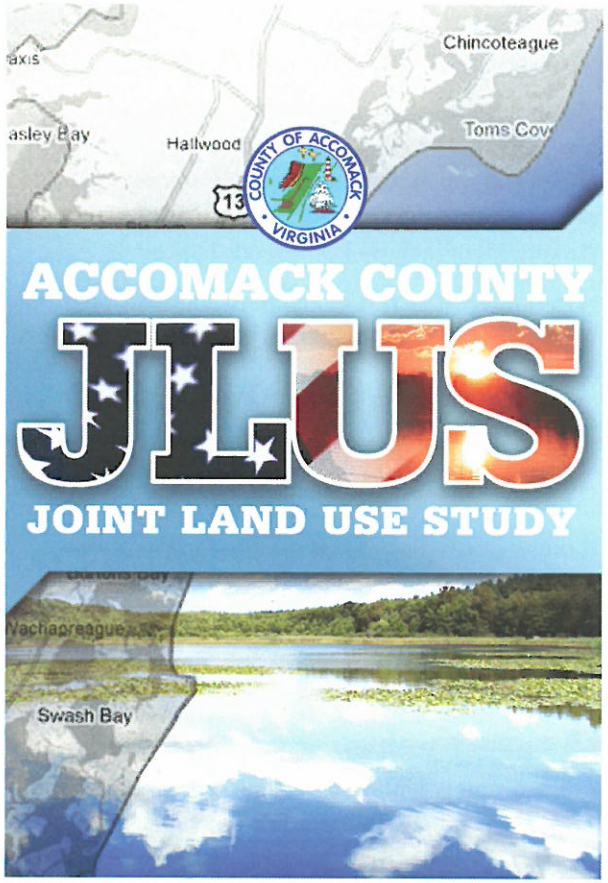
www.accomackcojlus.com

Address questions and comments to:

JLUS Project Manager

Accomack County JLUS
P.O. Box 686
Accomack, Virginia 23301

Email: jgiangrant@co.accomack.va.us
Telephone: (757) 787-5726



What is a JLUS?

Military operations may result in noise and other safety issues for the community, while civilian development near a military installation may harm the ability of the military installation to perform its mission.

A Joint Land Use Study (JLUS) is a project that brings local government officials, military officials and the community together in a collaborative effort to discuss current and future land uses to determine development patterns that are mutually beneficial to the military installation, the county and towns, and the citizens. Their findings, results, and recommendations are produced in a JLUS Report.

How can I be involved?

Throughout the process the committee teams will be identifying as many individuals, groups and organizations that have particular interests in the planning and outcomes of the study. Potential stakeholders include but are not limited to:

- County officials & DoD / military officials
- Local, regional & state agency personnel
- Public landowners & special interest groups
- Community business owners and developers
- Neighborhood associations and private land owners

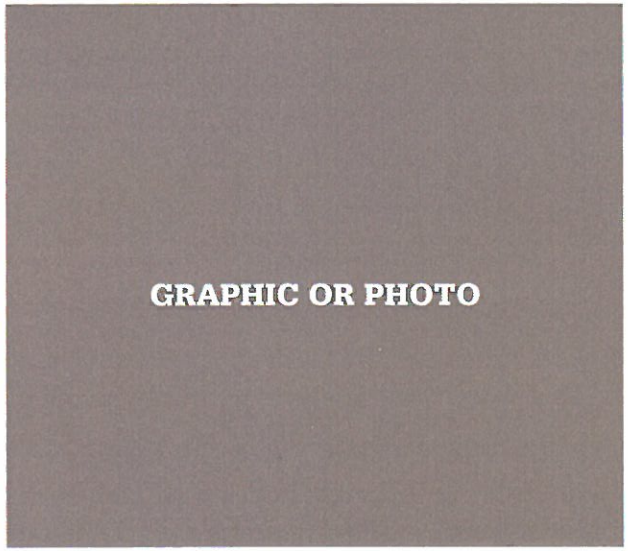
It is the desire to have as many of these stakeholders participate in the process as possible. Therefore multiple opportunities are being created to allow you to participate in and contribute to the JLUS.

1 Public Meetings:

You can attend any of three public meetings that will be held at various stages of the project. These public hearings will be your opportunity to review and comment on the latest project findings and developments, and will help you stay informed of future activities.

2 JLUS Website

A website will be established to provide updates on the project, meeting schedules, announcements and contact information. The site will also provide the most recent and relevant information gathered as well as progress on the actual report itself. In addition to information available on the site, you will be able to directly submit your input and opinions on the study and its components through the comments section on the site.



3 Findings and Recommendations Brochure

In addition to this introductory brochure, another means to keep you informed is a findings and recommendations brochure that will be made available to the public when the Draft JLUS Report is completed and ready for review. It will present a brief summary of the findings and strategies presented in the draft JLUS Report. Copies will be made available to the public soon enough to allow time for your to review the information and be ready for comments and questions at the final Public Information Meeting.

For more information visit:

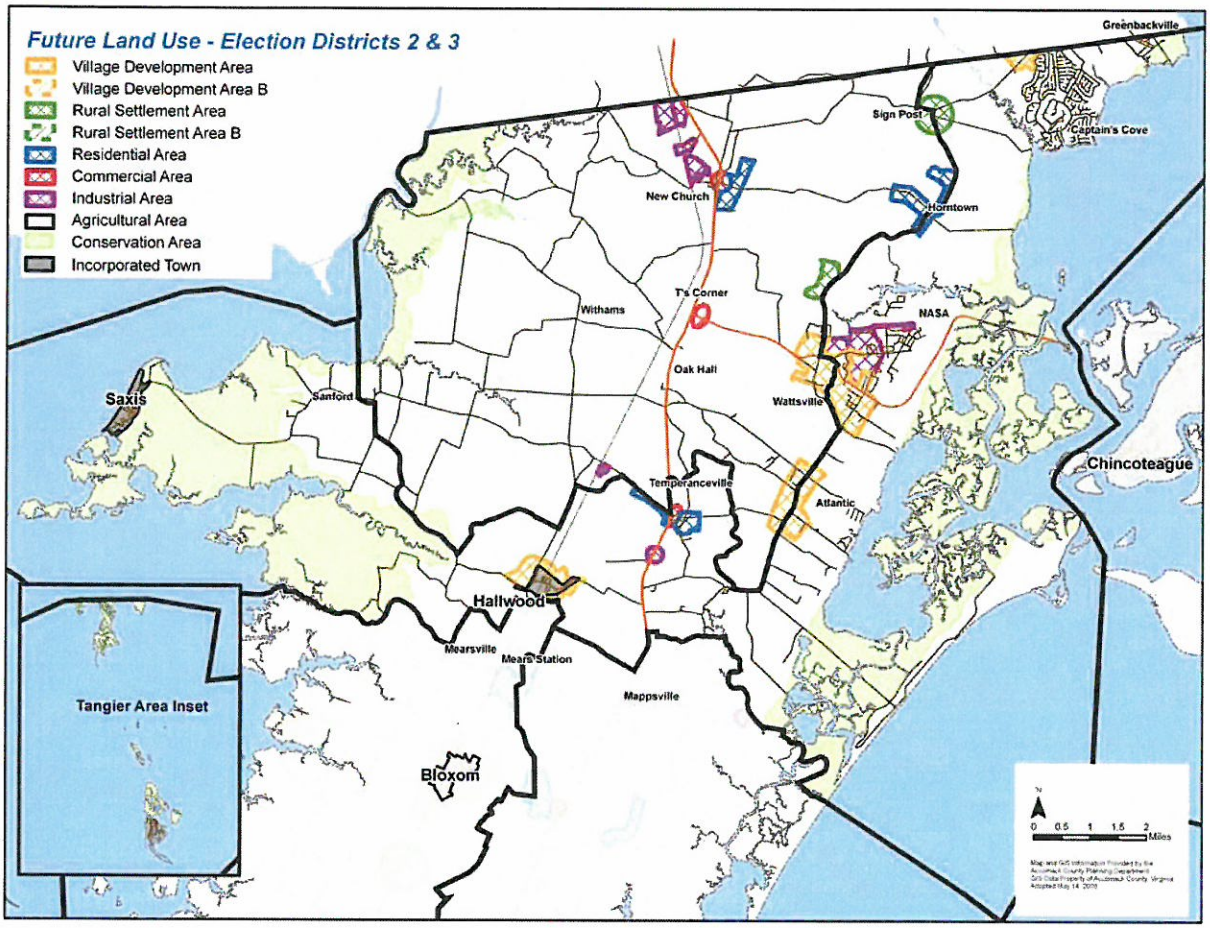
www.accomackcojlus.com

How and When will the JLUS be completed:

As mentioned, the development process will be administered by the JLUS Project Manager with direction, research and strategy options coming from the various committees. The study is separated into two distinct Phases: **1. Information Gathering** and **2. Plan Development.**

Phase 1 of the JLUS is now underway and will involve research, investigation and information gathering. The project teams will review current County and town policies, plans and studies as well as plans and programs relevant to Navy and other federal agency operations and requirements. The information gathered will then be used to identify opportunities and areas of concern to be addressed in the second phase. Research and information updating will continue throughout the entire JLUS process, but as the project enters its second phase (Sept, 2013), emphasis on data gathering will shift to refinement and updating of the existing information.

Phase 2 will begin in September, 2013 and will focus on crafting the plan. Through thorough analysis of the data and information obtained in Phase 1, the teams and committees will begin drafting compatibility plans, recommendations and policies to be considered for inclusion in the JLUS. These findings and recommendations will be made available for public comment at a public open house planned to be held near the first of November, 2013. After incorporating comments from the citizenry, the findings and recommendations will be formulated into a draft JLUS that will also be made available for public comment. Following reviews from the JLUS committees and the public, the draft report will be finalized for acceptance by the participants. It is anticipated that the entire process will take approximately one year and will be concluded by mid-March, 2014.


Future Land Use - Election Districts 2 & 3
Village Development Area
Village Development Area B
Rural Settlement Area
Rural Settlement Area B
Residential Area
Commercial Area
Industrial Area
Agricultural Area
Conservation Area
Incorporated Town
Greenbackville
Captain's Cove
Sign Post
New Church
Hornstown
Withams
T's Corner
NASA
Oak Hall
Wattsville
Saxis
Sanford
Chincoteague
Temperanceville
Atlantic
Hallwood
Mearsville
Mears Station
Mappsville
Tangier Area Inset
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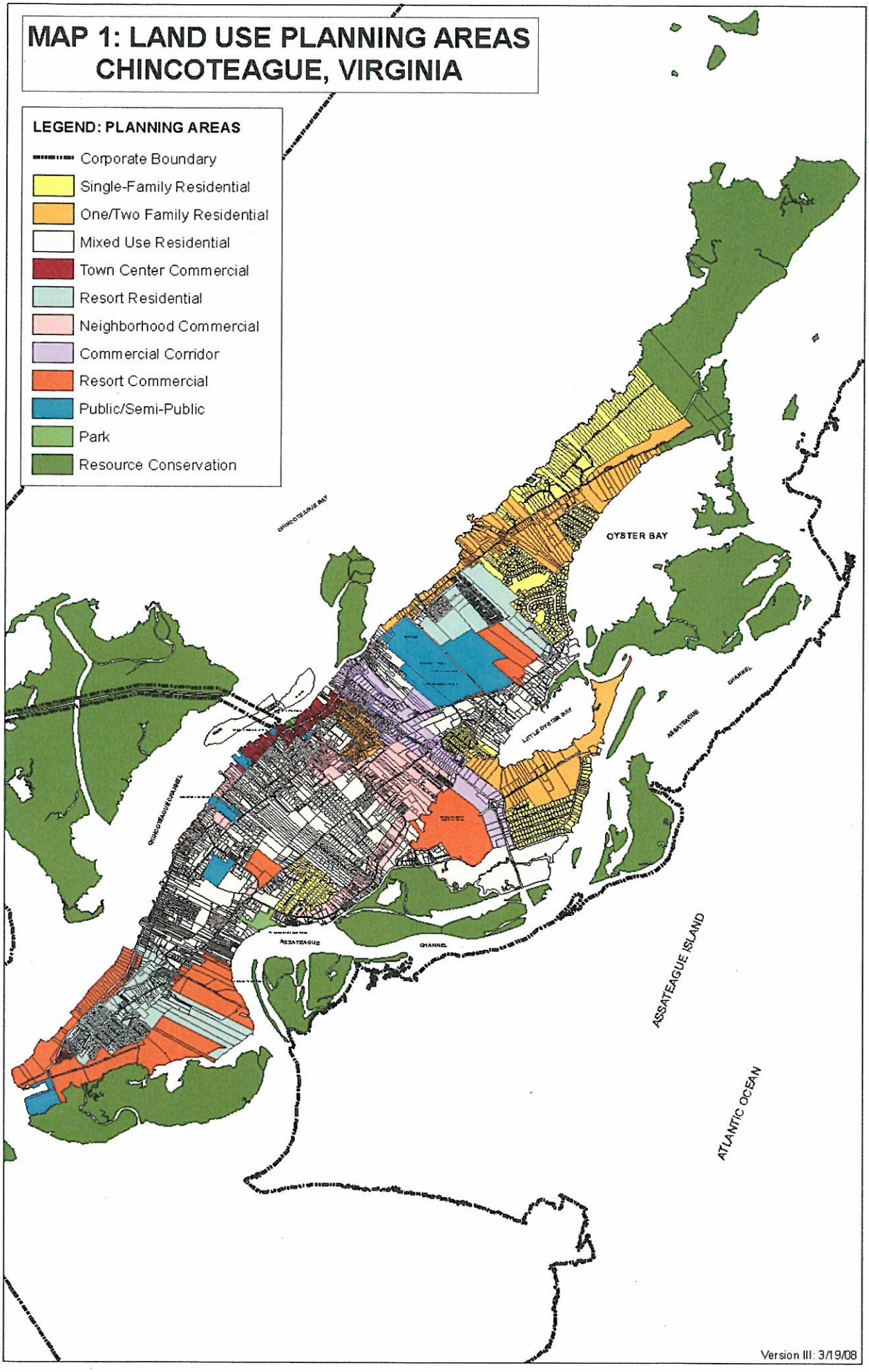
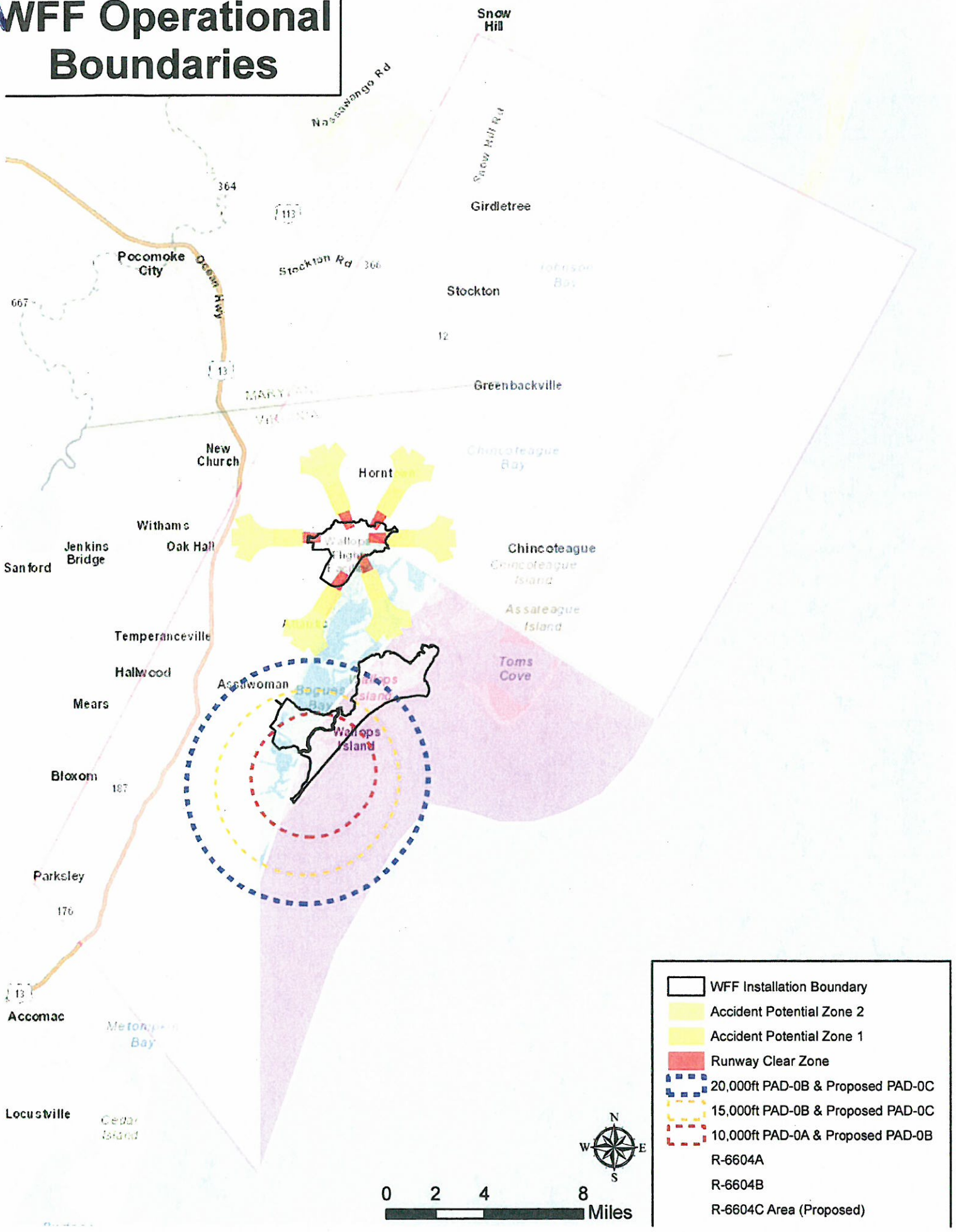
MAP 1: LAND USE PLANNING AREAS
CHINCOTEAGUE, VIRGINIA

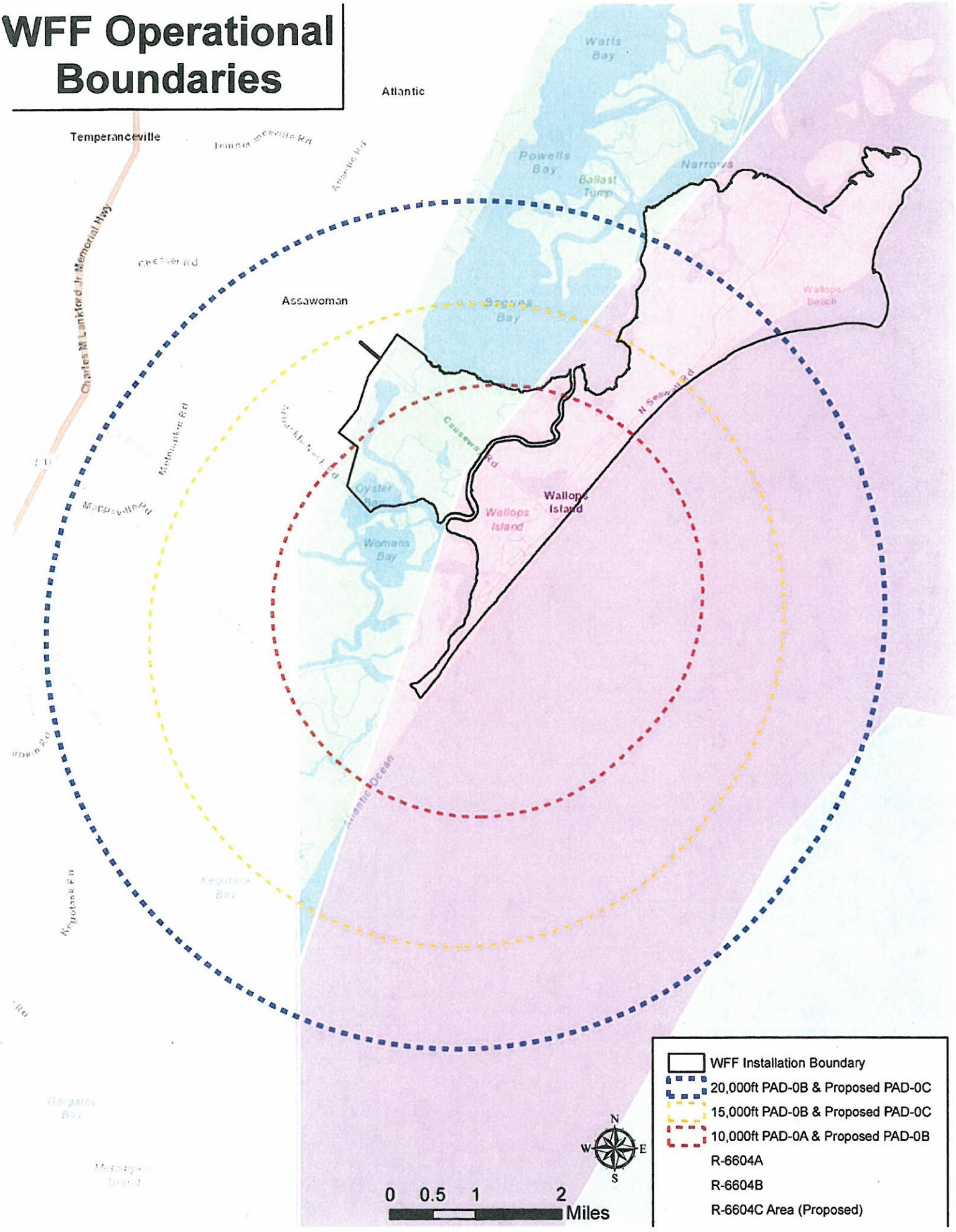


Version III: 3/19/08

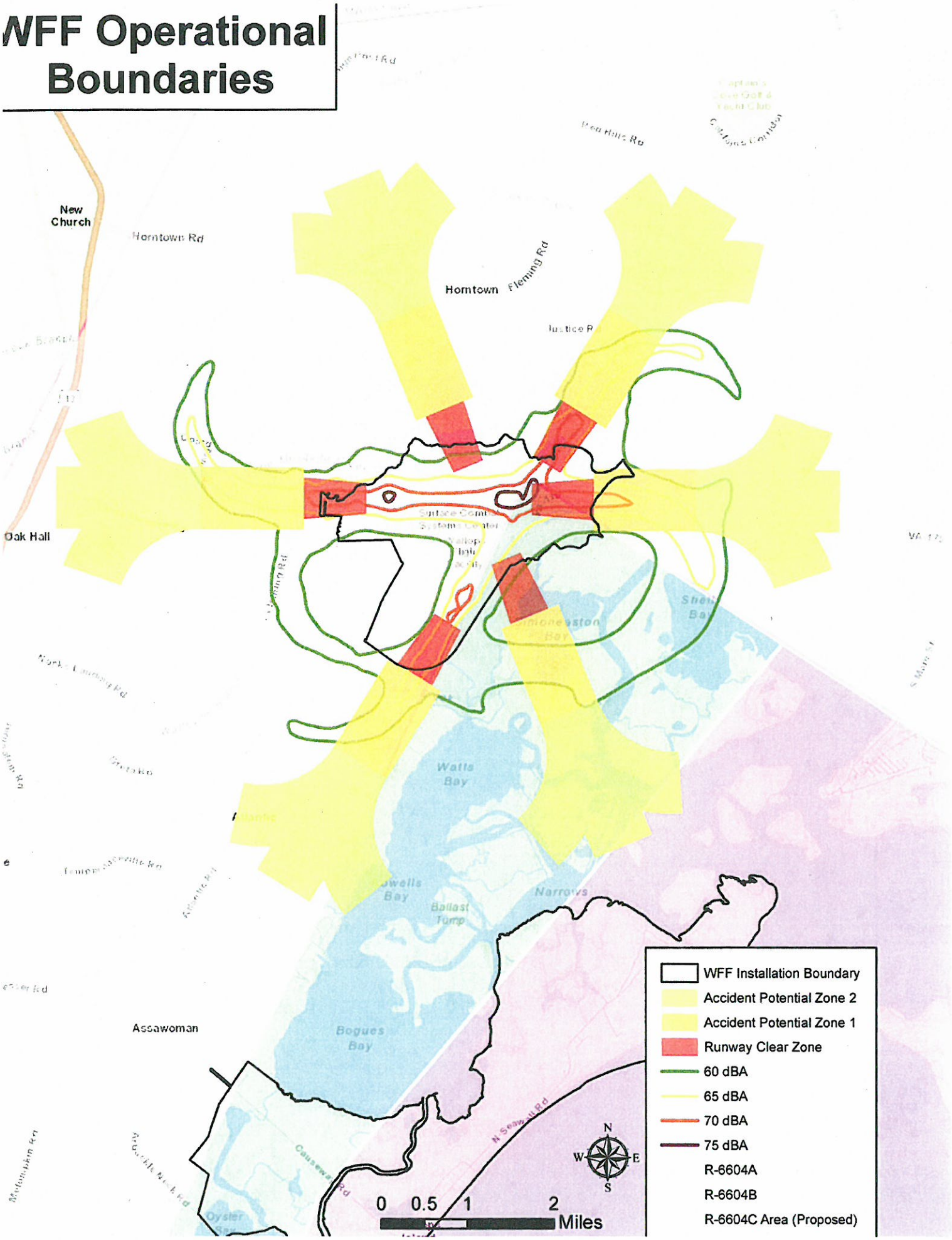
WFF Operational Boundaries



WFF Operational Boundaries



WFF Operational Boundaries



Accomack County Joint Land Use Study (JLUS)
Technical Advisory Committee (TAC) Meeting #2 Summary

6 June 2013

Attachments: A – Attendees Sign-in Sheet

B – Meeting Agenda and Packet of Materials

The second Technical Advisory Committee (TAC) meeting was held on 6 June 2013 at 9:30 AM at the Lockheed Martin Building located at 33531 Chincoteague Road, Wallops Island, VA. The meeting was conducted according to the attached Kick-Off Meeting Agenda. The following materials were distributed to attendees as part of the meeting packet (Attachment B): Agenda; Current Data Library; Installation Mapping Data Booklet; and Accomack County Mapping Data Booklet.

Welcome and Task 1 Overview:

Attendees were welcomed and provided with agenda packets. A brief review of project status and Task 1 data was provided by the Clark Nexsen PM.

Task 2 Inventory and Mapping:

The Clark Nexsen PM identified current project data, documents and stakeholder interview matters as listed in the Agenda. A discussion point was raised by NAVFAC MIDLANT regarding the data layer on the map identified as "Potential Accident Zones"; it was recommended that the legend should identify the data layer as "NASA Potential Accident Zones". The committee discussed the origin of the NASA PAZ's; NASA will work to locate documentation regarding the development of the PAZ's. The committee also proposed that a formal ACUIZ be considered as a potential JLUS Report recommendation.

Public Open House:

The first Public Open House was discussed, specifically presentation materials to be developed, room layout concepts, and TAC participation and responsibilities.

TAC members generated discussion regarding operational data that should be presented at the meeting. It is important that the meeting storyboards provide new information since some operational data is currently available on the Accomack County website. The first public meeting will not include operational data to be released by NASA's Master Plan Update and PEIS process.

SCSC and NASA indicated a willingness to provide presentations at the public open house (station, booth, or video clips). The contractor team will provide answers to general questions raised by open house attendees while SCSC and NASA representatives will be available for fielding operationally-specific

questions. TAC members indicated that what the public sees is a Wallops military installation, not separate Navy and NASA operations. TAC members also indicated it would be helpful to have a Fleet Forces Command representative to address aircraft 'approach-ways' questions that might arise.

U.S. Fish and Wildlife representatives indicated the need to know about NAS Patuxent River aircraft operations at Wallops Island, although the most recent information on bird migration paths is not yet available for a helpful discussion of impact on aircraft operations.

A couple of TAC members expressed that the JLUS website is accessible but only partially functional when they attempted to review it. This will be investigated by Clark Nexsen.

Action Items:

1) SCSC to schedule tour of Wallops Island facilities for interested TAC members.
2) SCSC to ensure press release and website are given a timely review and approval by the SCSC Public Affairs Office.
3) Contractor to provide electronic representation of the storyboards for the public open house to the Accomack County PM by COB 12 June 2013. PM concern is to ensure PSC Committee members are provided with this material a week ahead of the scheduled 20 June 2013 PSC meeting. The materials are to be in final review form for presentation and approval at that meeting.
4) SCSC and NASA to provide publicly releasable information, photos and other graphics to the contractor with timeliness to enable contractor to prepare depictions of their mission and operations on public open house story boards and complete this work by the due date.

Meeting summary notes compiled and prepared by:

CLARK • NEXSEN
Architecture & Engineering

ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY

Technical Advisory Committee Meeting

June 6, 2013

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
Josh Bundick	Lead, Environmental Planning	NASA Wallops Flight Facility	757-824-2319	757-824-1819	Josh.Bundick@nasa.gov	34200 Fulton St. Wallops Island, VA 23337
Kevin Holcomb	Supervisory Wildlife Biologist	U.S. Fish & Wildlife Service Chincoteague VA	757-336-6122 Ext. 319	757-336-5273	Kevin_Holcombe@fws.gov	P.O. Box 62 Chincoteague, VA 23336
Henry Schoenborn	Special Program Manager	SCSC	757-824-6801		henry.schoenborn@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
Rich Morrison	Director, Planning	Accomack County	757 787-5726	757-789-3116	rmorrison@co.accomack.va.us	P.O. Box 686 Accomack, Virginia 23301
Dave Lumgair	Planning Commission	Accomack County	757-472-3849		drlumgair@verizon.net	P.O Box 7 Craddockville, VA 23341
Todd Winfield	Director of Management Operations	SCSC Wallops Navy				30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
Bill Neville	Director of Planning	Town of Chincoteague	757-336-6519	757-336-7905	wneville@chincoteague-va.gov	6150 Community Drive Chincoteague, VA 23336
Brian Ballard	Community Plans & Liaison Officer	NAVFAC JEB Little Creek Fort Story	757-462-8421		brian.p.ballard@navy.mil	
Debby Ryon	Facilities Engineer	SCSC Wallops Navy	757-824-2053		debra.ryon@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
Louis Hinds	Refuge Manager	U.S. Fish & Wildlife Service Chincoteague VA	757-336-6122 Ext. 328	757-336-5273	Louis_Hinds@fws.gov	P.O. Box 62 Chincoteague, VA 23336

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ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Technical Advisory Committee Meeting
June 6, 2013

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
John Giangrant	JLUS Project Manager	Accomack County	757-787-5726	757-789-3116	jgiangrant@co.accomack.va.us	P.O. Box 686 Accomack, Virginia 23301
Lee Smith	Senior Planner	Clark Nexsen	757-961-7967	757-455-5638	lsmith@clarknexsen.com	6160 Kempsville Circle, Suite 200A Norfolk, VA 23502
Cindy Shurling	Senior Environmental Planner	Ecology & Environment	757-456-5356 Ext. 5004	757-456-5356	cshurling@ene.com	348 Southport Circle, Suite 101, Virginia Beach, VA 23452
Jennifer Neyland	Land Use Planner	Ecology & Environment	757-456-5356 Ext. 5010	757-456-5356	jneyland@ene.com	348 Southport Circle, Suite 101, Virginia Beach, VA 23452
Ron Rice	Senior Planner	Clark Nexsen	757-961-7949	757-455-5638	rrice@clarknexsen.com	6160 Kempsville Circle, Suite 200A Norfolk, VA 23502

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Accomack County Joint Land Use Study (JLUS)
Policy Steering Committee (PSC) Meeting #2 Summary

20 June 2013

Attachments: A – Attendees Sign-in Sheet

The second Policy Steering Committee (PSC) meeting was held on 20 June 2013 at 2:00 PM at the Lockheed Martin Building located at 33531 Chincoteague Road, Wallops Island, VA. The meeting was conducted according to the Meeting Agenda. The following materials were distributed to attendees: Draft Public Open House Concept; preview copies of presentation materials and station take-away materials. Mock-up displays were made available in the meeting room to provide full-scale perspective.

Welcome

Welcome and opening remarks were provided by John Giangrant, Accomack County JLUS Project Manager (PM).

Public Open House Preview

The contractor PM walked the PSC through the presentation materials and displays for the upcoming public open house and invited viewing of the mock-up displays. As discussion ensued, the contractor PM emphasized that comments and revision requests must be received by COB Monday for timely changes to all affected display materials.

NASA expressed concern that the public not be confused between the JLUS initiative and the upcoming Programmatic Environmental Impact Statement (PEIS), for which public meetings are expected to be held beginning this fall. NASA will prepare a statement for incorporation on all presentation materials as a disclaimer, distinguishing the JLUS from the PEIS and clarifying that the JLUS is not a regulatory requirement. This disclaimer statement will be provided to the contractor by COB Monday. Additionally, NASA will provide a representative at the public meeting to field questions and speak to other DOD support operations.

Proposed revisions to the public meeting materials also included:

- NASA requested the purpose statement previously developed by the PSC is included on all public meeting materials specifically. The PSC purpose statement specifically addresses the Accomack County JLUS (rather than a generic JLUS) and addresses all operations (including non-Navy) that occur on the Wallops installation.
- Navy Surface Combat Systems Center (SCSC) will provide an updated operational graphic to the contractor COB Monday for inclusion on the public meeting materials.

- PSC members representing the county indicated the importance of clearly communicating that this is a county led and sponsored effort.
- Removal of the economic data from the presentation materials until further analysis has been conducted.
- PSC members requested the addition of descriptive details for any NOAA operations at the installation (including a photo if available) to the presentation materials.
- Requested the addition of DOD Air Force Operationally Responsive Space (ORS) Program to the installation operational display board.
- PSC members requested that clarifying language be added to all display materials stating that the outcome of the JLUS Report will only be recommendations, and the Accomack County Board of Supervisors will have no obligation to adopt any of them.

The Accomack County PM indicated that the county website is accessible from the JLUS website, but the JLUS website is not currently accessible from the county website. The county IT representative's phone number will be provided to the contractor for ensuring this accessibility is provided prior to the public open house.

Action Items:

- NASA to provide a recommended disclaimer statement to the contractor by COB Monday (24 June).
- SCSC to provide recommended display board changes to the contractor by COB Monday.
- Accomack County to provide IT contact information to the contractor by Monday.
- Accomack County to provide Beacon Economic Impact study to the contractor.
- Contractor Team to make all changes to the materials in a timely manner to ensure the presentation materials are ready for the public open house.

Meeting summary notes compiled and prepared by:

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Architecture & Engineering

ACCOMACK COUNTY, VIRGINIA
JOINT LAND USE STUDY
Policy Steering Committee Meeting – June 20, 2013

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
Ron Wolff	Accomack County Board of Supervisors	Accomack County	757-894-1209		Rswolff1@verizon.net	P.O. Box 41 Atlantic, VA 23303
Robert Ritter	Town Manager	Town of Chincoteague	757-336-6519	757-336-7905	rritter@chincoteague-va.gov	3165 Municipal Drive Chincoteague, VA 23336
John Tarr	Mayor	Town of Chincoteague				
Phil Hickman	Chair Planning Commission	Accomack County	757-894-1778	727-824-3595	hickspudl@yahoo.com	P.O. Box 310 Horntown, VA 23355
Michael Jump	Executive Director	SCSC Wallops Navy	757-824-1669	757-824-2043	michael.jump1@navy.mil	30 Battle Group Way Wallops Island, VA 23337
Caroline Massey	Assistant Director Management Operations	NASA Wallops	757-824-1959	757-824-1819	caroline.r.massey@nasa.gov	F-6 Wallops Island, VA 23356
Debby Ryon	Facilities Engineer	SCSC Wallops Navy	757-824-2053		debra.ryon@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
Wanda Thornton	Vice Chair, Board of Supervisors	Accomack County	757-894-1318	757-336-0543	wjt-shore@verizon.net	P.O. Box 8 Chincoteague, VA 23336
Rich Morrison	Director, Planning	Accomack County	757 787-5726	757-789-3116	rmorrison@co.accomack.va.us	P.O. Box 686 Accomac, Virginia 23301
John Giangrant	JLUS Project Manager	Accomack County	757-787-5726	757-789-3116	jgiangrant@co.accomack.va.us	P.O. Box 686 Accomac, Virginia 23301

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ACCOMACK COUNTY, VIRGINIA
JOINT LAND USE STUDY
Policy Steering Committee Meeting – June 20, 2013

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
Spyridon Papadopoulous	Planning Commission	Accomack County				
Henry Schoenborn	Special Program Manager	SCSC	757-824-6801		henry.schoenborn@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
Todd Winfield	Director of Management Operations	SCSC Wallops Navy				30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
Lee Smith	Senior Planner	Clark Nexsen	757-961-7967	757-455-5638	lsmith@clarknexsen.com	6160 Kempsville Circle, Suite 200A Norfolk, VA 23502
Cindy Shurling	Senior Environmental Planner	Ecology & Environment	757-456-5356 Ext. 5004	757-456-5356	cshurling@ene.com	348 Southport Circle, Suite 101, Virginia Beach, VA 23452
Jennifer Neyland	Land Use Planner	Ecology & Environment	757-456-5356 Ext. 5010	757-456-5356	jneyland@ene.com	348 Southport Circle, Suite 101, Virginia Beach, VA 23452
Ron Rice	Senior Planner	Clark Nexsen	757-961-7949	757-455-5638	rrice@clarknexsen.com	6160 Kempsville Circle, Suite 200A Norfolk, VA 23502

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Technical Advisory Committee (TAC) Meeting #2 Summary

5 September 2013

Attachments: A – Attendees Sign-in Sheet

B – Meeting Agenda and Packet of Materials

The third Technical Advisory Committee (TAC) meeting was held on 5 September 2013 at 9:30 AM at the Lockheed Martin Building located at 33531 Chincoteague Road, Wallops Island, VA. The meeting was conducted according to the attached Kick-Off Meeting Agenda.

Welcome and Overview:

Attendees were welcomed and provided with agenda packets. A brief review of project status was provided by the Clark Nexsen PM.

Potential Accident Zone Development

Monday (09 September) at 1000 NASA is to meet with experts from the Navy's Mission Compatibility Office to develop new Potential Accident Zones (PAZs) based on current and future operational data collected during the E-2/C-2 environmental assessment process. NASA will develop these data sets to reflect NASA-driven PAZs. The new PAZs need to depict the best operating picture in order to make land use decisions moving forward for development proposals as they arise. The purpose of new PAZs would be for incorporation into the County's comprehensive plan update, which is underway. The county supports the development of revised PAZs to best inform their future land use decisions. In particular, they would like to understand where compatible development can occur.

Feedback on the Preliminary Findings Report

It was stated that the analysis in the Draft JLUS should include a detailed look at future operations with projected technological growth, not just capture current operations. The NASA Programmatic Environmental Impact Statement (PEIS) will provide the best source of information related to planned, future missions for both NASA and the Navy. The project team will review the data provided in the 2013 PEIS and present a future operations analysis in the Draft JLUS report.

Interest was expressed in the political, economic and environmental links between Wallops Flight Facility (WFF) operators (NASA and Navy) and outside areas in Maryland or the offshore environment. How the operations connect to land use decisions and county planning efforts (i.e. permits, increased insurance fees, land use changes, etc.) should be evaluated. The project team stated, however, that issues across the state line in MD and out-of-states stakeholders are not currently being considered in

this analysis due to the nature of project funding and the documented project scope of work. Nevertheless, JLUS recommendations could include studying areas outside of Accomack County, such as Maryland, due to its proximity to the WFF and influence of potential issues across state lines.

It was recommended that the maps showing the study area need to include current operations as well as "unusual" or "worst case" operating scenarios. The Draft report needs to clearly identify which operations are standard and corresponding mapping analysis and recommendations for those and then the mapping analysis and recommendations for "worst case" scenarios.

Natural gas could be arriving in Accomack in the near future. The question was raised regarding potential impact on WFF missions. The gas lines would run down Route 13.

The Nature Conservancy (TNC) would like to focus development efforts where they are already occurring and keep undeveloped barrier islands in their natural state. TNC and the US Fish and Wildlife Service (USFWS) will provide comments on expanding the natural resource discussion in the Draft JLUS report and incorporating these considerations into the larger analysis. There are two National Wildlife Refuges adjacent to WFF that will require an expanded JLUS discussion and an increase in the significance of the natural resources discussion.

SCSC provided additional external stakeholders for consideration.

The meeting adjourned at approximately 1100AM.

Meeting summary notes compiled and prepared by:

CLARK • NEXSEN
Architecture & Engineering

ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Technical Advisory Committee Meeting
September 5, 2013

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
Josh Bundick	Lead, Environmental Planning	NASA Wallops Flight Facility	757-824-2319	757-824-1819	Josh.Bundick@nasa.gov	34200 Fulton St. Wallops Island, VA 23337
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Henry Schoenborn	Special Program Manager	SCSC	757-824-6801		henry.schoenborn@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
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Todd Winfield	Director of Management Operations	SCSC Wallops Navy				30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
Bill Neville	Director of Planning	Town of Chincoteague	757-336-6519	757-336-7905	wneville@chincoteague-va.gov	6150 Community Drive Chincoteague, VA 23336
Brian Ballard	Community Plans & Liaison Officer	NAVFAC JEB Little Creek Fort Story	757-462-8421		brian.p.ballard@navy.mil	
Debby Ryon	Facilities Engineer	SCSC Wallops Navy	757-824-2053		debra.ryon@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
Steve Parker	Director	The Nature Conservancy	757-442-3049	757-442-5418	sparker@tnc.org	Box 158 Nassawadox, VA 23413

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ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Technical Advisory Committee Meeting
September 5, 2013

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Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
George Parker	Vice Chair Planning Commission	Accomack County	757-787-1162		grparker@esva.net	P.O. Box 638 Onley, VA 23418
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CAPT Daniel Schebler	Military Liaison - USN	Office of Economic Adjustment	(703) 697-2151		daniel.schebler@wso.whs.mil	2231 Crystal Drive, Suite 520 Arlington, VA 22202
Amber Levofsky	Project Manager	Office of Economic Adjustment	(703) 697-2096	703-607-0170	Amber.Levofsky@wso.whs.mil	2231 Crystal Drive, Suite 520 Arlington, VA 22202
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Cindy Shurling	Senior Environmental Planner	Ecology & Environment	757-456-5356 Ext. 5004	757-456-5356	cshurling@ene.com	348 Southport Circle, Suite 101, Virginia Beach, VA 23452
Jennifer Neyland	Land Use Planner	Ecology & Environment	757-456-5356 Ext. 5010	757-456-5356	jneyland@ene.com	348 Southport Circle, Suite 101, Virginia Beach, VA 23452
Ron Rice	Senior Planner	Clark Nexsen	757-961-7949	757-455-5638	rrice@clarknexsen.com	6160 Kempsville Circle, Suite 200A Norfolk, VA 23502

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Technical Advisory Committee (TAC) Meeting #4 Summary

7 November 2013

Attachments: A – Attendees Sign-in Sheet

B – Meeting Agenda

C – Project Update and SCSC Presentation Slides

D – NASA Presentation Slides

E – Blank Compatibility Matrix

The fourth Technical Advisory Committee (TAC) meeting was held on 7 November 2013 at 9:30 AM at the Lockheed Martin Building located at 33531 Chincoteague Road, Wallops Island, VA. The meeting was conducted according to the attached Kick-Off Meeting Agenda.

Welcome and Overview:

Attendees were welcomed and provided with agenda packets. A brief review of project status was provided by the Accomack County JLUS PM.

Project Update

Cynthia Shurling, representing the contractor project team, presented the meeting agenda, meeting objectives, project phases, status and next steps. This was followed by a brief discussion of schedule and expectations and WFF mission operations presentations made by both SCSC and NASA, with ensuing discussions. Project Update and SCSC Presentation Slides are provided as Attachment C.

SCSC Wallops Island Mission and Operations

Todd Winfield made a presentation on the SCSC mission and operations.

- Expect slow steady growth over the next several years.
- SCSC mission activities often make SCSC appear to be a Naval Support Activity with its many support activities to the community.
- In its system acquisition role, SCSC has more customers currently in the engineering development phase – moving further back in the overall weapon system acquisition process.
- Joint work with non-DOD in such areas as missile defense systems is occurring and impacts on future growth and can be expected to continue.
- Expect expansion of frequency bands for operations.

- Technology development support is growing and is occurring earlier in the acquisition process than previously experienced.
- SCSC Wallops is located in a strategic maritime environment to provide its expertise in hardware, software, fleet operations support (troubleshooting) and crew training.
- A specific issue was raised by George Parker regarding the issue of a catastrophic plan for relocating facilities on the island if necessary with severe weather. Josh indicated there is currently no specific plan, but NASA is giving some consideration to risks and potential relocations in such an event. George raised the question: Is our area of influence taking this kind of potential impact into consideration? He believes we need to address this matter in the JLUS Report since the installation's operations are critical to the economic engine of the county. The issue will be referenced as a placeholder for recommendation of another study.
- Future operations: Expect the addition of a railgun, new standard missiles being launched and radar connecting with drones.
- The issue of future use of the airfield for jets (not just E-2/C-2 touch-and-go operations) was raised and discussed in the context of a discussion of economic development potential. The suggestion was made that this issue could be briefly discussed in the JLUS Report as a recommendation of "inviting" potential expanded use of the installation by changing land use zoning policy. This would get the issue before the community for discussing its interest in such an initiative.

NASA Wallops Island Mission and Operations

Josh Bundick made a presentation on the NASA WFF mission and operations. A copy of the presentation slides are provided as Attachment D.

- NASA WFF is the only NASA-controlled launch range. It currently employs approximately 1,100 full-time NASA civil service employees and 500-600 contractor employees.
- Regarding future operations, WFF will facilitate the emerging commercial space industry, support larger and more frequent rocket launches, accommodate additional aircraft based there with increased airport activity and growth in earth science activities.
- Expected future initiatives for WFF: Establish Pad 0-C and associated support facilities; expand restricted airspace (R-6604); replace causeway bridge and perform maintenance dredging between visitor center and WFF boat basins.
- Josh then explained the buffer zones for launches, including protection from debris (non-essential personnel and vehicles must be removed) for the 10,000-foot hazard zone. Controlled roadblocks are typically required. The 20,000-foot hazard zone has to do with toxic gases for launch day specific risks and could require residents within the zone to stay in their houses, or perhaps, even leave the premises for the event. A risk analysis is conducted for every launch, including people, houses and window counts.

Compatibility Methodology Introduction

Jennifer Neyland, representing the contractor project team, followed up the mission operations presentations by introducing the subject matter for the next major work for the JLUS project – compatibility analysis, leading to recommendations.

- The compatibility matrix was presented and explained. It reflects a summary of the impacts and potential impacts of both WFF Installation operations on the Accomack County and County activity and development impacts on the WFF Installation missions. The analysis results presented in the matrix would serve as a basis for formulating recommendations.
- All WFF Installation missions are compared to various compatibility factors for impacts. These compatibility factors were primarily derived from Office of Economic Advancement (OEA) guidance and the example of previously performed JLUS initiatives. The categories of compatibility factors are defined/explained in the presentation slides.
- The Clark Nexsen/Economy & Environment project team requested input from the TAC regarding (1) the list of compatibility factors as well as (2) completing the matrix scoring of compatibility impacts. TAC members were provided a copy of the matrix with blank cells for entering their recommended scores (Attachment E). The example matrix with CN/E&E suggested scores was included in the presentation materials.
- One initial recommendation was made to add extreme weather as a compatibility factor. Also the recommendation was made for other TAC members to provide a brief of their areas of expertise (e.g., The Nature Conservancy, Accomack County Planning and the Town of Chincoteague) in order to better understand the issues involved in the compatibility matrix before finalizing the results.

Next Steps

The Accomack County JLUS PM indicated that this next follow-up TAC meeting must be scheduled very soon to finalize compatibility factors and hear the further presentations. The CN/E&E team will schedule the meeting using a google poll to determine the best date/time for the TAC members. The CN/E&E project team is also to draft a technical memo for the TAC to provide to the PSC to re-engage that committee since it has been a considerable period of time since the last PSC involvement.

The meeting adjourned at approximately 12:45 PM.

Meeting summary notes compiled and prepared by:

CLARK • NEXSEN
Architecture & Engineering

ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Technical Advisory Committee Meeting
November 7, 2013

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
Josh Bundick	Lead, Environmental Planning	NASA Wallops Flight Facility	757-824-2319	757-824-1819	Josh.Bundick@nasa.gov	34200 Fulton St. Wallops Island, VA 23337
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Todd Winfield	Director of Management Operations	SCSC Wallops Navy				30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
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John Dickson		NASA			John.a.dickson@nasa.gov	
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Technical Advisory Committee Meeting
November 7, 2013

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Technical Advisory Committee (TAC) Agenda

Date; **7 November 2013**

Time: **9:30 A.M. to 12:00 P.M.**

Location: **Lockheed Martin Building**
8208 Sayler Drive
Wallops Island, VA

Meeting Objectives:

- Provide update on current project status
- Provide WFF mission data with TAC members
- Discuss and obtain understanding on WFF mission activities
- Validate mission data identified during stakeholder interviews
- Introduce compatibility matrix

---

1) **Project Update**
   - Process and Timeline
   - Data Collection, Review, and Stakeholder Engagement

2) **WFF mission and activity briefing**
   - SCSC command brief
   - WFF current and future mission overview

3) **WFF current and future mission activity data validation**
   - DOD
   - NASA

4) **Compatibility methodology introduction**
   - Impact matrix

5) **Next steps**
   - TAC to complete a preliminary compatibility assessment/impact ratings
   - Schedule additional TAC meeting to discuss and validate assessment/impact ratings
   - Pending TAC concurrence on compatibility assessment, develop a technical memo for the PSC to obtain consensus on analysis to date
   - Continue Draft JLUS report development for TAC submittal and review

6) TAC Q&A

Accomack County Joint Land Use Study

Technical Advisory Committee
7 November Meeting

DRAFT

Agenda

- Project Update
  - Process and Timeline
  - Data Collection, Review, and Stakeholder Engagement
- SCSC Command Brief
- WFF Mission and Activity Overview
  - Current and future mission activities
- Compatibility Methodology introduction
- Next Steps

DRAFT

Meeting Objectives

- Provide update on current project status
- Provide WFF mission data with TAC members
- Discuss and obtain understanding on WFF mission activities
- Validate mission data identified during stakeholder interviews
- Introduce compatibility matrix

DRAFT

Project Update Phase 1 - **Complete**

Task 1: JLUS Kickoff

April - May

- Kick-off meeting with Policy Steering Committee (PSC) and Technical Advisory Committee (TAC)
- Establish a project website for the county, to be hosted for the life of the project
- Develop public participation brochure and website materials

Task 2: Data Gathering/ Mapping

May – July

- Review current in-house data
- Conduct data collection interviews with TAC members
- Validate existing data
- Collect new/additional data from stakeholders
- Collect relevant GIS data layers
- Facilitate first public open house

Task 3: Data Analysis

July – November

- Review data collected
- Conduct additional stakeholder interviews as needed
- Identify specific areas of impact for military operations
- Develop individual mapping products illustrating relevant constraints and impact areas for TAC review

DRAFT

Project Update Phase 2 - Underway

Task 4: Recommendations

Winter 2013

- Develop individual mapping products illustrating future land uses and compatibility assessment
- Identify measures to encourage land use compatibility
- Prepare recommendations within the context of County and DOD responsibilities

Task 5: Draft JLUS Report

Winter 2013

- Assemble mapping and analysis for compilation in the Draft report
- Pending TAC/PSC approval, present the Draft JLUS report, findings, and recommendations at a public open house
- Solicit and review all public comments on the draft report

Task 6: Final JLUS Plan

Winter/Spring 2014

- Incorporate public comments into the draft report and provide an updated Final JLUS report for TAC and PSC approval
- Provide the final report at a public open house meeting
- Present key findings and recommendations, executive summary, to primary stakeholders (e.g. board of supervisors, DOD leadership)

DRAFT

NAVSEA
WALLOPS ISLAND
Surface Combat Systems Center

SCSC Capabilities
Todd Winfield
Director of Corporate Operations

Approved for Statement A - Public Release

SCSC Mission and Vision

MISSION

Provide live and simulated integrated warfare capabilities in a net-centric, maritime environment to develop, test, evaluate, and conduct Fleet operations and training for the warfighter.

VISION

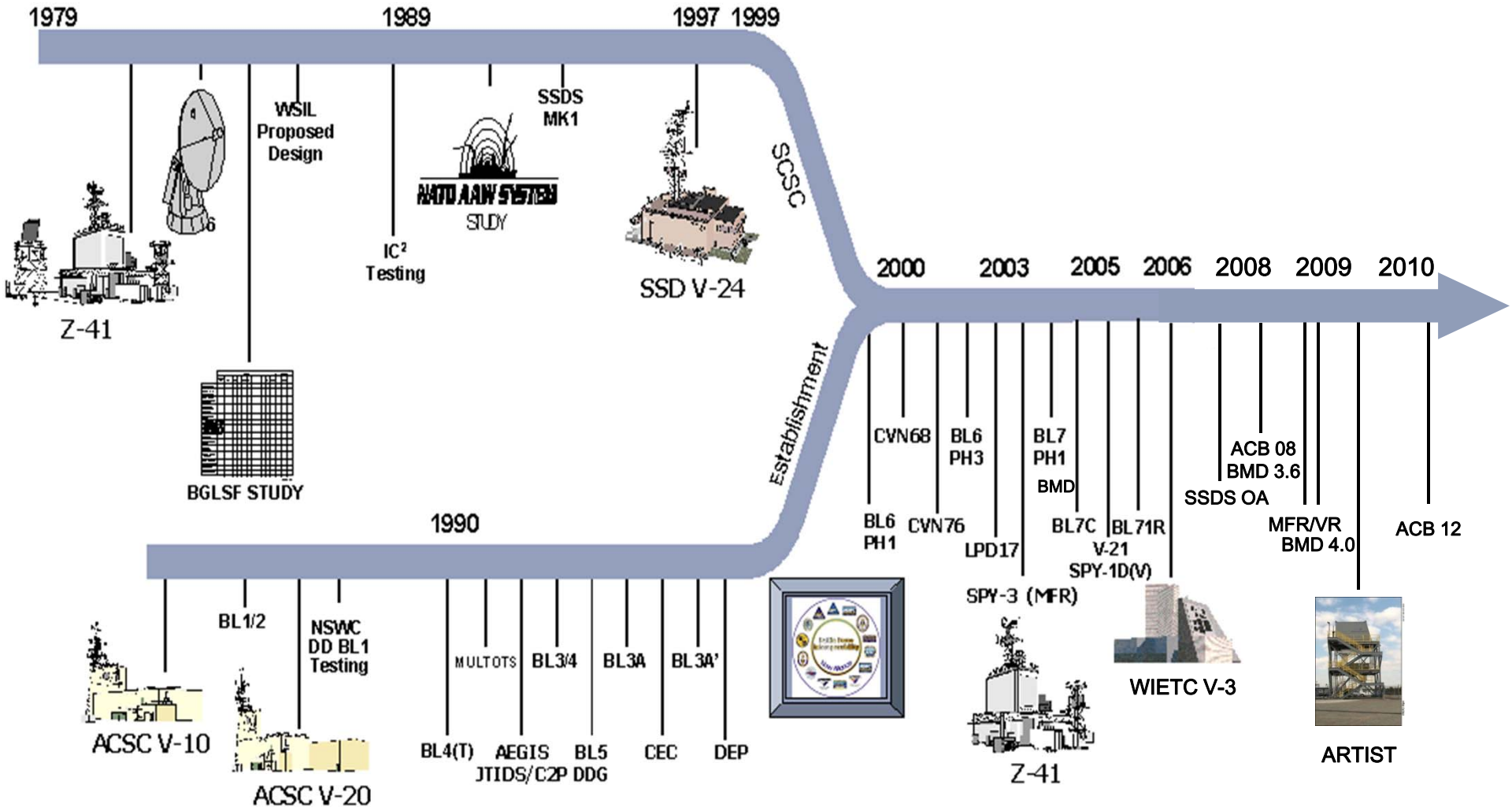
To be recognized as an Integrated Warfare Systems Center of Excellence – Trusted Service for the Fleet.

How we got here - Organizational History

- **1959 Navy turns Chincoteague Naval Air Station over to NASA**
  - Congress rejected Navy request for $770K in upgrades
- **1979 Navy (Dahlgren Detachment) returns to Wallops Island, Bldg Z41**
- **1982 Congressional direction to locate the Aegis Combat Systems Center (ACSC) at Wallops Island, VA**
  - Serve as center for Aegis combat systems engineering
  - Provide training for Aegis crews, including personnel support facilities
- **ACSC established in 1987**
  - Assigned organizational code PMS 400X
- **SCSC established in 2000**
  - Expansion of mission to include support to Ship Self Defense System (SSDS)
  - NAVSEA field activity under management to Program Executive Office for Theater Surface Combatants (PEO TSC)
- **Management of SCSC shift in 2004**
  - Transfer of management from PEO Ships to PEO Integrated Warfare Systems (PEO IWS)
- **Base Operations shift in 2006**
  - From NAVSEA to Commander, Naval Region Mid-Atlantic (CNRMA)

NAVSEA
WALLOPS ISLAND
Surface Combat Systems Center

SCSC Evolution/Current Capabilities



SCSC Wallops Command Relationships

Surface Combat Systems Center

NAVSEA Field Activity managed by Program Executive Officer, Integrated Warfare Systems (General Fund)

Mission

- Program Executive Officer, Integrated Warfare Systems
  - Test Requirements
  - Budget Execution
  - Personnel
  - Training Support
- NAVSEA
  - Inspector General Compliance
  - Ethics/Equal Employment Opportunity

A Tenant of NASA Wallops Flight Facility

Host / Landowner

Most "base" functions

Shared "base ops" management

Naval Support Activity Wallops Island

Provides installation management under Commander Navy Installations Command, Commander Navy Region Mid-Atlantic, and Joint Expeditionary Base Little Creek-Fort Story

Mission Support

- Bachelor Housing
- Family Housing
- Navy Gateway Inns and Suites
- Morale, Welfare, and Recreation
- Base Support Services (Facilities and Utilities)

Surface Combat Systems Center Integrated Workforce

Military Members

- 77 Sailors

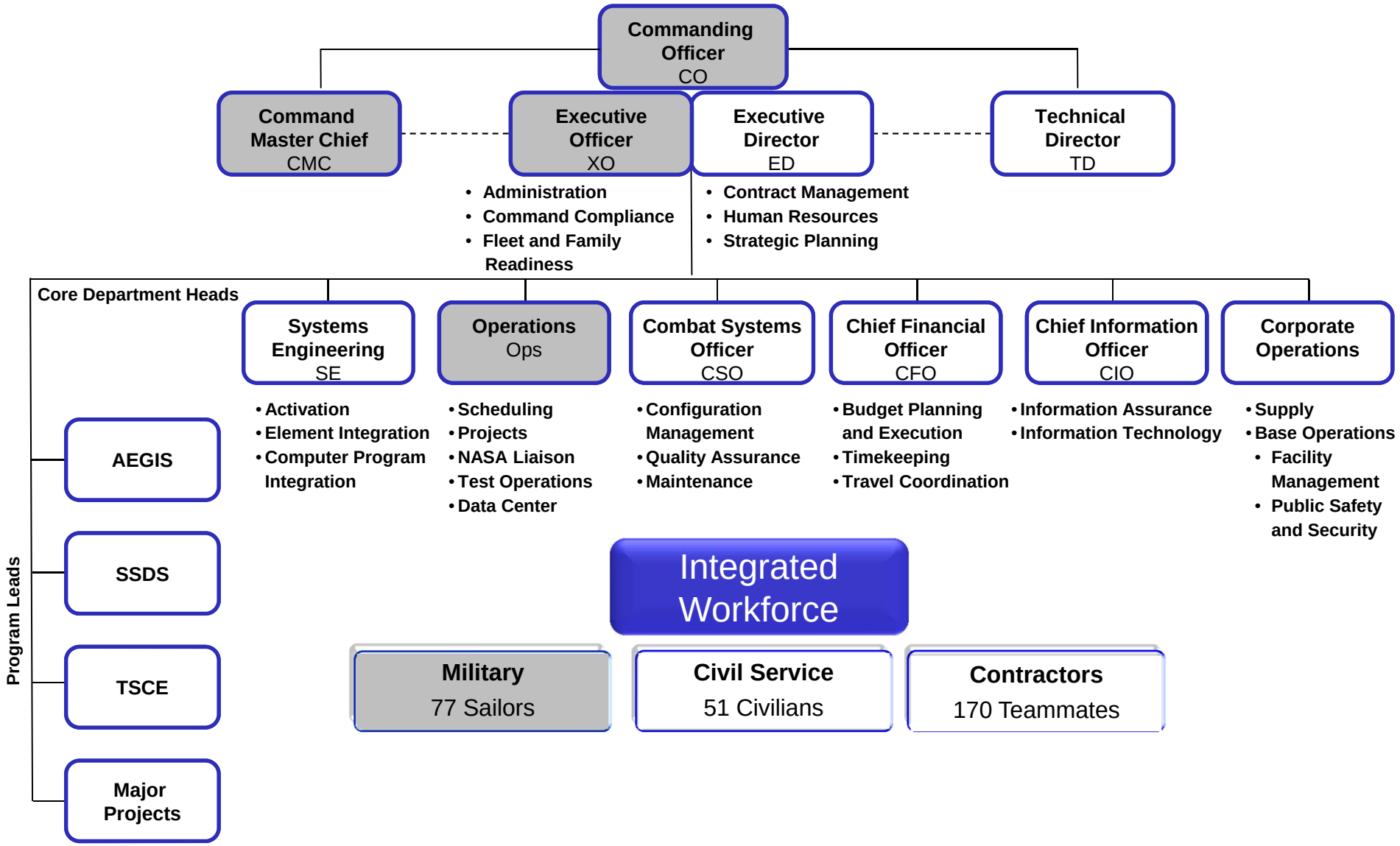
Civil Service

- 51 Civilians

Contractor

- 170 Teammates

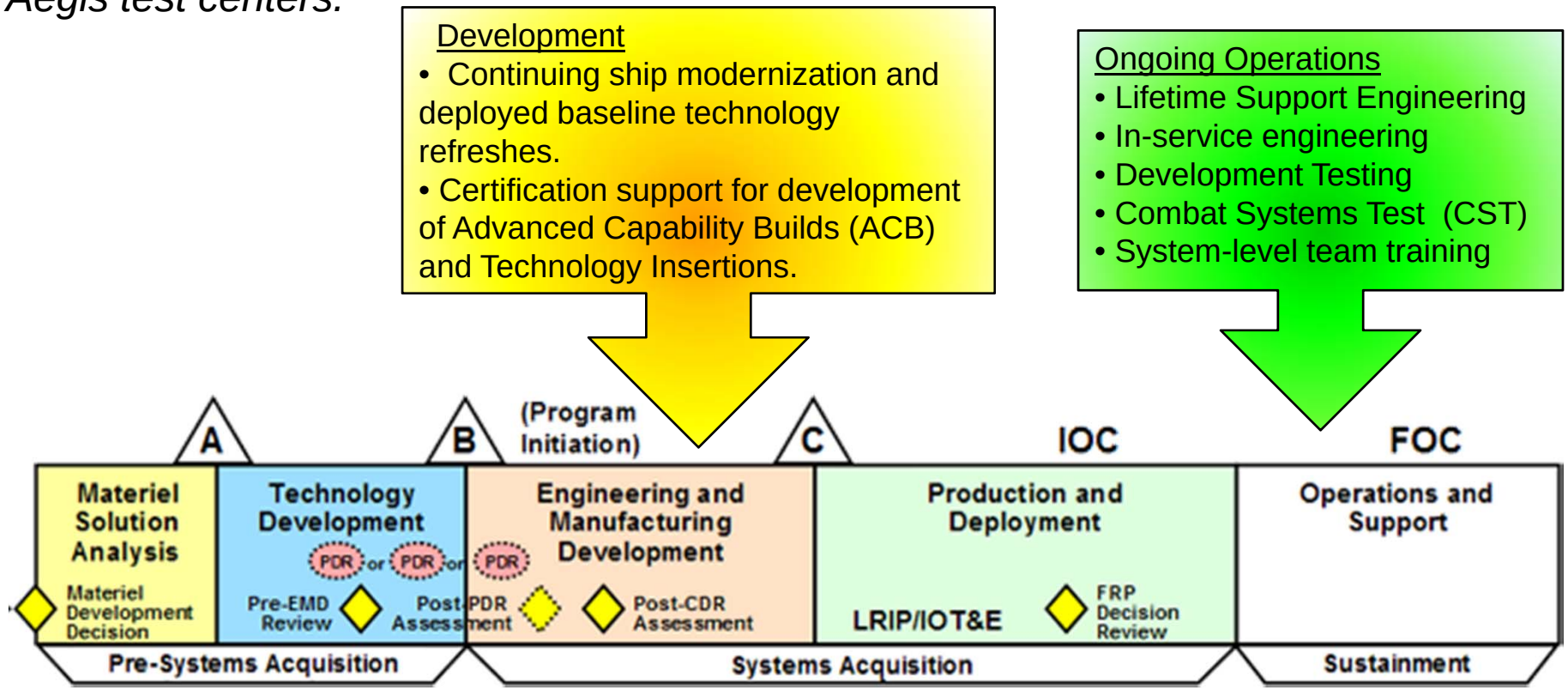
SCSC Functional Organization



Approved for Statement A - Public Release

SCSC's Role in System Acquisition

- *One of three Aegis system engineering evaluation, testing and training centers.*
- *Live antenna sensors and expanded radar coverage set Wallops apart from other Aegis test centers.*



The Defense Acquisition Management System is an event-based process. Acquisition programs proceed through a series of milestone reviews and other decision points.

SCSC - NAVSEA Field Activity (Echelon III)

AEGIS
- Lifetime Support Engineering
- In-Service Engineering
- Operational Training
- Engineering Initiatives

SSDS
- System Engineering and Development Testing
- Lifetime Support Engineering
- Combat Systems Test (CST)

DDG 1000 / CVN 78
- Dual Band Radar
  - Multi-Function Radar (MFR)
  - Volume Search Radar (VSR)

AEGIS Engineering and Training Complex

Technical Capabilities
- AEGIS baselines 3A-9(A/C/D/E), BMD 3.6-5.0
- 7 core suites (6 CICs and 4 computer rooms)
- 6 AAW ships supported simultaneously
- Live and simulated operations
- External connectivity (DEP, SDREN, NCTE, MDA CNet)

Ships Self Defense Facility

Technical Capabilities
- SSDS MK1 and MK2 systems
- 12 possible variants with 6 core suites
- Live and simulated operations
- External connectivity (DEP, SDREN, NCTE, MDA CNet)

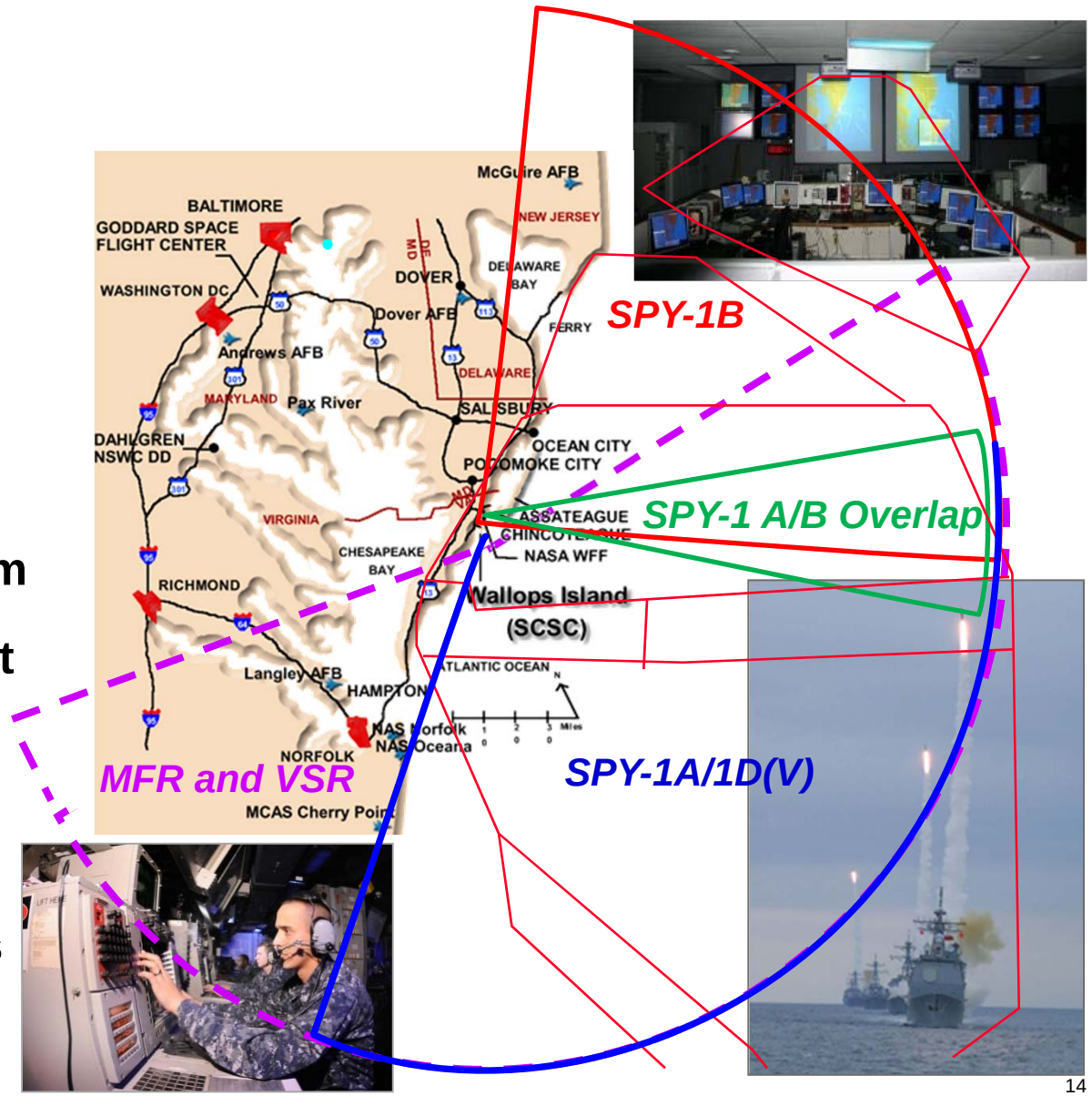
Wallops Island Engineering Test Center

Technical Capabilities
- Engineering development model Dual Band Radar (DBR)
- CVN 78 DBR and CVN 78 combat system testing
- SDTS DTE
- DDG 1000 Total Ship Computing Environment (TSCE)
- VLS Simulation

Operational Capabilities
- Navy/contractor team supports 2 shift/5 days a week operations and support for weekends and surge requirements as needed

SCSC T&E Capabilities

- **Strategically located in a maritime environment**
- **Maintain live, shipboard representative combat systems, tactical links, and sensors for the T&E and training community**
- **Operate within a joint integrated combat system test infrastructure, to include operational afloat and air units**
- **Provide command and control, and range safety for live operations within the Virginia Capes Operational Area**



Why Wallops Island

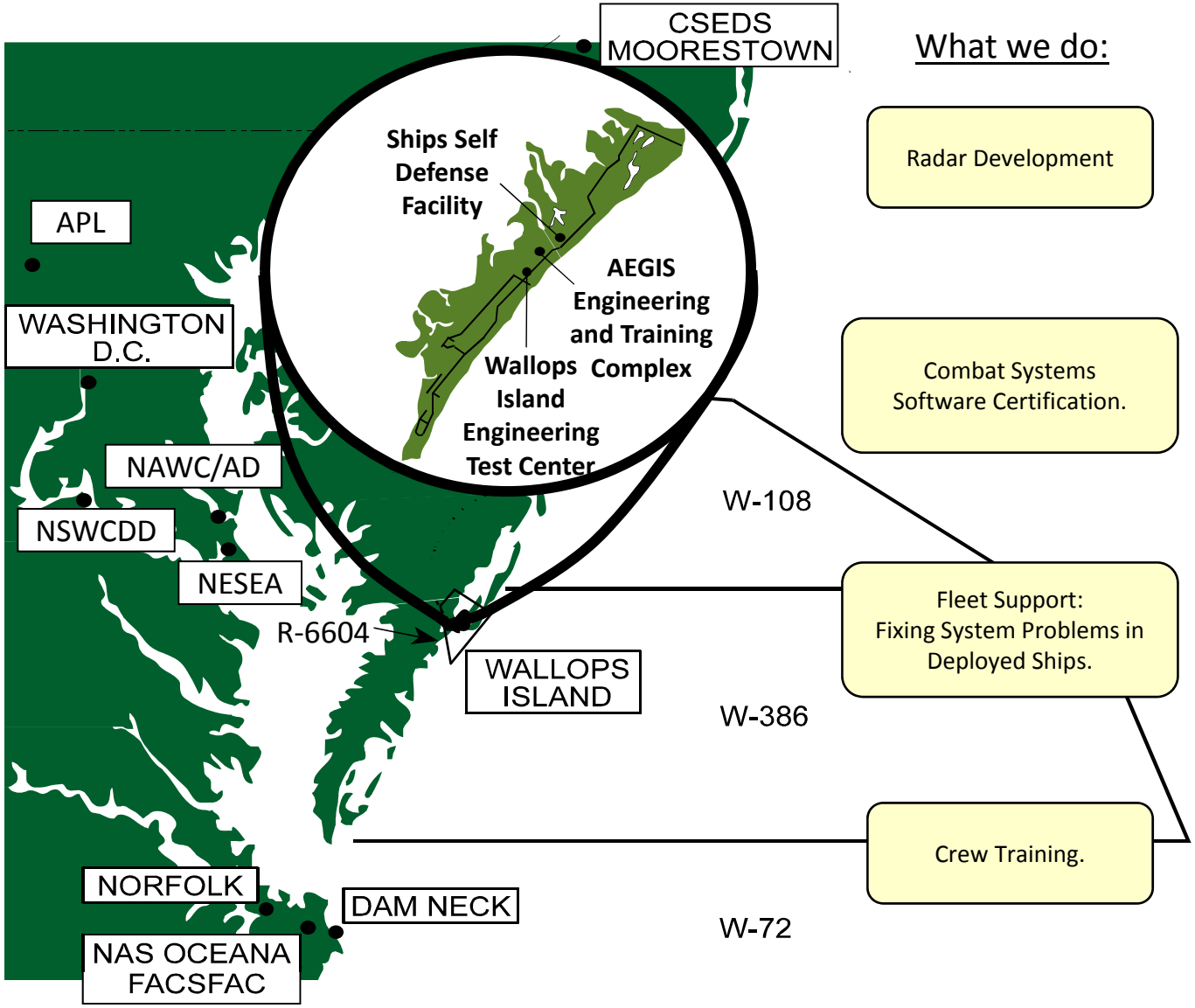
Why SCSC is here:

Actual Maritime and Littoral Environment
- Real radar environment.
- Real operational environment.

Adjacent to Military Operational Area
- Targets of Opportunity.
- Operations with Fleet.

Existing Infrastructure
- Navy and NASA airspace Safety and Control
- NASA Range Instrumentation
- Navy Combat Systems Capability Connectivity

Proximity to:
- NAVSEA
- Fleet
- Major Navy Surface System Facilities (Dahlgren, VA and Moorestown, NJ.



What we do:

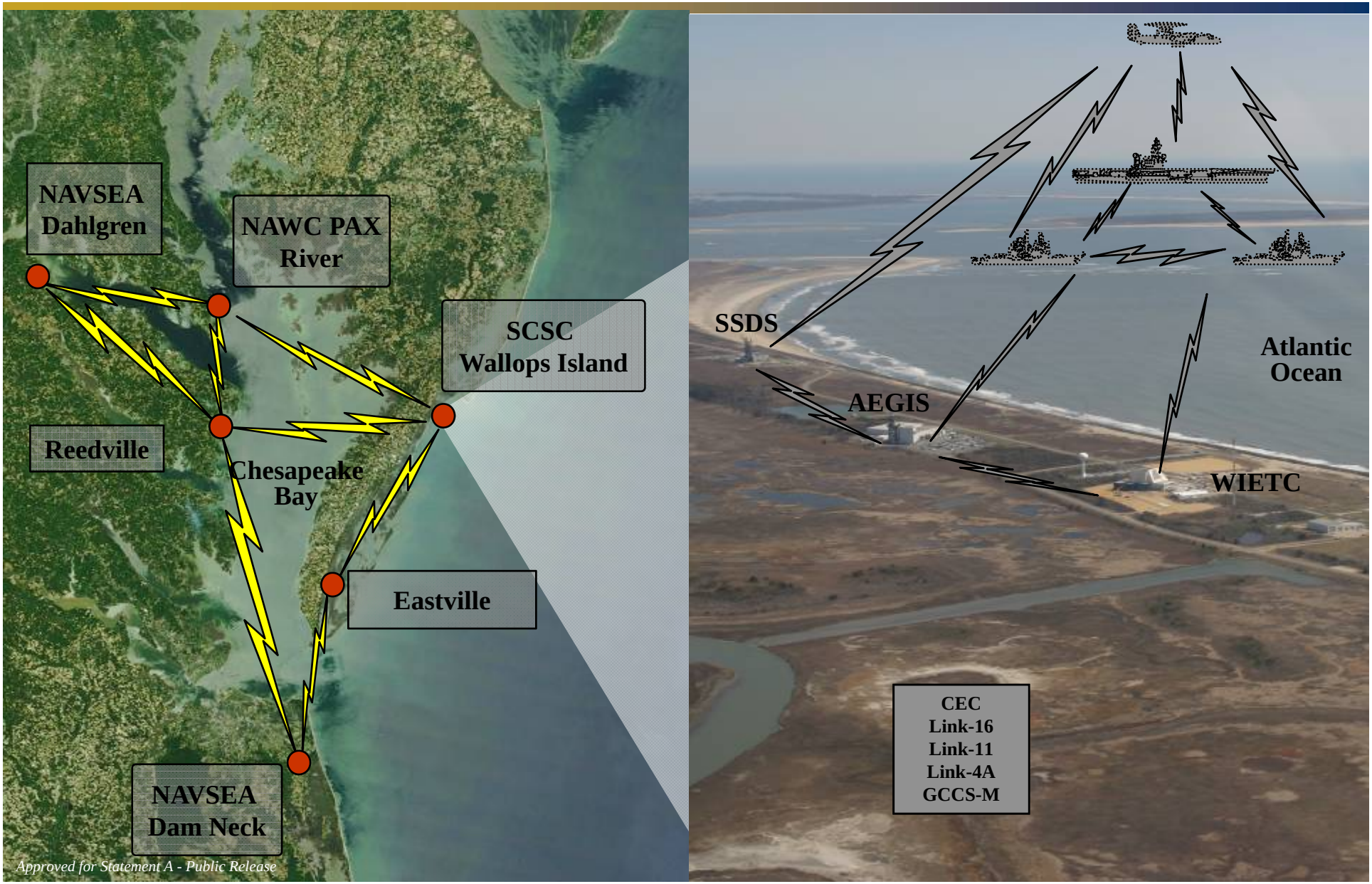
Radar Development

Combat Systems Software Certification.

Fleet Support: Fixing System Problems in Deployed Ships.

Crew Training.

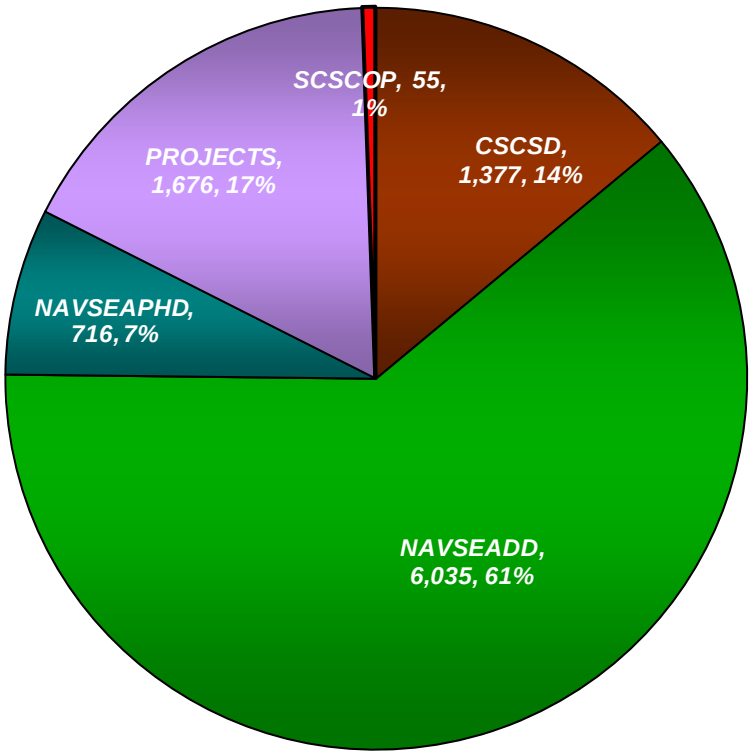
Land and VACAPES OPAREA Test Network



Approved for Statement A - Public Release

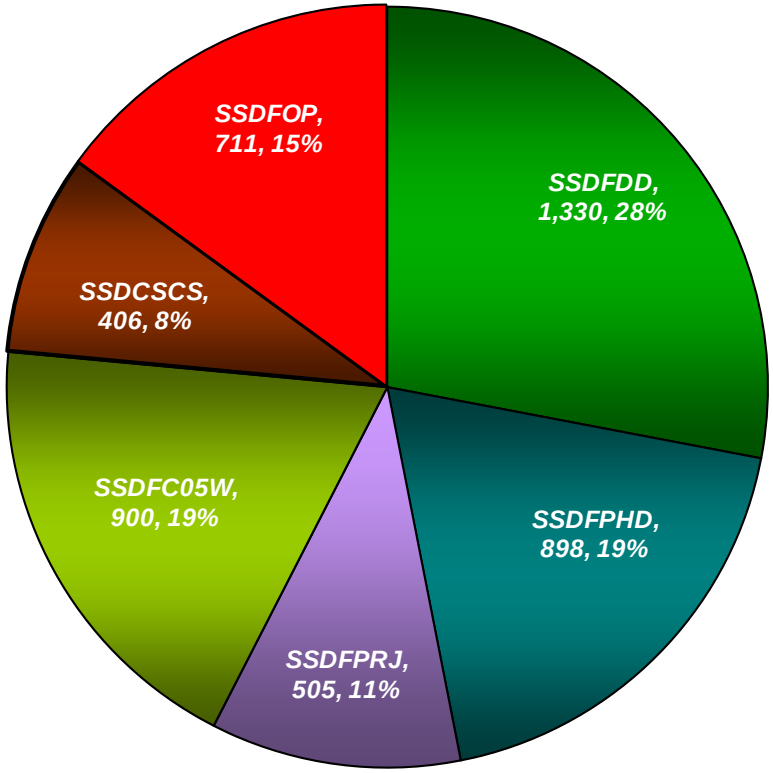
FY12 Customer Summary

AEGIS



9,859 Hours – 1,132 Events

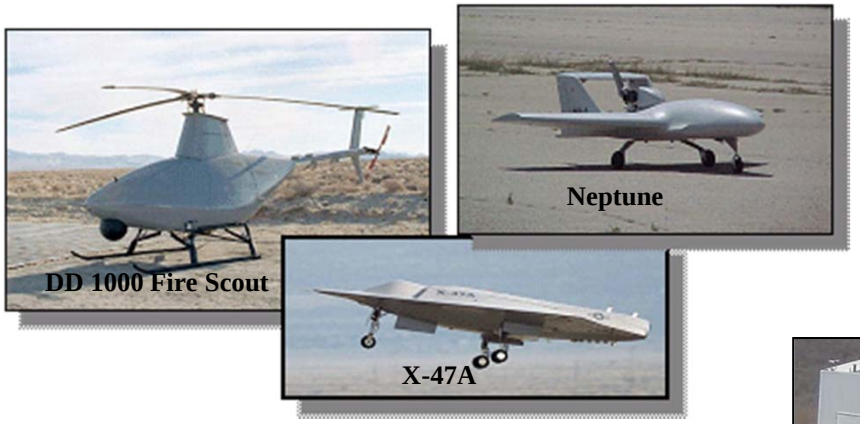
SSDF



4,751 Hours - 578 Events

NAVSEA
WALLOPS ISLAND
Surface Combat Systems Center

Current and Potential Future Programs



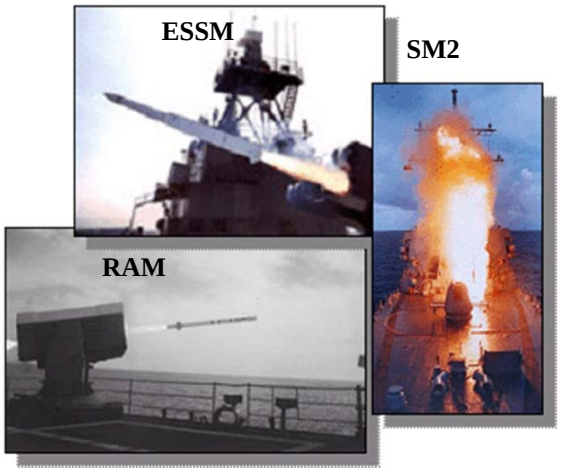
UAV Test and Integration

G/ATOR

High Energy Weapons

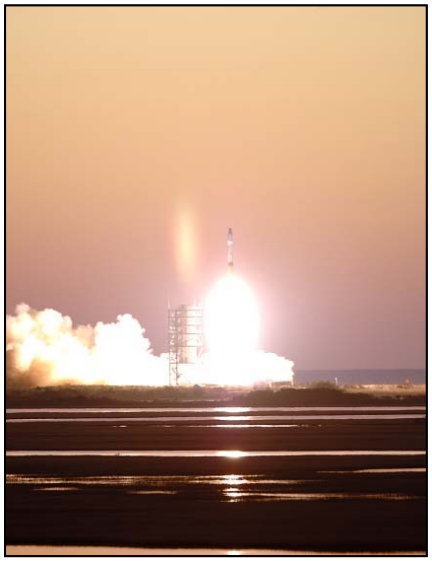
AMDR

Future Radar Testbed



Live Surface to Air Missile Firings from Wallops

Electromagnetic Railgun



Missile Defense Agency Support

Economic Impact

MILITARY	91
CSCSD	19
CIVILIANS	41
CSCSD	3
NSWC	8
NAF	8
APP	22
NORTHROP GRUMMAN	94
LOCKHEED MARTIN	114
EG&G	15
CUBE	89
CACI	5
PCI	3
OLD DOMINION	3
TOTAL	515

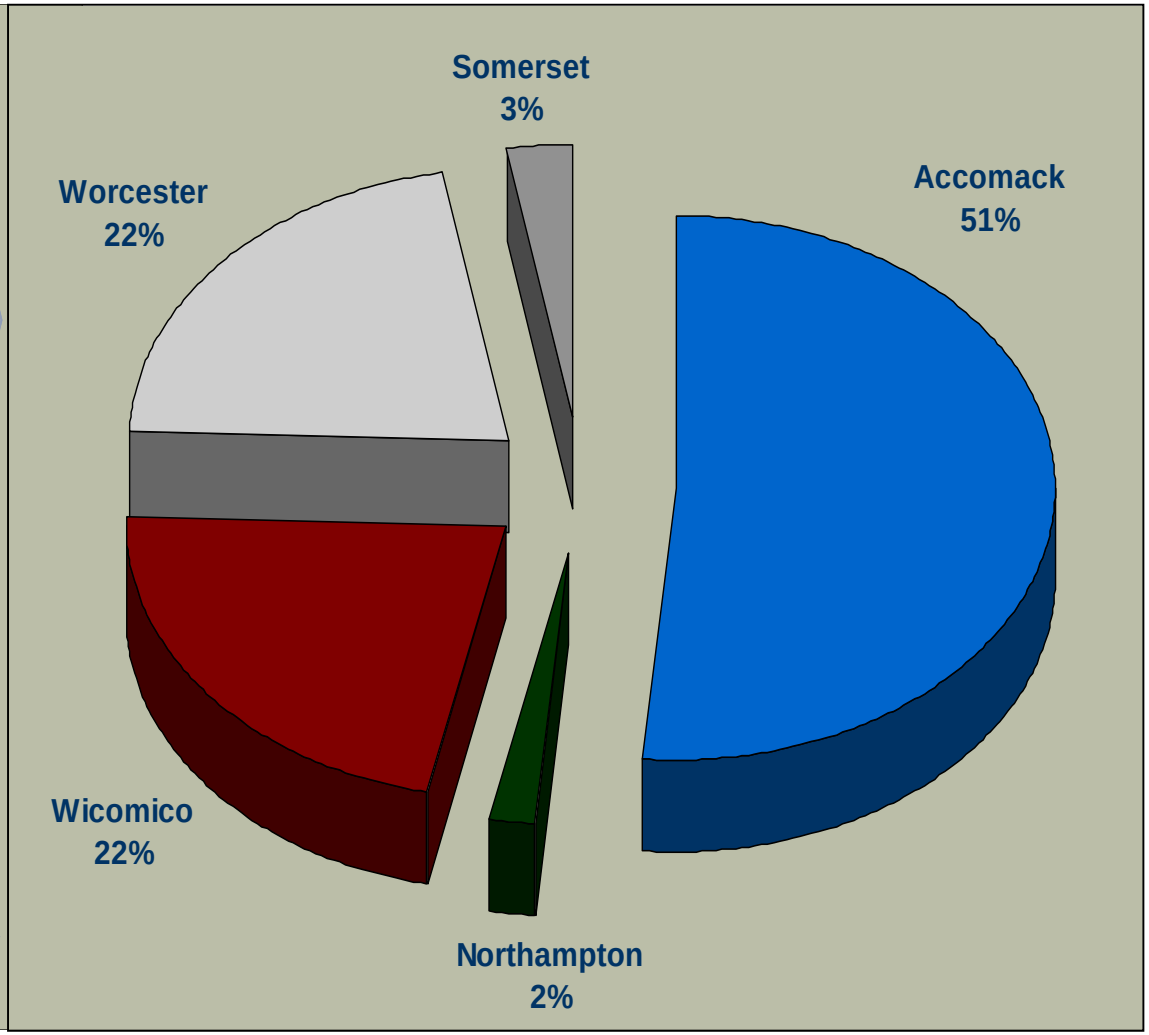
$47M

- 1,000 Military Students
- 3,000 Government and Contractor Visitors per year

$6M

- Procurement and Products/Services by Navy/Contractors

$53M



Data Source: Salisbury University – Beacon, Economic Development Value of the U.S. Navy Surface Combat Systems Center at Wallops Island, by Dr. Memo Diriker in a 2004 study.

NAVSEA WALLOPS ISLAND
Surface Combat Systems Center

SCSC Community Outreach

Community

- Hurricane Sandy Clean-up
- Red Cross Blood Drives
- Adopt-A-Family
- Feds Feed Families
- Boy Scouts of America
- Special Olympics
- Eastern Shore SPCA
- Motorcycle Safety Courses
- Arcadia Nursing Home/Shore Life Care
- Habitat For Humanity
- Arbor Day and Earth Day
- Base and Beach Clean-up
- Honor Guard and Funeral Support

Education

- Student Career Employment Program
- Student Temporary Employment Program
- University of Maryland Eastern Shore
- Old Dominion University
- Eastern Shore Community College
- Job Fairs
- Career Days
- Partnership In Excellence
- VA Space Camp Academy
- Inspire The Next Generation
- Science Fairs
- First Robotics
- SeaPerch

ESCC where tomorrow begins. Eastern Shore Community College

OLD DOMINION UNIVERSITY

UNIVERSITY of MARYLAND EASTERN SHORE

CAPT John P. Robinson
Commanding Officer
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john.p.robinson2@navy.mil

CDR Scott Carpenter
Executive Officer
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Todd Winfield
Director, Management Operations
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Activity Chief Information Officer
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With live surface ship Combat systems located in a Maritime environment adjacent to the Virginia Capes. SCSC is the Navy's "Battle Group in the Sand."

We support combat systems Program development, life cycle engineering. Fleet operator training and In-service engineering.

Our capabilities include all Fleet AEGIS, SSDS, DDG-1000 and CVN 78 Combat systems and networks in support of naval ship warfare systems Interoperability, integration, and deployment readiness.

SCSC Wallops Island *The Navy's Battle Group in the Sand*

Wallops Flight Facility: Current and Future mission activities

DRAFT

Research

Current Mission	Future Mission
Atmospheric Sciences Research	Atmospheric Sciences Research to continue
R&D Programs: • Satellite altimetry • Upper air instrumentation research • Cryospheric research • Coastal Zone research • Autonomous Undersea Vehicle (AUV)	R&D Programs to remain
Applied Engineering	Applied Engineering activities to remain

DRAFT

Airfield Operations

Current Mission	Future Mission
Pilot proficiency training: • Air Force • Air National Guard • Army • USCG • Navy Includes E2/C2, A-10, F-15, F-16, F-18, and F-22 aircraft, not to exceed 61,000 operations per year	Pilot proficiency training to continue
Unmanned aerial systems remote sensing – i.e. weather analysis • NASA	Addition of UAS BAMS • Navy Flights to occur weekly from inception
Restricted airspace R-6604 (A and B) currently exists	Expansion of restricted airspace R-6604 (C) to protect general aviation from hazards associated with experimental flight tests
Testing and Training Support for aircraft system evaluation (pilots, crews)	Testing and training to continue
	Addition of Commercial Space Terminal to send civilian scientists to space (will include dormitories, training rooms, food service)
	Additional unmanned aerial systems • Navy

DRAFT

Rocket Operations

Current Mission	Future Mission
Orbital Rockets (ELV and RLV): • NASA • DOD Up to 18 launches per year, rockets include Athena II, Athena III, Falcon I, le, 9, Minotaur I and V, Pegasus, Antares	Addition of 3rd ELV launch pad to facilitate additional launches (Pad 0-C). New pad will require 15,000 foot hazard arc. • DOD • NASA
Sounding Rockets: • NASA • DOD Up to 60 launches per year	Sounding Rocket activities to continue
Drone Targets and Missiles: • Navy • NASA support Up to 30 target flights per year	Addition of DOD Standard SM-3 (Aegis Ballistic Missile Defense System) for drone target testing • Navy
Rocket Boosted Projectile Testing: • Army • Navy Up to 20 missions per year	Rocket Boosted Projectile testing to continue
	Human Spaceflight missions (commercial and tourism), both horizontal and vertical take off

Tracking and Data Systems

Current Mission	Future Mission
Radar, telemetry, optics • Wallops Test Range • Earth Science • NOAA • Navy • DOD Track aircraft, balloons, drones, ELVs, RLVs, satellites, and sounding rockets	Radar, telemetry, optics activities to continue
Meteorological Support for launches and airfield	Meteorological Support activities to continue
Command and Control support range, launch, and aircraft	Command Control activities to continue

DRAFT

Other

Current Mission	Future Mission
	Directed Energy systems testing and experimentation • Navy
	Rail gun (electromagnetic) • DOD
	Nanoparticle Fuel research • NASA
	Closed In Weapons System (CIWS) • Navy/SCSC

DRAFT

Agenda

- Project Update
  - Process and Timeline
  - Data Collection, Review, and Stakeholder Engagement
- SCSC Command Brief
- WFF Mission and Activity Overview
  - Current and future mission activities
- Compatibility Methodology introduction
- Next Steps

DRAFT

Compatibility Methodology

- Understanding WFF mission activities allows stakeholder decision making regarding land use
- Identified incompatibility concerns will guide recommendation development

DRAFT

Compatibility Methodology: *Classifying Factors*

WFF Impacts on Community

Noise	Unwanted sound generated by the activities at WFF (e.g. aircraft noise, rocket launches)
Safety Zones	Local land uses that conflict with safety and welfare guidance that supports WFF activities (e.g. rocket safety arcs, aircraft accident potential zones)
Height Restrictions	Building/structure height restrictions needed by the installation and imposed on the county (e.g., aircraft clear airspace)
Light Pollution	Ambient lighting spillovers from the installation and WFF activities into the community
Natural Habitat/Wildlife	Wildlife incidents as a result of WFF activities (e.g. bird/wildlife strikes by aircraft)
Transportation	Limited access and mobility on local roads due to WFF activities/maneuvers (e.g. road closings due to special operations)

DRAFT

Compatibility Methodology: *Classifying Factors*

Community Impacts on WFF

Existing Incompatible Development	Local land uses that conflict with safety and welfare guidance that supports WFF activities
Potential Incompatible Development	Planned/future local land uses that will conflict with safety and welfare guidance that supports WFF activities (e.g., launch hazard areas)
Transportation	Limited access and mobility to WFF as a result of local infrastructure (e.g. causeway closings/replacements, recurrent flooding)
Electromagnetic Interference	EMI created by local structures that impact systems at WFF (e.g. wind turbines)
Light Pollution	Ambient lighting from local structures affecting WFF activities/maneuvers
Natural Habitat/Wildlife	Presence of wildlife and wildlife protected areas in proximity to WFF activities (e.g. nearby bird sanctuaries that may increase aircraft bird strikes)

Compatibility Methodology: *Impact Ratings*

- How do we assess a mission activity's impact?
- Establish and apply impact ratings based on identified compatibility factors

Minor Impact (0)	Negligible impact on WFF/community activities
Moderate Impact (1)	Marginalizes WFF mission/community activity, requires work-around or alternate approach
Major Impact (2)	Prohibits WFF mission execution/community activity, makes WFF mission execution/community activity ineffectual

DRAFT

Preliminary Impact Ratings

Sample Prepared by Project Team

LEGEND: 0 - Minor Impact 1 - Moderate Impact 2 - Major Impact	Research			Airfield Operations			Rocket Operations				Tracking and Data Systems			Airfield Operations					Rocket Operations			Other	
COMPATIBILITY FACTORS	Atmospehric Sciences Research	Applied Engineering	R&D Programs	Aircraft Operations	Testing and Training Support	Unmanned Aerial Systems	Orbital Rockets	Sounding Rockets	Drone Targets and Missiles	Rocket Boosted Projectile Testing	Radar, Telemetry, Optics	Meteorological Support	Command and Control	BAMS Unmanned Aerial Systems	Unmanned Aerial Systems	Commercial Space Terminal/Facility	Expansion of Restricted Airspace	Horizontal Human Spaceflight Missions	Vertical Human Spaceflight Missions	Third ELV Launch Pad	Standard Missile-3	Directed Energy	Nanoparticle Fuel
WFF Impacts on Community																							
Noise	0	0	0	1	0	1	1	1	1	1	0	0	0	1	1	0	0	1	1	1	1	1	1
Safety Zones	0	0	0	2	0	1	2	0	0	0	0	0	0	2	2	0	1	2	2	2	2	0	0
Height Restrictions	0	0	0	2	2	2	0	0	0	0	2	0	0	2	2	0	1	2	0	0	0	0	0
Light Pollution	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Natural Habitat/Wildlife	0	0	0	1	0	1	1	1	1	1	0	1	0	1	1	0	1	1	1	1	1	1	1
Transportation (land and air)	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	0	0	0
Community Impacts on WFF																							
Existing Incompatible Development	0	0	0	1	0	1	1	0	0	0	0	0	0	1	1	0	0	1	1	1	0	0	0
Potential Incompatible Development	0	0	0	2	2	2	2	0	0	0	2	2	2	2	2	0	0	2	2	2	0	0	0
Transportation (land and air)	0	0	0	0	1	0	2	1	1	1	1	1	1	1	1	0	1	2	2	2	1	1	1
Electromagnetic Interference	0	0	0	1	2	1	1	1	1	1	2	0	0	1	1	0	0	0	0	0	0	0	0
Light Pollution	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Natural Habitat/Wildlife	0	0	0	1	0	1	1	1	1	1	0	0	0	1	1	0	0	1	1	1	1	1	1

What's Next?

- TAC to complete a preliminary compatibility assessment/impact ratings
- Schedule additional TAC meeting to discuss and validate assessment/impact ratings
- Pending TAC concurrence on compatibility assessment, develop a technical memo for the PSC to obtain consensus on analysis to date
- Continue Draft JLUS report development for TAC submittal and review

DRAFT

- Q & A

Wallops Flight Facility Operational Overview

Presented to JLUS TAC

November 7, 2013

Agenda

- **Introductions**
- Current Operations
- Future Operations
- Land Use/Encroachment Considerations
- Q&A

Agenda

- Introductions
- **Current Operations**
- Future Operations
- Land Use/Encroachment Considerations
- Q&A

WFF – Who are we?

- In business since 1945
  - Over 16,000 total launches
- The *only* NASA-controlled launch range
- Home to about 1,100 full-time NASA civil service and contract employees
  - Tenants, partners, industry comprise approximately 500-600 more
- >$1.2 billion in assets (NASA + tenants)
- ~$215 million NASA budget

Mission: *Provide capabilities & services to enable low-cost aerospace based science, technology, and education research*

WFF – Where are we?

Three Major Parcels 6,000 Acres

- **Wallops Main Base 1,900 Acres**
  - Administrative & Technical Offices
  - Tracking & Data Acquisition
  - Range Control Center
  - Ordnance Storage/Processing
  - R&D, Processing Facilities
  - Research Airport
  - Navy admin & NOAA tracking facilities
  - Navy & USCG housing
- **Wallops Island 3,000 Acres**
  - Launch Sites
  - Blockhouses
  - Radar
  - Processing Facilities
  - Navy Operational Facilities
- **Wallops Mainland 100 Acres**
  - Tracking & Data Acquisition
- **Marshland 1,000 Acres**

WFF – What do we do?






- **Research Carriers**
  - Sounding Rockets
  - Balloons
  - Aircraft & UAVs
  - Small satellite
- **Mission Operations**
  - Launch Range
  - Research Airport
  - Orbital Tracking
- **Engineering & Technology Development**
- **Earth Science Research**

WFF – Levels of Activity

- **Sounding Rockets**
  - 10-15/year actually
  - Expected to remain within this range
  - Ceiling of 60/year

- **ELVs**
  - Recent past 1-2/year
  - Growing to 4-6/year, likely threshold of capability
  - Ceiling of 18/year

- **Airfield Operations**
  - Recently ~15,000 ops per year on Main Base
  - Growing up to ceiling of 60,000 per year

- **Unmanned Aerial Systems**
  - Proven systems can utilize Main Base (e.g., Global Hawk)
  - Unproven systems generally confined to Island and restricted airspace
  - Island ops transitioning to North end once infrastructure in place
  - Ceiling of 1,040 operations per year

Agenda

- Introductions
- Current Operations
- **Future Operations**
- Land Use/Encroachment Considerations
- Q&A

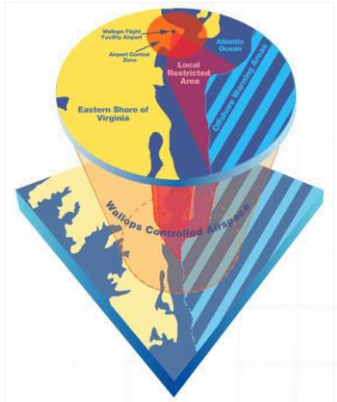
What is New?

- **Support to a changing NASA mission**
  - Renewed focus on advanced technology development
  - Facilitating emerging commercial space industry

- **Changes at Wallops**
  - Larger and more frequent rocket launches
  - Additional piloted and unpiloted aircraft based at Wallops
  - Increased airport activity and larger restricted airspace
  - Resurgence in Earth Science related projects
  - Modernized and expanded facilities
  - Increased external partnerships

Our Current 25-year "Crystal Ball"

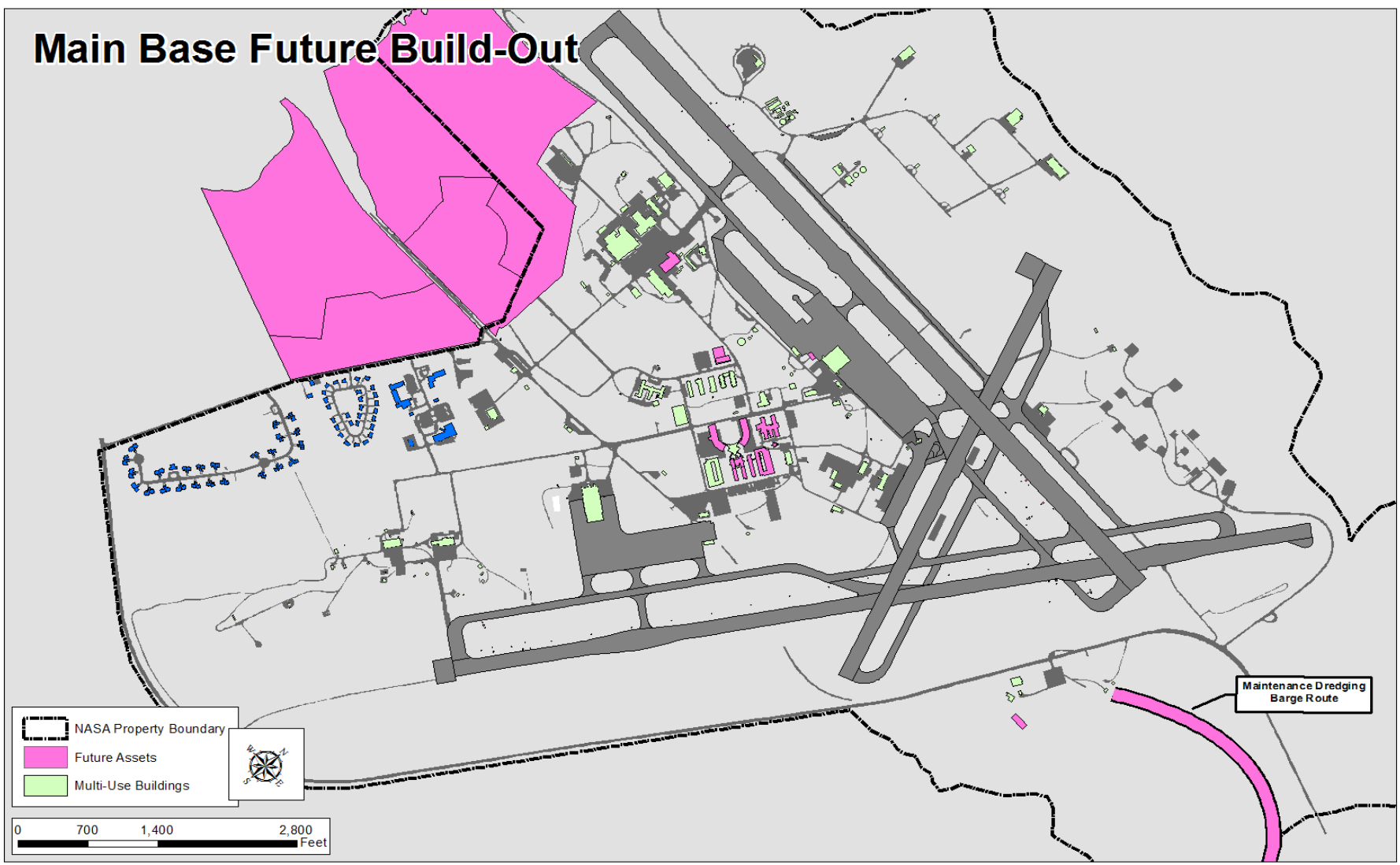
- Larger launch vehicles
- Pad 0-C and associated support facilities
- Manned Space Flight/Tourism Support
- Expansion of Restricted Airspace (R-6604)
- Causeway Bridge Replacement
- Maintenance Dredging between Visitor Center and Wallops Island Boat Basins



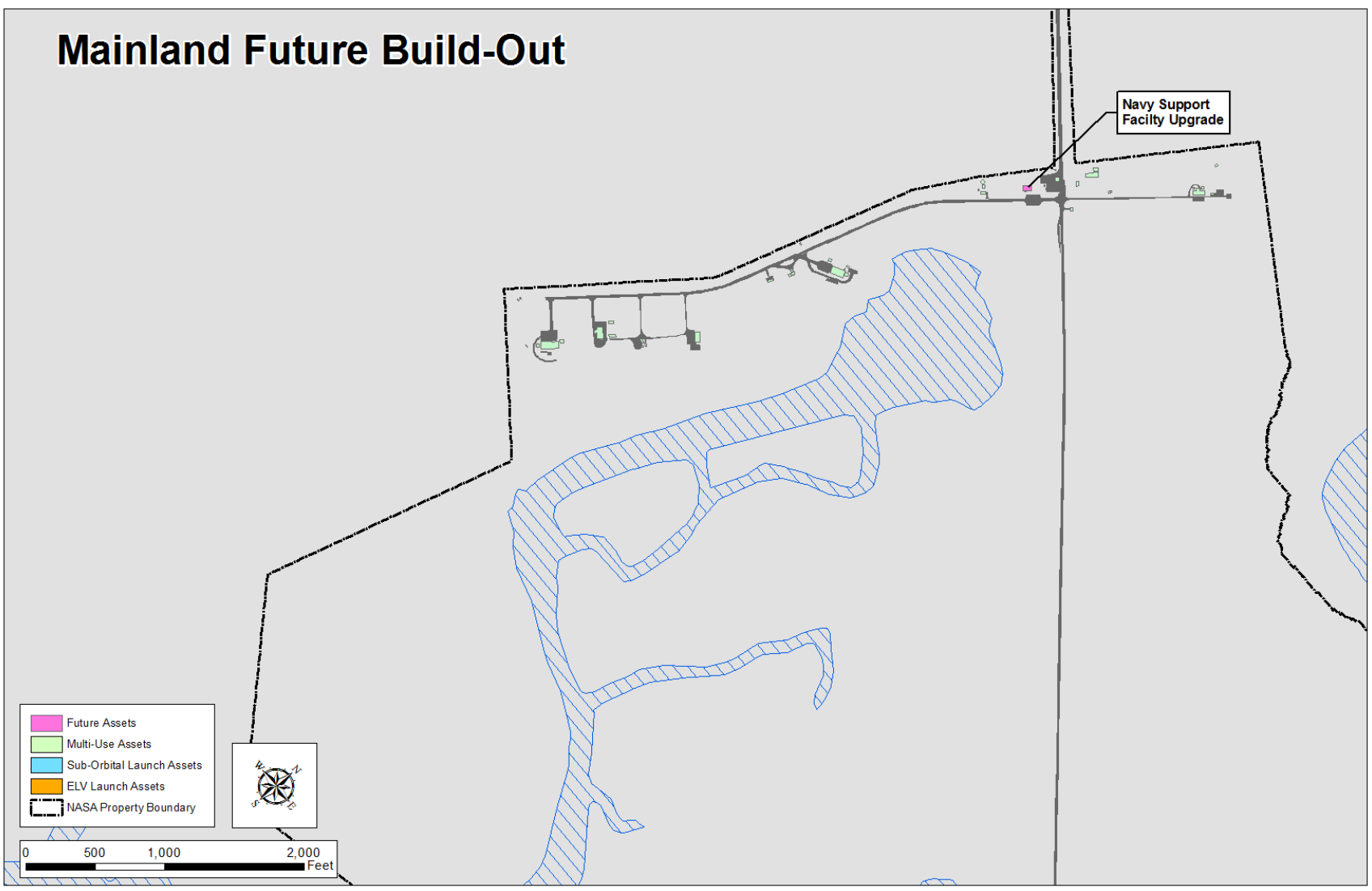
Our Current "Crystal Ball" (cont.)

- Multiple Island "flex pads"
- Miscellaneous "repair by replacement"
- Potential Navy Activities
  - Standard Missile -3 launcher
  - Evolved Sea Sparrow Missile launcher
  - Directed Energy
  - Electromagnetic Railgun and Powder Gun
  - BAMS/Triton UAS basing

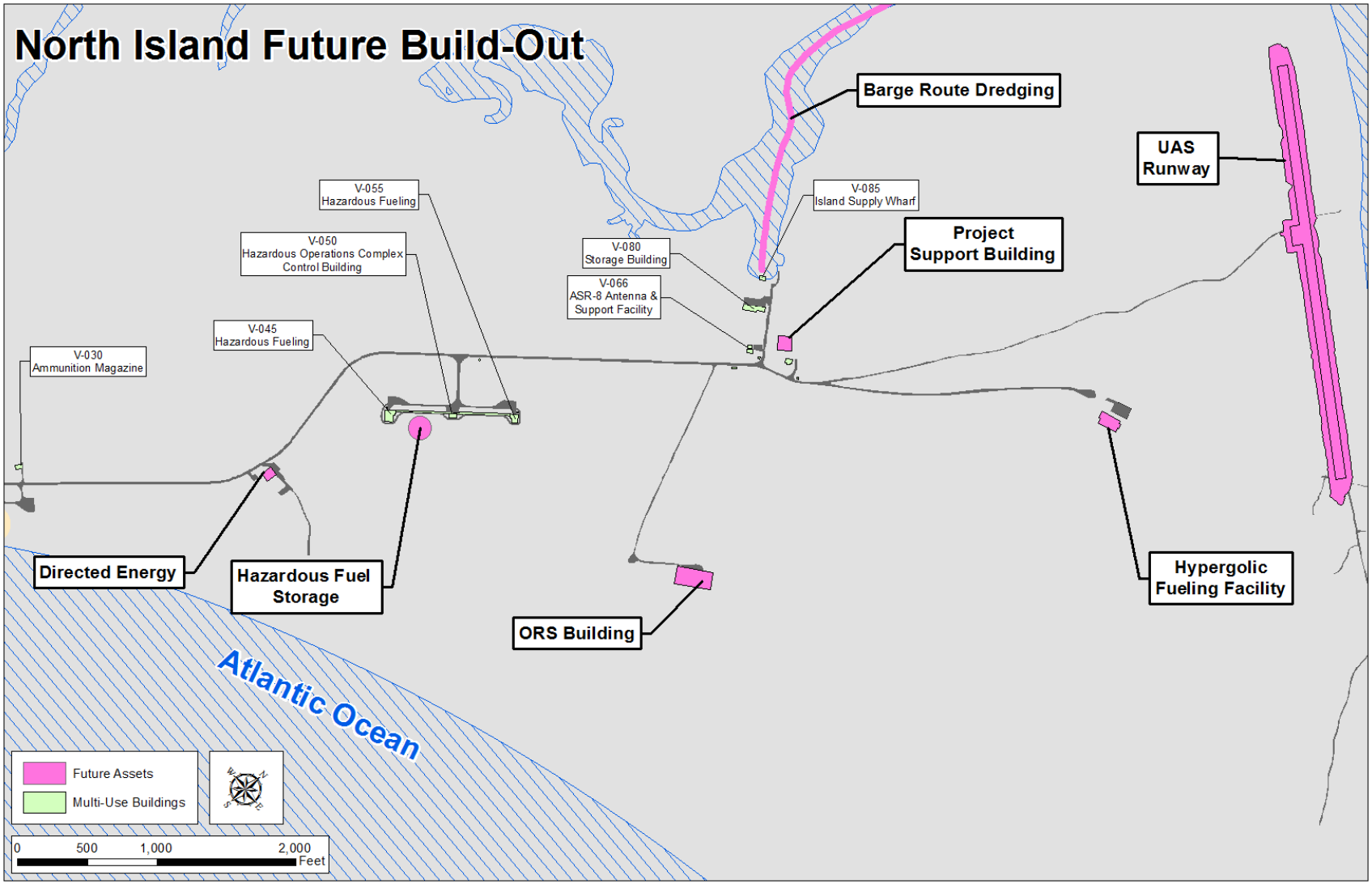
Main Base


Main Base Future Build-Out
NASA Property Boundary
Future Assets
Multi-Use Buildings
0
700
1,400
2,800
Feet
Maintenance Dredging Barge Route

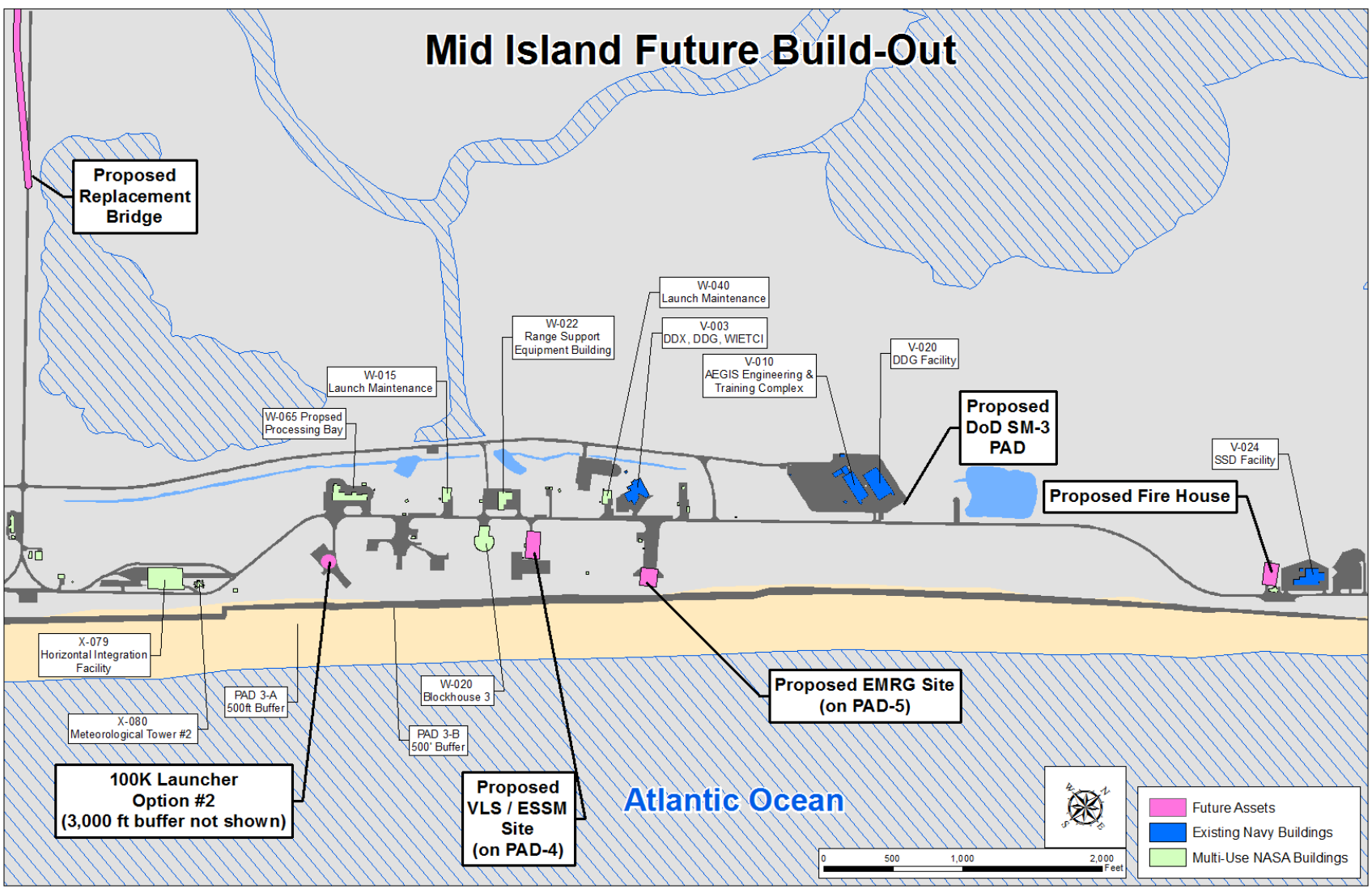
Mainland


Mainland Future Build-Out
Navy Support Facilty Upgrade
Future Assets
Multi-Use Assets
Sub-Orbital Launch Assets
ELV Launch Assets
NASA Property Boundary
0
500
1,000
2,000
Feet

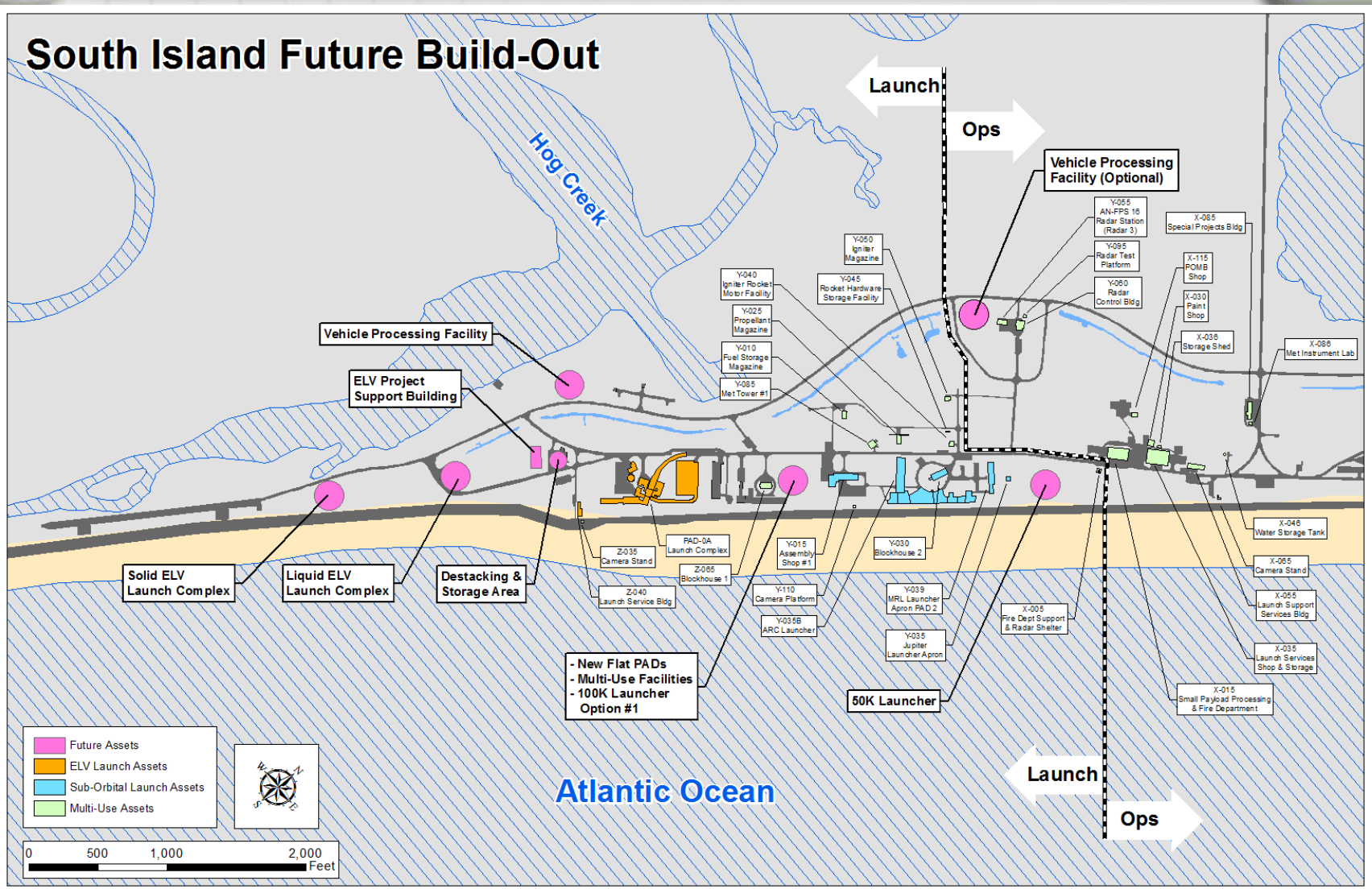
North Wallops Island



Mid Wallops Island



South Wallops Island



Special Use Airspace Expansion: R6604-C

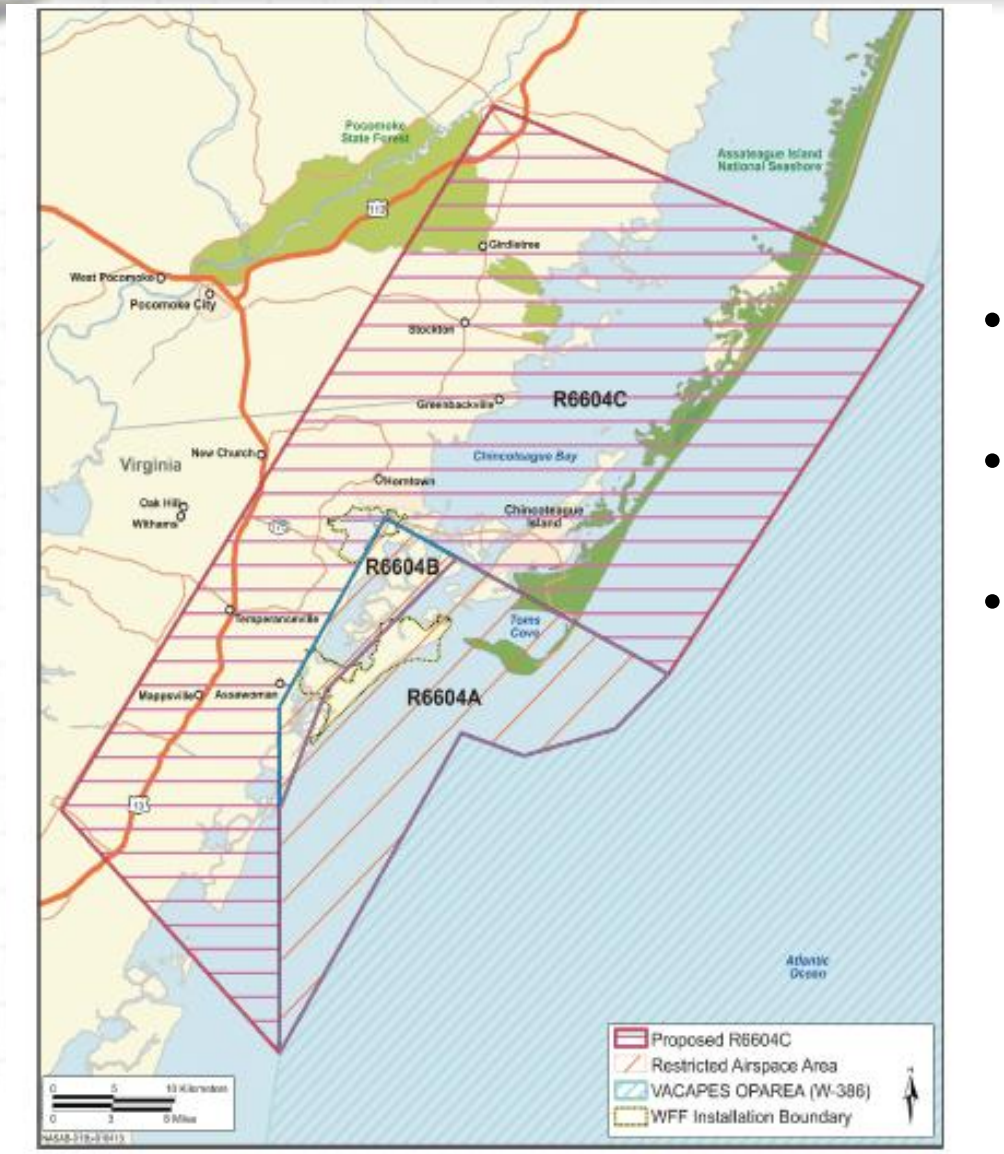


Figure 2.5-4. Existing R-6004A/B and Proposed R-6604C

- Augment existing R6604-A/B
- 700ft AGL to 3,500ft AGL
- Allow under and overflight by most common aircraft in area

Agenda

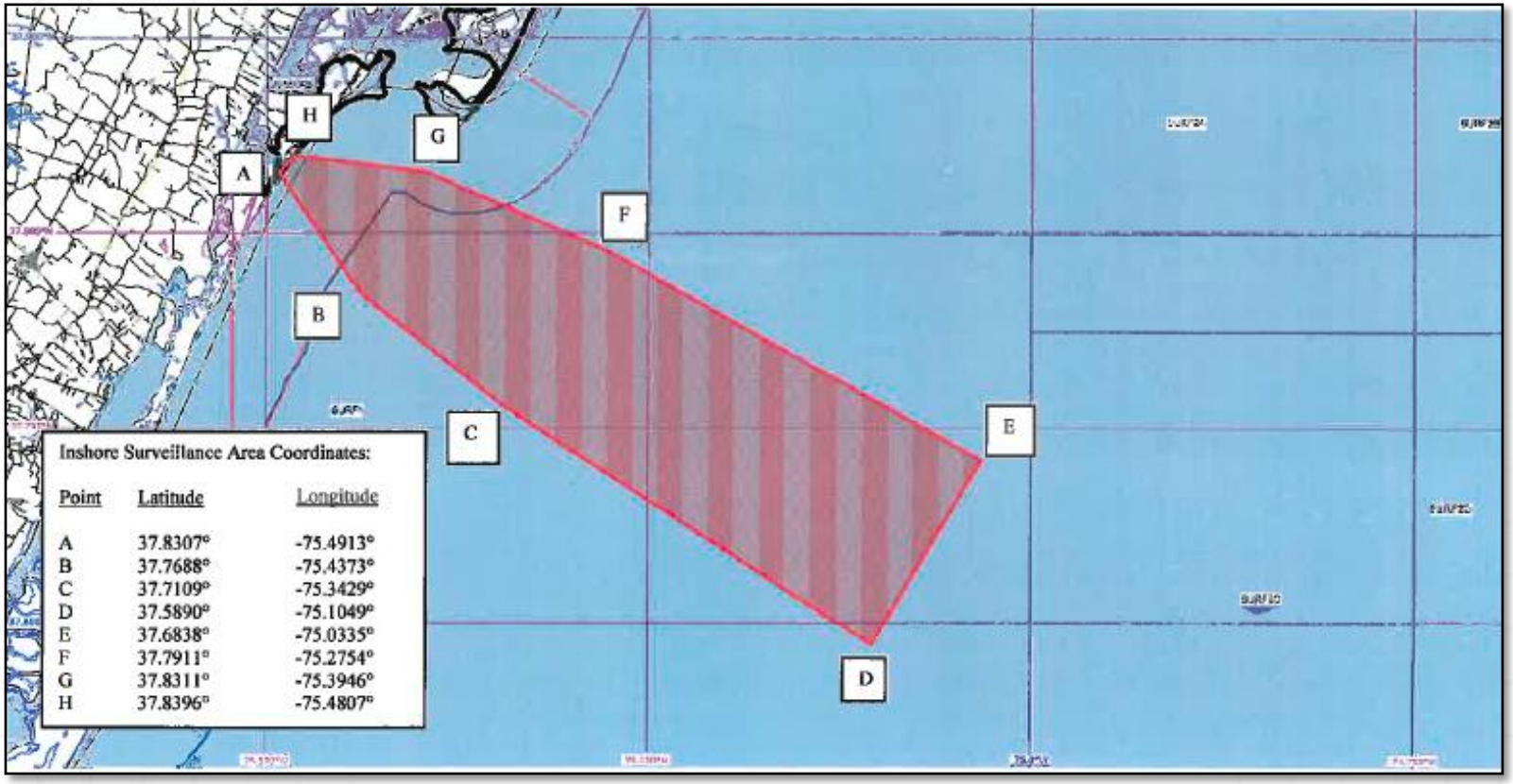
- Introductions
- Current Operations
- Future Operations
- **Land Use/Encroachment Considerations**
- Q&A

Sounding Rocket Hazard Arc

Figure 6600-1: Prelaunch & Launch Danger Area

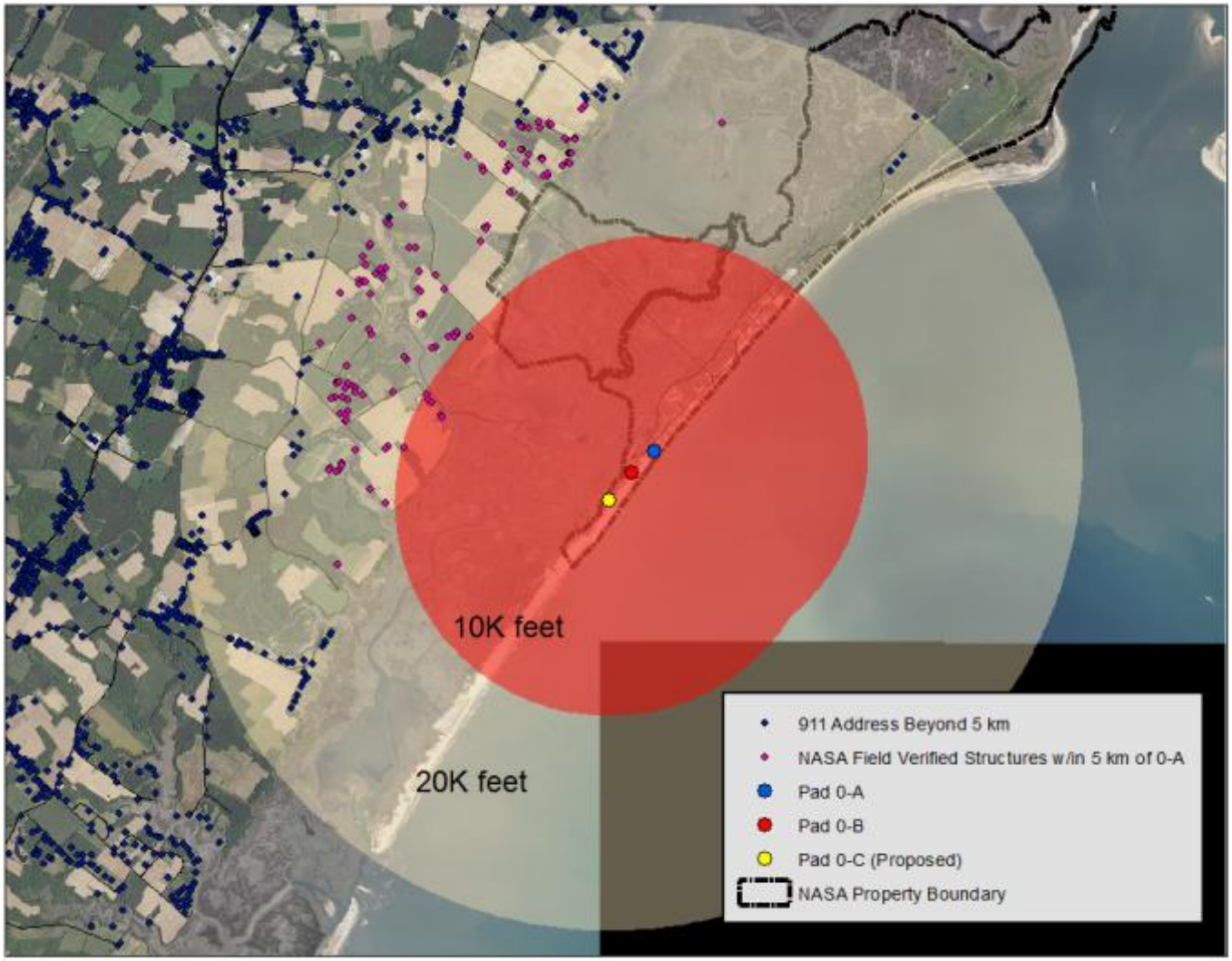
Approximately 1,500 feet for larger configurations (i.e., Black Brant XII)

Sounding Rocket Downrange Clearance



Generally confined to WFF property and offshore areas

Combined ELV Hazard Arcs for Pad 0 Complex



Red

- Defined early during planning
- Activated 3-4 hours before launch
- Debris-driven

Yellow

- More launch day specific
- Driven by atmospheric parameters
- Toxics
- Distance Focused Overpressure

Largest Launch Hazard Area was for LADEE at 9,000 ft

ELV Downrange Clearance

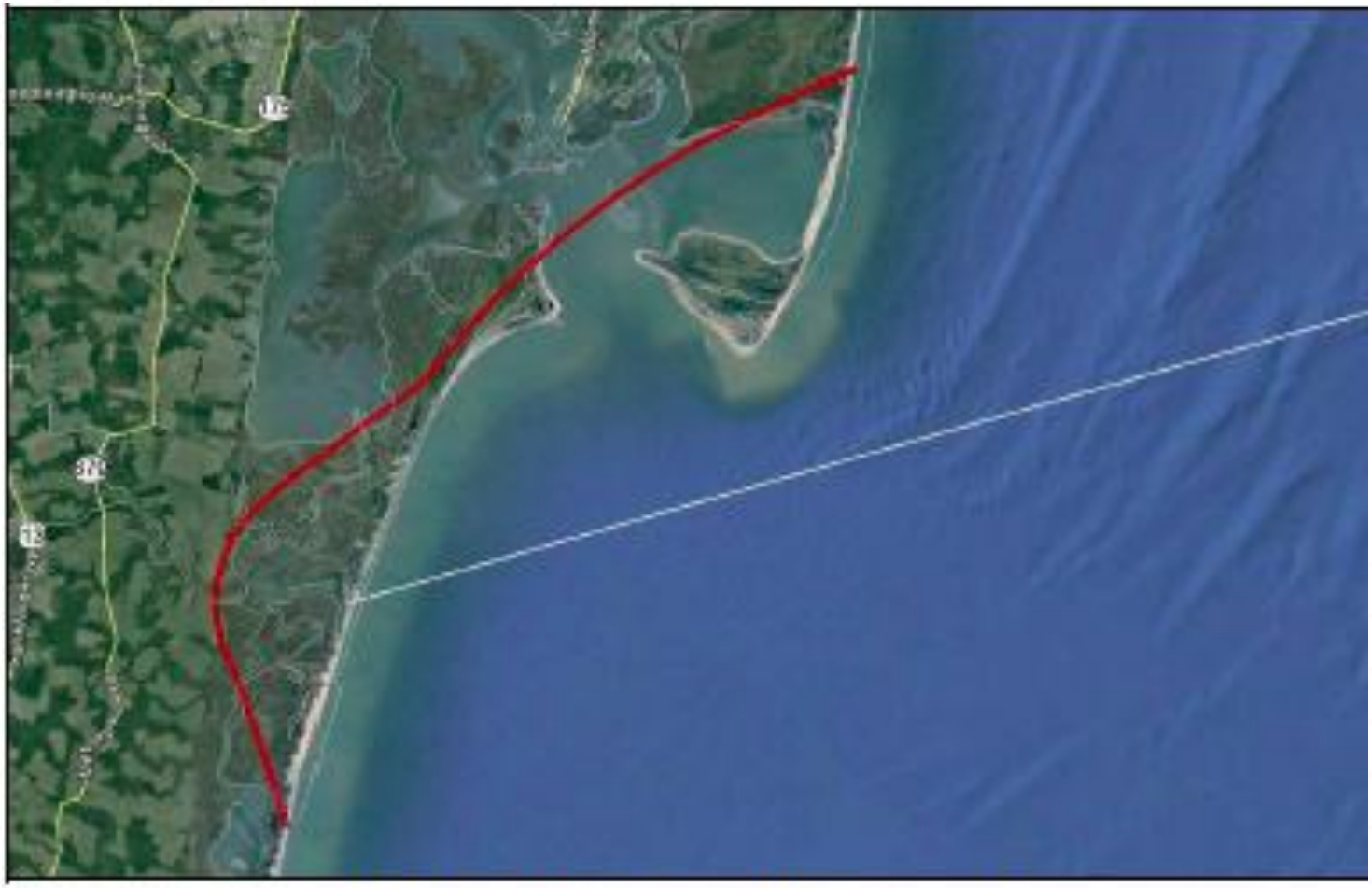
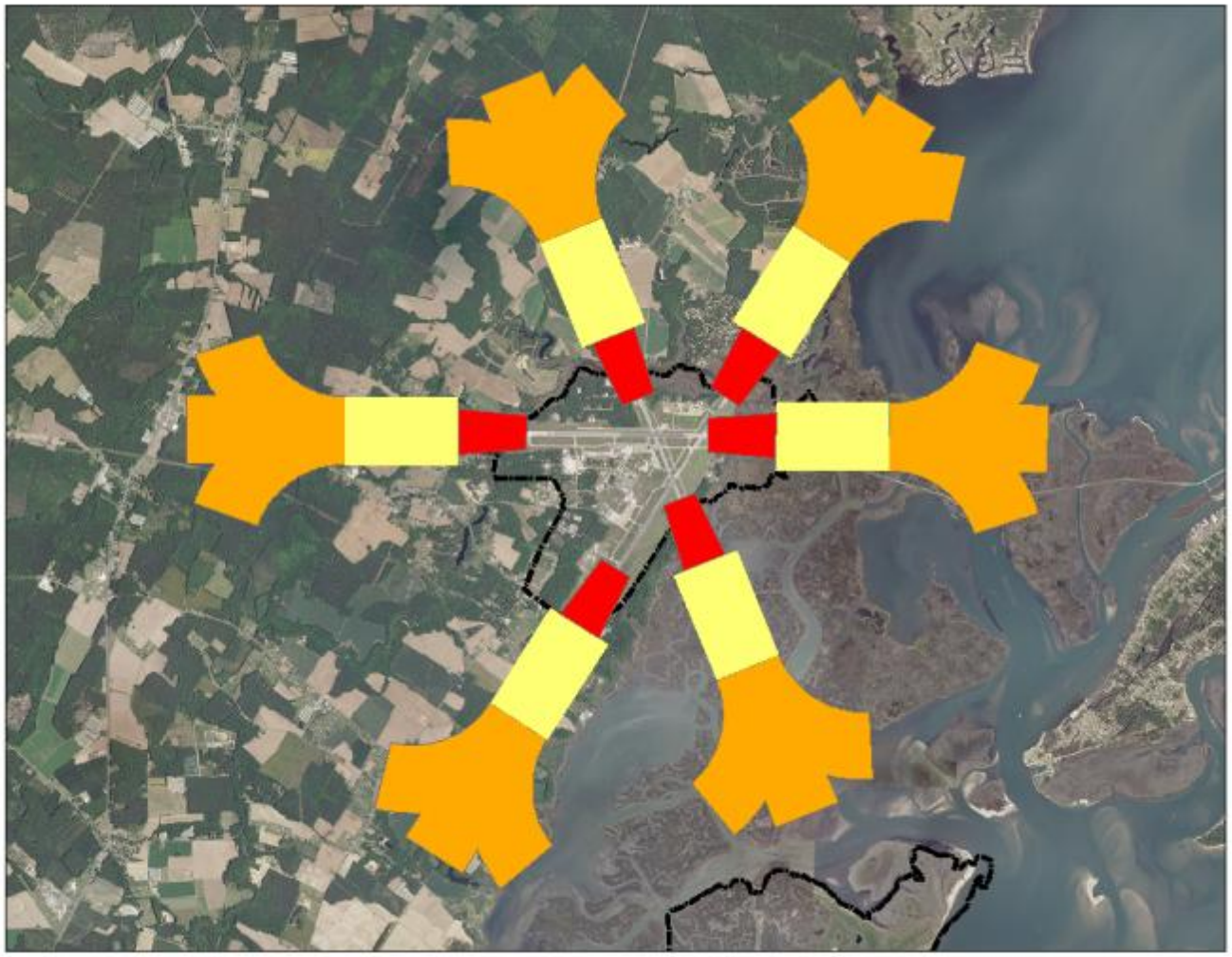


Figure 7310–1 LADEE Mission Limit/Debris Hazard Area

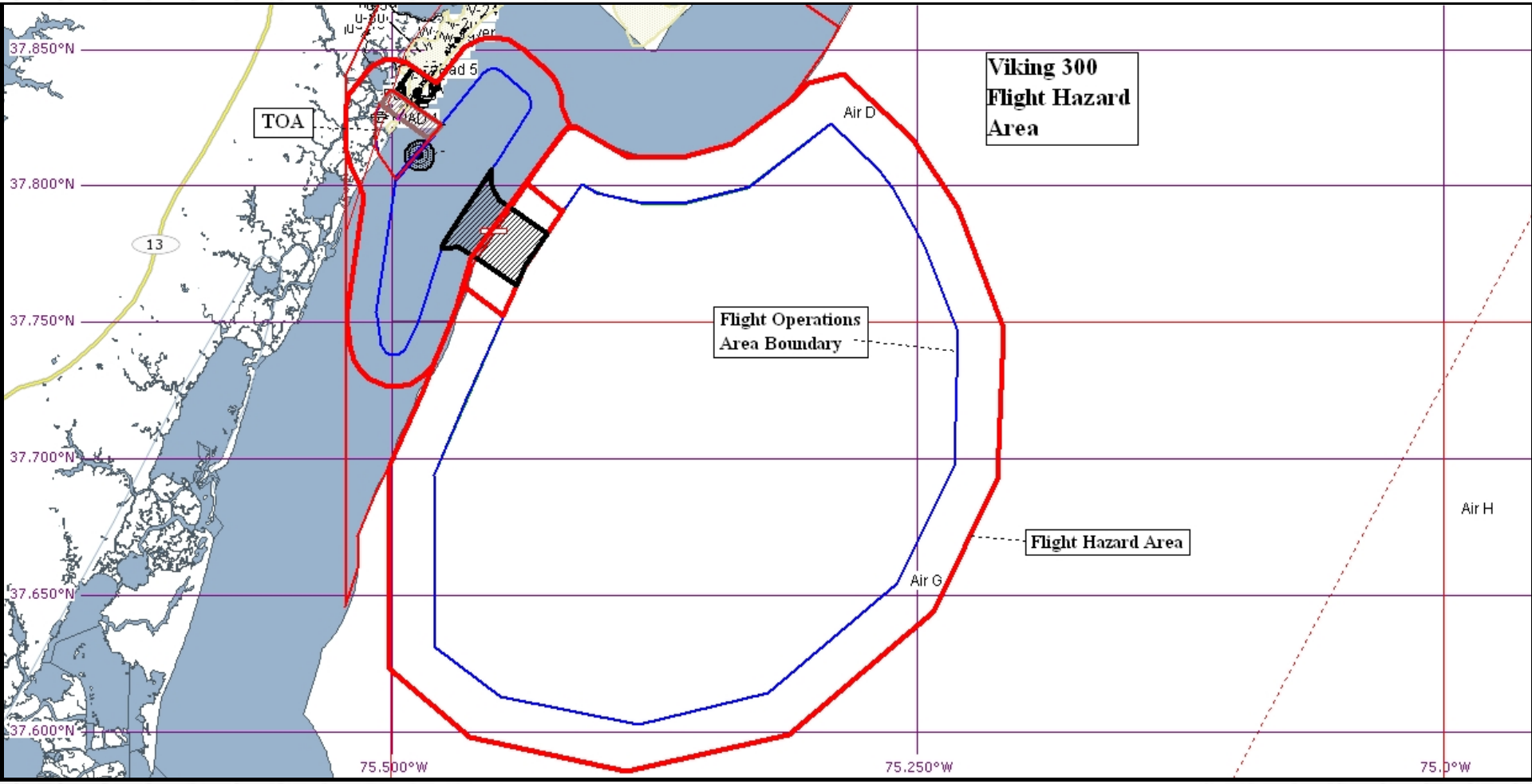
Back-range and downrange landmasses protected

Current APZs Depicted in 2008 Comp Plan



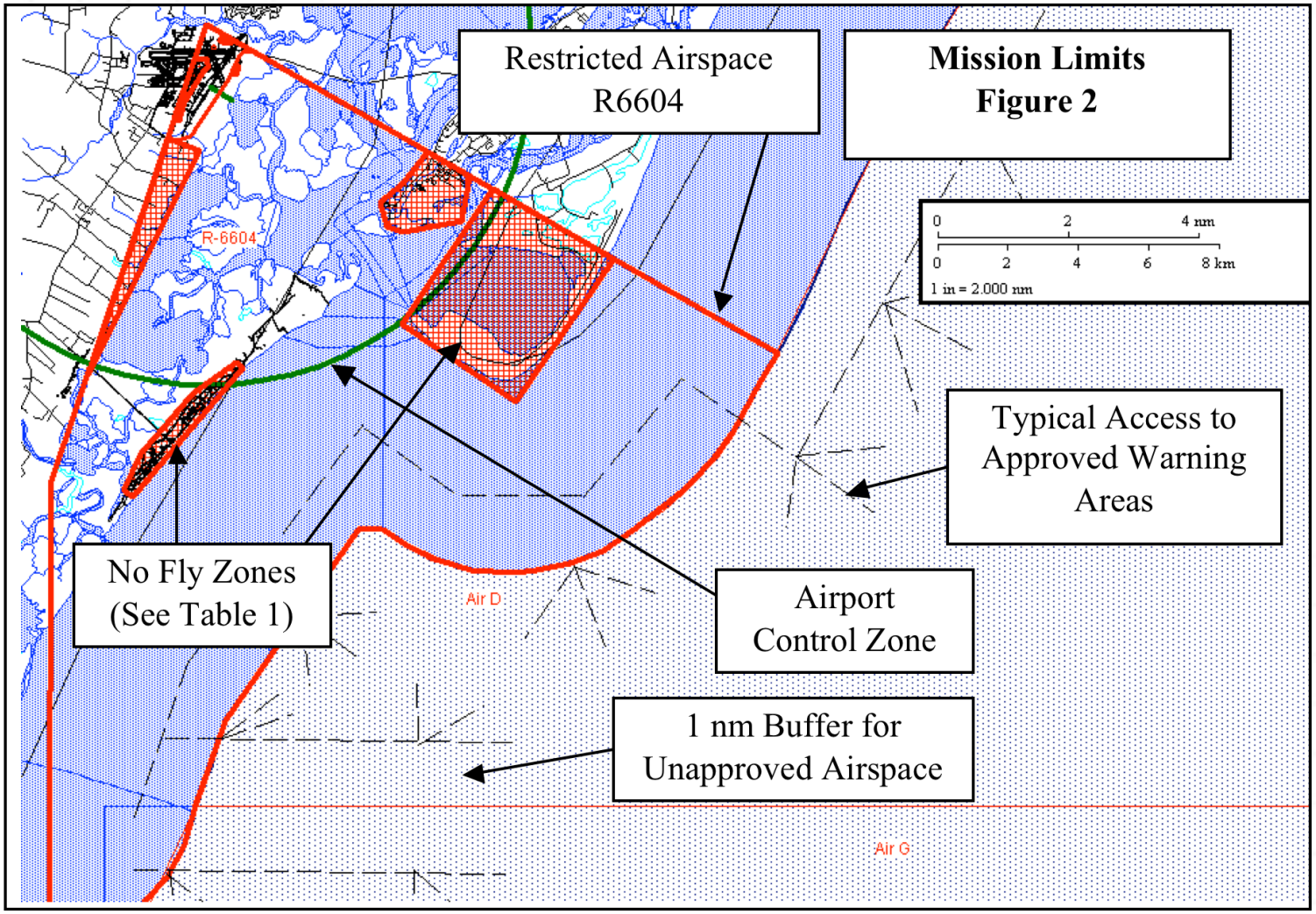
FCLP operations at WFF have changed APZs per Navy procedures. Team currently updating APZs for inclusion in JLUS process.

Example UAS Operating from Wallops Island



Terminal Operating Area and Hazard Area must be clear of personnel

Example UAS Operating from Main Base



Route 175 closure could be needed at times (e.g., X-47B divert)

Agenda

- Introductions
- Current Operations
- Future Operations
- Land Use/Encroachment Considerations
- **Q&A**

ACCOMACK COUNTY JLUS

COMPATIBILITY MATRIX - SCSC Activities

LEGEND:
0 - Minor Impact
1 - Moderate Impact
2 - Major Impact

COMPATIBILITY FACTORS	CURRENT MISSION OPERATIONS/ACTIVITIES													FUTURE MISSION OPERATIONS/ACTIVITIES										
	Research			Airfield Operations			Rocket Operations				Tracking and Data Systems			Airfield Operations					Rocket Operations			Other		
	Atmospehric Sciences Research	Applied Engineering	R&D Programs	Aircraft Operations	Testing and Training Support	Unmanned Aerial Systems	Orbital Rockets	Sounding Rockets	Drone Targets and Missiles	Rocket Boosted Projectile Testing	Radar, Telemetry, Optics	Meteorological Support	Command and Control	BAMS Unmanned Aerial Systems	Unmanned Aerial Systems	Commercial Space Terminal/Facility	Expansion of Restricted Airspace	Horizontal Human Spaceflight Missions	Vertical Human Spaceflight Missions	Third ELV Launch Pad	Standard Missile-3	Directed Energy	Nanoparticle Fuel	
WFF Impacts on Community																								
Noise																								*Unwanted sound generated by the activities at WFF (e.g. aircraft noise, rocket launches)*
Safety Zones																								*Local land uses that conflict with safety and welfare guidance that supports WFF activities (e.g. rocket safety arcs, aircraft accident potential zones)*
Height Restrictions																								*Building/structure height restrictions needed by the installation and imposed on the county*
Light Pollution																								*Ambient lighting spillovers from the installation and WFF activities into the community*
Natural Habitat/Wildlife																								*Wildlife incidents as a result of WFF activities (e.g. bird/wildlife strikes by aircraft)*
Transportation (land and air)																								*Limited access and mobility on local roads due to WFF activities/maneuvers (e.g. road closings due to special operations)*
Community Impacts on WFF																								
Existing Incompatible Development																								*Local land uses that conflict with safety and welfare guidance that supports WFF activities*
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Transportation (land and air)																								*Limited access and mobility to WFF as a result of local infrastructure (e.g. causeway closings/replacements, recurrent flooding)*
Electromagnetic Interference																								*EMI created by local structures that impact systems at WFF (e.g. wind turbines)*
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Natural Habitat/Wildlife																								*Presence of wildlife and wildlife protected areas in proximity to WFF activities (e.g. nearby bird sanctuaries that may increase aircraft bird strikes)*

Minor Impact (0)	Negligible impact on WFF/community activities
Moderate Impact (1)	Marginalizes WFF mission/community activity, requires work-around or alternate approach
Major Impact (2)	Prohibits WFF mission execution/community activity, makes WFF mission execution/community activity ineffectual

Technical Advisory Committee (TAC) Meeting #5 Summary

22 November 2013

Attachments: A – Attendees Sign-in Sheet

B – Meeting Agenda

C – USFWS Presentation Slides

D – TNC Presentation Slides

The fifth Technical Advisory Committee (TAC) meeting was held on 22 November 2013 at 10:00 AM at the Chincoteague National Wildlife Refuge visitor's center located at 8231 Beach Road, Chincoteague Island, VA 23336. The meeting was conducted according to the attached Meeting Agenda.

Welcome and Overview:

Attendees were welcomed and provided with agenda packets. A brief review of project status was provided by the Accomack County JLUS PM. The Accomack County JLUS PM introduced Mr. Spiro Papadopoulos as a new member to the TAC, representing the Accomack County Planning Commission. Mr. Papadopoulos will be taking the place of Mr. George Parker on the committee.

The Nature Conservancy's impact on the Eastern Shore

Mr. Steve Parker made a presentation on The Nature Conservancy's mission and operations. A copy of the presentation slides are provided as Attachment C.

- The Nature Conservancy (TNC) has a legacy of conservation.
- There are significant economic benefits to the protection of habitat and resource protection, including $50 million related to the clam harvesting and sales business.
- Salt marshes along the Eastern Shore are critical and some of the most biologically diverse and productive ecosystems in the world.
- 14 barrier islands are protected by TNC.
- 70% of marine fish species are currently over-fished.
- Accomack County includes some of the most active, global migratory bird populations and is a critical link on the Atlantic flyway (migratory route). Mr. Parker noted that TNC is currently working with NASA and their radar capabilities to further study migration patterns and populations of these critical routes.

- TNC is continuing to focus on habitat restoration, planting eel grass and sea grasses which are critical to oyster and scallop viability. TNC is making great strides in establishing living shorelines along the Eastern Shore.

U.S. Fish and Wildlife impacts on the Eastern Shore

Kevin Holcomb made a presentation on the USFWS and Chincoteague National Wildlife Refuge mission and operations, explaining that the Chincoteague NWR's primary responsibility is the protection and conservation of wildlife habitat.

- The National Wildlife Refuge system extends across the United States and includes 14 national refuges in Virginia.
- Salt marshes and sea grasses are critical for waterbird management and contribute to wildlife-dependent recreation – including fishing and hunting.
- The NWR contains an incredibly diverse ecosystem that is rich in cultural resources and plays a significant role in the County's tourism sector.
- The NWR also provides protection from development that may interfere with SCSC's trihedral targeting and RF directional testing.
- The Chincoteague NWR is currently in the process of preparing a Comprehensive Conservation Plan and is scheduled to be completed in January, 2014.

Project Update

Cynthia Shurling, representing the contractor project team, led a discussion of the anticipated schedule, noting that the next TAC meeting, scheduled for December 5th, would occur December 12th. Following the December 12th TAC meeting, the contractor team would finalize the analysis and present the analysis summary at a joint TAC/PSC meeting tentatively scheduled for January, 2014.

Compatibility Methodology Introduction

Ms. Shurling and Jennifer Neyland, representing the contractor project team, resumed the discussion from the previous TAC meeting regarding land use compatibility issues. Discussion of the compatibility matrix and its categories followed.

- It was noted by the TAC that climate change should be addressed as an impact to DOD missions, as well as to the Community and NASA. It is anticipated that more severe and frequent weather events will continue and that the study should address these high-impact/low probability events.
- The TAC suggested that this work session on the compatibility analysis should focus on known issues and conflicts within the matrix (also referred to as "the twos"), rather than the entire matrix.
- The compatibility matrix factors need to be more specific in some cases, and more general in others. An example would include the "Transportation" factor, which should be more specifically defined as "roadway infrastructure".

- The analysis needs to identify potential threats to both current operations and to the community, and then provide recommendations regarding how to address those threats. Using the "roadway infrastructure" example, one of the issues is the movement through the community roadways of hazardous material (e.g. rocket fuel and components). To address this threat, the County should review and update, if needed, their Hazardous Material (HAZMAT) response plans.
- The TAC is interested in understanding the rationale behind the contractor team's scoring methodology and would like a presentation of this at the next meeting – with a focus on the most critical issues (e.g. the "ones and twos" in the matrix).
- The contractor team should identify both local and global impacts and threats.

Next Steps

The Accomack County JLUS PM indicated that the next TAC meeting will be held on December 12th, and that the January TAC meeting would likely be a joint TAC/PSC meeting/presentation. The contractor project team is also to draft an analysis summary for the TAC to provide to the PSC to re-engage that committee since it has been a considerable period of time since the last PSC involvement.

The meeting adjourned at approximately 1:00 PM.

Meeting summary notes compiled and prepared by:

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Architecture & Engineering

ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Technical Advisory Committee Meeting
November 22, 2013

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
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ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Technical Advisory Committee Meeting
November 22, 2013

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
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Gray text = not in attendance

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Accomack County
Joint Land Use Study
Technical Advisory Committee Meeting
Draft Agenda

November 22, 2013

Chincoteague National Wildlife Refuge Visitor's Center

8231 Beach Road, Chincoteague Island, VA 23336

I. Welcome *5 minutes*

II. Stakeholder Presentations *45 minutes*

- The Nature Conservancy
- U.S. Fish and Wildlife Service and Chincoteague NWR

III. Compatibility Matrix discussion *45 – 60 minutes*

IV. Q & A *10 minutes*

V. Next Steps/Adjourn

The primary focus of the meeting will be the Compatibility Matrix. The Team will discuss all of the data that they have gathered, relate it to the Matrix and explain their initial assessment of the rankings. This will be an interactive process in which the Team will introduce specific data obtained during stakeholder interviews and allow TAC members to confirm and expand on that data with each other, as well as to more fully discuss the Matrix. The objective will be to provide a solid understanding the matrix which will ultimately be the foundation for the JLUS report.

Technical Advisory Committee (TAC) Meeting Summary

June 5, 2014

Attachments: A – Attendees Sign-in Sheet

B – Meeting Agenda

A Technical Advisory Committee (TAC) meeting was held on June 5, 2014 at 9:30 AM at the Lockheed Martin Building located at 33531 Chincoteague Road, Wallops Island, VA. The meeting was conducted according to the attached Meeting Agenda.

Welcome and Overview:

Attendees were welcomed and provided with agenda packets. Rich Morrison welcomed the attendees and provided introductory remarks for the meeting.

Presentation of project status and overview

Steve Todd, representing the contractor project team, provided a brief project overview and status. Progress since the last meeting included data refinement, determination of the operational footprint, field verification of existing land use, additional stakeholder interviews and working report vetting.

Presentation of compatibility analysis summary

Cindy Shurling and Jenny Neyland, representing the project team, presented a synopsis of the compatibility analysis results. Each of the five major issues was presented, followed by questions, comments and further discussion.

The following are discussion notes for each major issue:

Coastal Resiliency

- *Concern was expressed that the existing presentation appeared to misrepresent the issue by indicating some areas such as Wallops Island as entirely submerged in the future. What are the components, frequency and duration of the submergence events?*
- *It was indicated that duration needed to be addressed clearly and that the submergence is certainly not for 365 days a year, but short term.*
- *Flooding incidents are not new and it would be helpful to address more accurately by using historical data.*

- *The cost of flood mitigation is far less than relocation of the facilities on WFF Wallops Island. We need to be careful not to distort the full picture.*
- *NASA: Updated versions of the PEIS will provide helpful data for this and will be provided when available.*

Aircraft Safety Zones

- *Concern was expressed over 6-plane versus 5-pland pattern on the APZs and what the Fleet was planning.*
- *In response, the Fleet has no plans in the foreseeable future for use of Runway 4-22. There is no further known plan, even though the tower continues receiving requests for six-plane pattern.*
- *The question was raised whether the AZPs would enlarge with a six-plan pattern. The answer was that growth is possible if a six-plane pattern were to be implemented.*
- *The opinion was expressed that it seems the real circle of impact is something like an amorphous blob the end of the currently displayed APZs.*
- *With the last comment, it was proposed that we might want in the JLUS Recommendations to focus on zoning restrictions to cover areas in between the APZ fingers, especially as applicable to subdivision development in those areas.*
- *Concern was expressed regarding Runway 35 (Southeast portion around APZs) and natural habitat. The red shading displayed on the APZ maps indicates incompatible land use, and there is nothing (no structures) in that area.*
- *NASA has aerial photos of the area that show exactly what exists under the APZ.*
- *The question was posed regarding the JLUS addressing unmanned aircraft in the Report. The Navy is looking at policy for APZs for UAVs.*
- *County guidance: We don't have a full picture yet. JLUS can address the fact that the issue exists and recommend continued monitoring.*
- *The matter was raised that other issues (than strictly land use) existed, such as safety – fire, rescue, etc.) with respect to the APZs.*
- *The matter was raised about understanding the absolutes of APZ guidance when we develop JLUS recommendations.*

Rocket Safety Zones

- *NASA raised the question: Does the current data in the JLUS document reflect the operation of all three launch pads (A, B and C), requesting confirmation. May just be a mapping clarity matter.*
- *NASA wants to ensure clarity with respect to the potential hazards associated with rocket launches (e.g., debris) and the meaning of the 20,000-foot arc. NASA will provide more advice as to how to present this information.*

Aircraft Noise Zones

- *The comment was made that this was the most impacting issue regarding WFF operations.*
- *The Wallops Research Park does not show as incompatible land use on the current JLUS mapping.*
- *There appear to be some inconsistencies in representing the incompatible types of land uses (e.g., residential). The contractor will get with the USFWS representative to resolve.*
- *As with the APZs, a grey area exists as to future potential plans (versus, clearly known plans).*
- *Question raised: How do we build potential plan changes into the JLUS document? What does it look like? Triggers need to be addressed regarding future change. Users of the JLUS data need to know what to look for.*

EMI & Radar Interference

- *SCSC indicated that the second paragraph in the JLUS Report text on this issue should be stricken as it is incorrect. The contractor will get with SCSC to resolve and provide accurate language.*
- *NASA question: Can we say that the current JLUS document discussion is inclusive of ASRE? We want to ensure a comprehensive look. Also, how does the impact happen – the communications between the pilots and ground personnel?*
- *SCSC does have RFI emission concerns, such as for the Wallops Research Park.*
- *There might be a concern for cell towers (physical and/or electronics interference. Per SCSC, not a problem. Per NASA, may be a problem for their operations.*

Offshore Alternative Energy Development

- *It was indicated that the JLUS document needs to identify current processes and relationships regarding this issue. What is the existing process NASA and the Navy have for assessing alternative energy projects? We must avoid recommending processes in the JLUS Report that are already in place.*

General Comments:

- *Concern expressed that we need to clearly define the relative timeframe for each of the compatibility issues. Assumptions should be clearly stated regarding the planning window timeframe is based on.*
- *Concern was expressed that air and water pollution and public health & welfare are not entirely addressed in the JLUS Report.*

Next Steps

The TAC agreed to provide their support for the JLUS document to be used as a tool moving forward into the developing of recommendations with the following conditions:

1) The topics of special concern must be corrected and shown in an updated Working Draft JLUS document for presentation to the PSC.

2) Other minor issues must be documented in a Comments Summary for review and ultimate inclusion in the Working Draft JLUS Document.

A Joint PSC/TAC meeting was established for June 25 at which time the Working Draft JLUS Document will be presented along with a brief history of the project progress to re-engage the PSC.

The meeting adjourned at approximately 12:15 PM.

Meeting summary notes compiled and prepared by:

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Architecture & Engineering

ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Technical Advisory Committee Meeting
June 5, 2014

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
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ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Technical Advisory Committee Meeting
June 5, 2014

ATTACHMENT A

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ACCOMACK COUNTY JOINT LAND USE STUDY
TECHNICAL ADVISORY COMMITTEE

Lockheed Martin Building
8208 Salyer Drive
Wallops Island, Virginia
Thursday, June 5, 2014
9:30 AM

1. **JLUS PROJECT RE-START** [Rich Morrison]

2. **PROJECT OVERVIEW** [Clark-Nexsen/E&E]

3. **PRESENTATION OF KEY NEW INFORMATION** [Clark-Nexsen/E&E]
   - Overview of Existing Land Use
   - Overview of APZs
   - Compatibility Analysis and Compatibility Issues

4. **TAC QUESTIONS AND DISCUSSION OF INFORMATION PRESENTED AND COMMENTS ON OVERALL JLUS DRAFT REPORT**

5. **STEPS NEEDED TO GET TAC ENDORSEMENT OF JLUS DRAFT DOCUMENT**

6. **NEXT STEPS** [Clark-Nexsen/E&E]

Joint Policy Steering Committee (PSC) / Technical Advisory Committee (TAC) Meeting Summary

June 25, 2014

Attachments: A – Attendees Sign-in Sheet

B – Meeting Agenda

A Joint Policy Steering Committee (PSC)/Technical Advisory Committee (TAC) meeting was held on June 25, 2014 at 9:30 AM at the Lockheed Martin Building located at 33531 Chincoteague Road, Wallops Island, VA. The meeting was conducted according to the attached Meeting Agenda.

Welcome and Overview:

Attendees were welcomed and provided with agenda packets. The meeting objectives were stated as presentation of material for PSC approval and authorization for the contractor to proceed in formulation JLUS recommendations.

Presentation & discussion of the major compatibility issues as represented in the Draft JLUS document

The contractor presented an overview of project progress, project status, and the JLUS Draft Report document.

Following the brief overview, the contractor presented a summary of the major findings and analysis, with interactive discussion with the PSC of each major issue.

The following are discussion notes for each major compatibility issue:

Coastal Resiliency

- *NASA has storm event historical data covering a long period of time. This data may need to be sorted and aligned for use with the JLUS document.*
- *It was indicated that the latest FIRM/FEMA Flood Mapping data should be incorporated.*
- *The addition of a List of Resources is to be included as a JLUS Report Appendix along with the current List of References.*
- *A 20-year horizon was indicated as an appropriate basis for formulation of recommendations for the JLUS Report.*

Aircraft and Rocket Safety Zones

- *One of the rocket launch photos in the document appears to be of Cape Canaveral, not Wallops Island. The contractor will remove/replace this photo.*
- *Question: How will the AICUZ map be affected by UAV's? NASA indicated the COAs indicate flight areas, elevations, etc., but it is not believed that the AICUZ guidance applies to UAVs. It was also thought that UAV flights may be over the water only, not land. It was concluded that it is too early in the UAV program development to know details of its operations, so the best that can be indicated is the intention of runway construction for UAVs in the future.*
- *Obstructions with the Clear Zone and APZs should be addressed – tree height and define areas to exclude potential cell tower siting. NASA will provide the imaginary surfaces.*
- *It was indicated that the report and any public information should articulate the findings in a more positive manner. Remove conflicts in map titles to better identify conditions. Clarifications should distinguish between 'conditionally compatible' and 'incompatible' conditions.*
- *For Wallops Research Park, articulate and clarify whether/how to include as an incompatible use.*
- *Concern was expressed that the JLUS Report and other public information clarify that the JLUS recommendations are guidance resources and not policy.*
- *Communication of the NASA range hazard arc information is important. It was requested that the 15,000-foot arc be deleted, but that the text address this radius and what it means. It was also requested that the 10,000-foot arc be shaded with red color.*
- *NASA suggested using Comprehensive Plan rocket arc language in the JLUS Report.*
- *The question of how much buildable land exists within the rocket hazard arcs (based on soils)?*

Aircraft Noise Zones

- *No Comments*

EMI & Radar Interference

- *NASA to provide a map identifying RF 'quiet zones' with respect to potential interference primarily for launch events.*

Offshore Energy Development

- *No Comments*

General Comments:

- *The report data needs to be simplified for public consumption.*
- *It was recommended that the data be presented to County elected officials prior to release to the public. Additionally a public communication plan is critical and should be developed and vetted with the PSC at the next meeting.*

Next Steps

The PSC approved the contractor to proceed to formulate recommendations (TASK 4 of the contract) with the acknowledgement that the JLUS Report needs to be revised per the comments received in today's meeting. No additional compatibility issues were identified to be addressed.

The contractor is to develop a Public Participation Plan that will be fully vetted by the PSC and likely reviewed by County elected officials.

The meeting adjourned at approximately 12:15 PM.

Meeting summary notes compiled and prepared by:

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Architecture & Engineering

ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Joint Policy Steering Committee - Technical Advisory Committee
Meeting – June 25, 2014

ATTACHMENT A

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ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Joint Policy Steering Committee - Technical Advisory Committee
Meeting – June 25, 2014

ATTACHMENT A

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Alex Bengtson		SCSC				
Tyson Smith		White & Smith, LLC				
Jack Tarr	Mayor	Town of Chincoteague				
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ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Joint Policy Steering Committee - Technical Advisory Committee
Meeting – June 25, 2014

ATTACHMENT A

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ACCOMACK COUNTY JOINT LAND USE STUDY JOINT MEETING
POLICY COMMITTEE AND TECHNICAL ADVISORY COMMITTEE

Lockheed Martin Building
8208 Salyer Drive
Wallops Island, Virginia
Wednesday, June 25, 2014
9:30 AM

1. **JLUS PROJECT RE-START** [Rich Morrison]

2. **PROJECT OVERVIEW –** [Clark-Nexsen/E&E]

3. **PRESENTATION OF KEY NEW INFORMATION** [Clark-Nexsen/E&E]
   - Overview of Existing Land Use
   - Overview of APZs
   - Compatibility Analysis and Compatibility Issues
   - Discussion of Information Presented

4. **COMMENTS ON OVERALL JLUS DRAFT REPORT**

5. **RECOMMENDATION PHASE** [Clark-Nexsen/E&E]

6. **OVERALL PROJECT NEXT STEPS** [Clark-Nexsen/E&E]

Technical Advisory Committee (TAC) Summary

August 7, 2014

Attachments: A – Attendees Sign-in Sheet

B – Meeting Agenda

A Technical Advisory Committee (TAC) meeting was held on August 7, 2014 at 9:30 AM at the Lockheed Martin Building located at 33531 Chincoteague Road, Wallops Island, VA. The meeting was conducted according to the attached Kick-Off Meeting Agenda.

Welcome and Overview:

Attendees were welcomed and provided with agenda packets. A brief review of project status was provided by the Accomack County JLUS PM.

Draft JLUS Recommendations

Steve Todd and Walt Cole, representing the contractor project team, presented each draft recommendation, followed by TAC discussion and input. The first 11 of 18 total recommendations were fully vetted. The meeting closed with a follow-up meeting scheduled for August 12, 2014 to address the remaining recommendations.

The following TAC input on each recommendation was noted:

1. Communicate conclusions and progress of ongoing local and regional coastal impact studies to Accomack County and Wallops officials. (CC)
    - *Combine with # 2 for a single recommendation.*
    - *Include Chincoteague and Assateague as partners.*

2. Develop a collaborative County - WFF Coastal Resiliency Action Plan. (PP)
    - *Need to identify resources required, who takes lead, etc.*
    - *Concern expressed that County appears too passive in this recommendation.*
    - *Concern expressed that new mapping does not cover marsh areas, etc. beyond the bounds of dry land, whereas it should clearly show the entire coastal area and all of the Eastern Shore. Also needs to be connected with the nearby coastal areas to Accomack County.*
    - *What about funding resources?*
    - *What about adding Climate Adaptation Working Group (?) to the list of resources?*
    - *Also there is a Wallops Area Sand Management Committee to be added to reference list.*
    - *Need to consider a Retreat Plan for WFF Wallops Island facilities.*

3. Add a Navy representative on the Wallops Research Park Leadership Council. (CC-LG)

    - *Navy had been included as voting member, but Navy declined to assume that role.*
    - *It was indicated that there is a process already in place to link necessary County-Navy communications regarding 'notifications.'*
    - *TAC requested this recommendation be deleted.*

4. Develop guidance for compatible land use in Clear Zone, APZ 1, and APZ 2. (PP)

    - *TAC in general agreement with this recommendation.*
    - *Concern expressed over potential discretionary expansion in the future – what mechanism is there to deal with that?*
    - *OEA thinks this recommendation should be linked with Recommendation #13.*
    - *The question arose as to whether there were good examples where a locality has gone beyond the exact bounds of AICUZ guidance in defining a zoning overlay district. Contractor will research.*
    - *Recommendation was made that the materials use the term "zoning and subdivision" overlay district vs. "zoning" overlay district.*

5. Research the adoption of measures to ensure early & full real estate disclosure with respect to properties located within aircraft safety zones if the enabling legal authority exists to do so. If not, pursue Commonwealth of Virginia legislation to amend 55-517/55-519 (Required disclosures) to include military aircraft operations on non-military airfields. (RE-LG)

    - *TAC in general agreement with this recommendation.*

6. Establish process for mitigation of existing incompatibilities within the WFF aircraft safety zones. (ZB-CI-AQ)

    - *Comment: Strategy should take the form of (1) voluntary action and (2) best economic development approach*
    - *The question was raised: Why NASA/Navy housing on base has not been addressed the same as with property owners outside the installation? Concern over public reaction to this seeming disparity.*
    - *Concern was expressed over need for prioritization of various strategies, with a focus on clear zone incompatible parcels, also remembering these are not changed from previous clear zones and are unlikely to change in the future.*
    - *Per County, Trail's End presents a "covenant and restriction" issue vs. a "zoning" issue.*
    - *A proposal was put forth to acknowledge two separate strategies: (1) Acquisition for <u>existing</u> incompatible parcels and (2) Zoning modifications for <u>future</u> potential incompatibilities.*
    - *Caution was expressed regarding overreacting to incompatible parcels that represent a preexisting condition (grandfathering issue).*

7. Develop additional building requirements for new construction in the rocket safety arcs. (ZB)

- *Ensure we clarify that this recommendation strictly regards "new construction,' whereas # 8 regards existing construction.*
- *NASA concern noted that debris in the case of rocket launch failure is a major concern, definitely within the 10,000- foot arc.*
- *It was noted that this recommendation would also (as with # 5) require State enabling legislation (LG).*
- *Perhaps MARS might be able to assist with legislative pursuit with their experience.*
- *Re: legislation, we were informed that other JLUS studies have begun to reveal a consensus on the need for legislative action for such issues. Thus this may not present as large a hurdle as previously.*
- *It was noted that at the County permitting level, requestors are/will be notified of the safety zones with the recommendation of appropriate construction.*
- *County indicated that it was allowed to adopt regulations for aircraft safety zones, but not rocket zones.*
- *Concern was expressed that the more aggressive approach would face much opposition, whereas less restrictive alternatives could get the job done. It was indicated that our focus needed to be primarily on education and notification.*
- *Concern was also expressed over 'manufactured housing' being erected by property owners (vs. developers of larger housing developments) in agricultural zones – difficult to control.*
- *Information presented: It would be advantageous for NASA to have consistent early notification, such as early real estate disclosure.*
- *Information was presented that FAA requires insurance coverage for commercial rocket launches.*

8. Pursue incentives for retrofits to windows on existing buildings in the rocket safety arcs. (CI)

    - *What about state or federal funding for incentives?*

9. Establish measures to ensure early & full real estate disclosure with respect to properties located within aircraft noise zones. See discussion on Recommendation # 5. (RE-LG)

    - *It was proposed that noise and safety zone implementation strategies could be combined.*

10. Modify existing building requirements for buildings within the aircraft noise zones as applicable for compatibility of new construction within the zones. (ZB)

    - *Concern was expressed to identify the approximate costs incurred by having to meet the new requirements.*

11. Establish a structured collaborative process for reviewing requests for development of structures such as commercial wind turbines, cell towers, tall buildings or other structures. (CC)

    - *Three primary factors: height, frequency, power level*
    - *Airport overlay zones are currently used for RF approvals.*

Next Steps

The next (follow-up) TAC meeting, scheduled for August 12, 2014, will be used to address the remainder of the draft recommendations as well as implementation strategies for each recommendation.

The meeting adjourned at approximately 12:45 PM.

Meeting summary notes compiled and prepared by:

CLARK • NEXSEN
Architecture & Engineering

ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Technical Advisory Committee Meeting
August 7, 2014

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
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Debby Ryon	Facilities Engineer	SCSC Wallops Navy	757-824-2053		debra.ryon@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
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ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Technical Advisory Committee Meeting
August 7, 2014

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
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Amber Levofsky	Project Manager	Office of Economic Adjustment	(703) 697-2096	703-607-0170	Amber.Levofsky@wso.whs.mil	2231 Crystal Drive, Suite 520 Arlington, VA 22202
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ACCOMACK COUNTY JOINT LAND USE STUDY
TECHNICAL ADVISORY COMMITTEE MEETING

Lockheed Martin Building
8208 Salyer Drive
Wallops Island, Virginia
Thursday, August 7, 2014
9:30 AM

1. **PRESENTATION OF DRAFT JLUS RECOMMENDATIONS –** [Clark-Nexsen/E&E]

2. **TAC QUESTIONS AND DISCUSSION OF DRAFT JLUS RECOMMENDATIONS**

3. **NEXT STEPS: AUGUST 12, 2014 TAC MEETING –** [Clark-Nexsen/E&E]

Technical Advisory Committee (TAC) Meeting Summary

August 12, 2014

Attachments: A – Attendees Sign-in Sheet

B – Meeting Agenda

A Technical Advisory Committee (TAC) meeting was held on August 12, 2014 at 9:00 AM at the Arcadia Middle School located at 29485 Horsey Rd, Oak Hall, VA 23416. The meeting was conducted according to the attached Kick-Off Meeting Agenda as a follow-up to the August 7, 2014 meeting.

Welcome and Overview:

Attendees were welcomed and provided with agenda packets.

Draft JLUS Recommendations

Steve Todd and Walt Cole, representing the contractor project team, presented each of the remaining draft recommendations (not covered in the previous meeting), followed by TAC discussion and input. Recommendations 12 - 18 total were fully vetted. There followed a summary discussion of the recommendations, a thorough vetting of the associated implementation strategies for each recommendation, and an initial discussion of priorities. The meeting closed with another follow-up meeting scheduled for August 21, 2014 to present and polish the recommendations for presentation to the Policy Steering Committee (PSC) on August 28, 2014.

The following TAC input on each recommendation was noted:

12. Track future offshore alternative energy development initiatives, using the Compatibility Working Group deliberations as a forum for sharing and discussing issues and plans. (CC)
    - *Need to present as "offshore energy" versus "alternative energy" since traditional means such as oil, etc. are involved.*
    - *Not a land use issue for the County as it does not regulate stuff out in the waters, per se. However, this issue could affect economic development, even though not a land use issue.*
13. Establish a WFF Zoning Overlay District. (ZB)
    - *Do we need to deal with overlay "district**s**" versus "district?" Airport overlay zone already exists. Best to reword the recommendation to address "aircraft safety zone" or "aircraft operations safety zone." The existing airport overlay zone does not deal with people's safety and population density issue.*

- *Need to point to the coming of UAVs and potential impact & need to reconsider the extents of the AICUZ and community safety related to UAVs when the need takes place (placeholder).*

14. Establish a Wallops Working Group. (CC)
    - *Concern expressed if the group (including Navy representative) had voting authority for zoning, land use restrictions – not appropriate.*
    - *Town of Chincoteague should be added to the Group.*
15. Amend/Update the Accomack County Comprehensive Plan. (PP)
    - *Placing the JLUS information into the Comprehensive Plan is good, but not directly placing the recommendations into the Plan (as indicated in the stated intention. Need to restate the recommendation details accordingly.*
16. Establish an official communications/public education plan for maintaining public awareness of JLUS implementation plans and ongoing County/WFF developments. (CC-PP)
    - *Better to leave the responsibility for this recommendation to the Wallops Working Group versus the County.*
17. Update the Accomack County GIS database for monitoring land use changes in the WFF operational footprint. (PP)
    - *Okay as is.*
18. Explore and pursue available grants and/or supplemental funding sources for JLUS implementation. (PP)
    - *Per OEA PM, the JLUS report is a good opportunity to raise this.*
    - *A commander in a recent conference indicated that if a strong case is made for REPI, that may be a good funding resource.*

Summary Discussion of Recommendations

- *Regarding combining # 11 and # 12: Best, per this morning's discussion on # 12, to keep these two separate.*
- *Regarding rocket safety arcs and window retrofit incentives: It would be preferable to employ technology versus zoning methods to resolve. Josh (NASA) will research and report back.*
- *Concern was expressed via email (from Bill Neville) over EMI and the Town of Chincoteague not being included in the Recommendation #11 discussion. Frequency band used by WiFi is the same as NASA uses and, thus, is an issue. Concern is whether this JLUS is to address this issue, including the Town of Chincoteague. A suggestion was made that an EMI overlay zone be established for Chincoteague.*
- *Need to include Chincoteague in coordination of the Coastal Resiliency issue.*
- *Need to also include DOI, not just Fish & Wildlife.*

Discussion of Implementation Strategies

Coastal Resiliency

- *Add A-NPDC and MACRI as partners.*

- *Prefer to have the County 'coordinate' this effort versus being in 'lead' role. The County does not provide the technical expertise that is critical to this recommendation.*
- *Perhaps the recommendation needs restating. At any rate, the focus needs to be on sustaining the WFF federal facilities and the infrastructure that supports them in the area.*
- *Need to place the burden on WFF to communicate the pertinent information to the County for consideration and needed action.*

Guidance for compatible land use in Clear Zone, APZ 1 and APZ 2

- *Don't forget to change the graphic to reflect red shading for clear zone only and change the shading to yellow for APZ 1 and APZ 2.*
- *Concern was expressed over federal maintenance facilities in safety zone. It would be unwise to construct related housing in that area.*
- *Suggestion was made to change the verbiage to "Adapt County zoning ordinance to utilize Navy guidance" versus "Develop guidance."*
- *The Nature Conservancy requested involvement for this issue.*

Early & full real estate disclosure/enabling legislation

- *DOD should be included as a 'resource' partner versus 'lobbying' partner.*

Mitigation process for existing incompatibilities in WFF safety zones

- *Need to establish priorities with clear zone as top priority.*
- *Clarification: The recommendation is for doing study, parcel by parcel, and make decisions regarding what policy will be and what mitigation needs to take place.*
- *Concern was expressed over the County being the lead on this recommendation. The County understandably would be lead on future actions. But existing conditions/conflicts are due to federal operations in the vicinity of existing land uses. The issue needs to be resolved, but not with County as lead role.*
- *It was recommended that this issue be addressed only for clear zones (not APZs) since we are dealing with existing issues, not potential future ones.*
- *Clarification: The recommendation is for establishing the process, not resolving the issue.*
- *Clarification: The process to be established is for 'mitigation,' not 'notification.'*
- *It was recommended that USFWS and TNC be removed from the list of partners for this issue.*
- *It was recommended that DOD and NASA lead this initiative along with the County (no partners).*
- *It was noted that identification of the impacted properties is part of the process.*

Requirements for new building construction in rocket safety arcs

- *Full disclosure and appropriate building requirement changes are important from the NASA mission standpoint.*

- *Suggestion: As an advisory matter, disclosure can be made in the permitting process without a legislative change.*
- *Direction: Re-write the recommendation to indicate 'notification and full disclosure' versus 'new construction requirements.'*

Incentives for window retrofits for existing buildings in rocket safety arcs

- *NASA will "research and inform/propose solutions" versus "pursue."*

Early & full real estate disclosure for aircraft noise

- *Direction: Combine this recommendation with the one for early & full real estate disclosure for aircraft safety zones.*

Modify new building construction requirements in aircraft noise zones

- *This should be permissive (allowance), not absolute requirement*
- *Recommendation: This would be enhanced with cost information for similar applications in other locations.*

Collaborative process for EMI tracking and reviewing requests

- *Remember the previous issue of separating the two recommendations (onshore & offshore interference issues).*
- *Other tall structures or cell towers would apply only to onshore requests.*
- *The specific concern over towers is for RF emitters/receivers.*
- *Remember Chincoteague is a partner in this one.*
- *Recommendation: Change forms/questions for requestors up front to help identify potential RF sources.*
- *Lead for #12 would be the Working Group.*

WFF zoning overlay district

- *Would need to separate out rocket arcs and aircraft safety zones.*
- *Graphic representation: Take the yellow highlight out and keep green blob only for aircraft safety zone overlay (beyond existing aircraft overlay zone).*

Wallops working group

- *Direction: Apply a more conservative approach – advisory, with formal dialogue.*
- *Add DOI as a partner.*

Update the Comprehensive Plan

- *Direction: Make this a conservative approach – simply adding the JLUS information.*

Communications/public awareness plan

- *Direction: Make this a conservative approach also, providing updates, not a formal plan.*

Update GIS database

- *No further comments.*

Grants & funding sources for JLUS implementation

- *Direction: Make the Working Group the lead for this.*

Discussion of Priorities

A brief discussion of priorities and relationships between the recommendations took place prior to adjournment.

Next Steps

The next (follow-up) TAC meeting, scheduled for August 21, 2014, will be used to finalize/polish the draft recommendations and qualify them as high, medium, or low priority in preparation for proposing them as "TAC Recommendations" to the PSC on August 28, 2014.

The meeting adjourned at approximately 12:30 PM.

Meeting summary notes compiled and prepared by:

CLARK • NEXSEN
Architecture & Engineering

ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Technical Advisory Committee Meeting
August 12, 2014

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
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Todd Winfield	Director of Management Operations	SCSC Wallops Navy				30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
Brian Ballard	Community Plans & Liaison Officer	NAVFAC JEB Little Creek Fort Story	757-462-8421		brian.p.ballard@navy.mil	
Debby Ryon	Facilities Engineer	SCSC Wallops Navy	757-824-2053		debra.ryon@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
Henry Schoenborn	Special Program Manager	SCSC	757-824-6801		henry.schoenborn@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
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ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Technical Advisory Committee Meeting
August 12, 2014

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
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ACCOMACK COUNTY JOINT LAND USE STUDY
TECHNICAL ADVISORY COMMITTEE MEETING

Arcadia Middle School Library
29485 Horsey Road
Oak Hall, VA 23416
Tuesday, August 12, 2014
9:00 AM

1. **PRESENTATION OF DRAFT JLUS RECOMMENDATIONS –** [Clark-Nexsen/E&E]

2. **TAC QUESTIONS AND DISCUSSION OF DRAFT JLUS RECOMMENDATIONS**

3. **NEXT STEPS: AUGUST 21, 2014 TAC MEETING –** [Clark-Nexsen/E&E]

Technical Advisory Committee (TAC) Meeting Summary

August 21, 2014

Attachments: A – Attendees Sign-in Sheet

B – Meeting Agenda

A Technical Advisory Committee (TAC) meeting was held on August 21, 2014 at 2:30 PM at the Arcadia Middle School located at 29485 Horsey Rd, Oak Hall, VA 23416. The meeting was conducted according to the attached Meeting Agenda as a follow-up to the August 7 and 12, 2014 meetings.

Welcome and Overview:

Attendees were welcomed and provided with agenda packets.

Draft JLUS Recommendations

Steve Todd and Walt Cole, representing the contractor project team, presented each of the 17 draft recommendations and received TAC questions, comments, and direction. The meeting closed with the contractor tasked to finalize the changes based on TAC input in preparation for presentation to the Policy Steering Committee (PSC) on August 28, 2014 as TAC recommendations.

The following TAC input on each recommendation was noted:

The current collection of seventeen recommendations was presented, as revised per the previous meetings. The additional input provided by the TAC was as follows:

Recommendation # 1: Develop a plan for mitigating the effects of recurrent flooding, storm surge events, and sea level rise for the Navy, NASA, and MARS facilities on WFF Wallops Island.

- *Change SCSC to Navy (as a partner).*
- *Suggestion: Change "mitigation" to "accommodation."*
- *Remove the reference to the Sand Management Committee since it is not a reality yet.*
- *Move infrastructure to be included with mainland under Recommendation # 2.*

Recommendation # 2: Develop a plan for mitigating the effects of recurrent flooding, storm surge events, and sea level rise for the coastal areas of Accomack County within the study area.

- *Chan Need to limit recommendation to the study area if expect support/funding (also add this change to the statement of intent.*
- *This recommendation seems too broad.*
- *Use the consensus terminology as in Recommendation # 1*

Recommendation # 3: Amend Accomack County Zoning Ordinance and Subdivision Ordinance for compatible land use in Clear Zone, APZ 1, APZ 2, and other affected areas.

- *Question: Is the best way to indicate hazard using the term "safety" zone? It is not safe and we do not want to poorly communicate this issue. Better to use the term "accident potential zone." Consensus is to use this terminology.*
- *Direction: Need to affix something like the following wording to the end of the recommendation statement: "and potentially beyond if warranted by supporting data." This also needs to be reflected in the statement of intent.*
- *Concern was expressed regarding the appearance of the zones since the aircraft touch and go exercises do not follow these tracks exactly in real practices. Perhaps a blob covering the extents would better represent reality.*

Recommendation # 4: Adopt measures for early & full real estate disclosure with respect to properties located within aircraft accident potential & noise zones. Pursue Commonwealth of Virginia legislation to amend 55-517/55-519 (Required disclosures) to include military aircraft operations on non-military airfields.

- *Why not add commercial or military operations, not just limiting to military as the only concern?*
- *We want to make this applicable specifically to this airfield. So just say that, not to worry about any other such airfields.*
- *Add comment: Refer to Recommendation # 11 regarding WFF aircraft overlay district.*

Recommendation # 5: Establish a process for mitigating existing incompatibilities within the WFF aircraft clear zones.

- *Change lead role to "TBD" (by PSC); then add NASA as a resource partner.*

Recommendation # 6: Provide notification of rocket safety zones for new construction permits within the rocket safety arcs.

- *Call the rocket safety zones "range hazard area' to accurately communicate its character.*
- *Given the unique nature of WFF, full real estate disclosure is warranted. For the purposes of the extent of the hazard range, consider the 20,000-foot arc as the effective zone.*
- *The reference to real estate disclosure can be moved to the discussion bullet. Delete mention of new construction.*
- *NASA is the economic engine for the area, more so than the airfield issue. So this is very important for the County.*
- *This recommendation should be a very high priority.*
- *In the end, a 3-part warning is involved: (1) when property is bought; (2) when construction permit is pursued; and (3) when launch event notification occurs.*
- *Need to ad VA commercial space flight authority as a resource partner.*

Recommendation # 7: Provide information regarding incentives for retrofits to windows on existing buildings within the rocket safety arcs.

- *Need to ad VA commercial space flight authority as a resource partner.*

Recommendation # 8: Provide notification of the need for, and encouragement for application of noise attenuation measures for new construction within the aircraft noise zones as part of the permitting process.

- *Reiterated that we need to research cost for the noise attenuation measures as well as for manufactured homes.*
- *Recommended change the verbiage to: "Encourage the application of noise attenuation measures within the aircraft noise zones for new construction*

Recommendation # 9: Establish a structured collaborative process for reviewing requests for development of commercial wind turbines, cell towers, or tall buildings.

- *Strike the word "structures and the words "tall buildings." These are already covered under code.*
- *Change the word "prevent" in the statement of intent to "discourage."*
- *There remains concern over (1) line of site issue and (2) RF emitter issue.*
- *Delete the words "RF emitters" prior to "structures."*

Recommendation # 10: Revise forms/questions for offshore energy development requests to identify potential operational interference.

- *Need to indicate more than just "offshore" since there is concern over the bay as well as the ocean.*
- *What are the "forms" referred to? How can the County help this since it is in the hands of the DOD Siting Clearinghouse?*
- *NASA and/or Navy are to notify the County and Working Group of requests received by the Clearinghouse.*
- *This should be considered a low priority.*

Recommendation # 11: Establish a WFF Aircraft Operations Overlay District

- *Update the map since there are two separate overlay districts – aircraft and rocket.*
- *Add language here that was added in earlier recommendation regarding clear zone, APZ 1, APZ 2, "and beyond…"*

Recommendation # 12: Establish a WFF Rocket Launch Overlay District.

- *Need to add the correct designation to the discussion bullet: "range hazard area."*

Recommendation # 13: Establish a Wallops Advisory Working Group.

- *As partners, add VA commercial space flight authority and A-NPDC.*
- *Delete DOI.*

Recommendation # 14: Amend/Update the Accomack County Comprehensive Plan.

- *No comments.*

Recommendation # 15: Communicate land use compatibility issues/information with the public on an as-needed basis.

- *Add "provide annual update on JLUS implementation progress to Accomack County Board of Supervisors."*

Recommendation # 16: Update the Accomack County GIS database with JLUS Report data.

- *Add to recommendation statement: "…following adoption by the Accomack county Board of Supervisors."*
- *Need to add to this the matter of including ongoing sharing of updated GIS data since this should be ongoing and not just a one-time event.*

Recommendation # 17: Pursue available grants and/or supplemental funding sources for JLUS recommendations implementation.

- *Give some additional sources as examples.*

The following TAC priorities were assigned to the recommendations:

HIGH	MEDIUM	LOW
1, 3, 5, 6, 11, 12, 14	2, 4, 7, 8, 13, 15, 16, 17	9, 10

Note:

Stemming from the discussion of priorities, the TAC chose to make the following changes:

(1) Combine Recommendations # 3 and # 11 into a single recommendation.
(2) Combine Recommendations # 6 and #12 into a single recommendation.

Next Steps

The next (follow-up) TAC meeting, scheduled for August 28, 2014, will be a joint PSC/TAC review meeting in which these recommendations, with the indicated revisions, will be proposed as "TAC Recommendations" to the PSC.

The meeting adjourned at approximately 5:30 PM.

Meeting summary notes compiled and prepared by:

CLARK • NEXSEN
Architecture & Engineering

ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Technical Advisory Committee Meeting
August 21, 2014

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
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Grayson Chesser	Accomack County Board of Supervisors	Accomack County	757-824-9666			P.O. Box 12 Sanford, VA 23426
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ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Technical Advisory Committee Meeting
August 21, 2014

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
Henry Schoenborn	Special Program Manager	SCSC	757-824-6801		henry.schoenborn@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
Jim McGowan	Land Protection Manager – Virginia Coast Reserve	The Nature Conservancy	757-422-3049, ext. 22	757-422-5418	jmcgowan@tnc.org	11332 Brownsville Road Nassawadox, VA 23413
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Ron Rice	Senior Planner	Clark Nexsen	757-961-7949	757-455-5638	rrice@clarknexsen.com	4525 Main Street Suite 1400 Virginia Beach, VA 23462
Steve Todd	Senior Project Manager	Clark Nexsen	757-351-1236	757-455-5638	stodd@clarknexsen.com	4525 Main Street Suite 1400 Virginia Beach, VA 23462

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ACCOMACK COUNTY JOINT LAND USE STUDY
TECHNICAL ADVISORY COMMITTEE MEETING

Arcadia Middle School Library
29485 Horsey Road
Oak Hall, VA 23416
Thursday, August 21, 2014
2:30 P.M.

1. **REVIEW OF DRAFT TAC JLUS RECOMMENDATIONS –** [Clark-Nexsen/E&E]

2. **TAC DISCUSSION OF DRAFT TAC JLUS RECOMMENDATIONS**

3. **TAC APPROVAL OF TAC JLUS RECOMMENDATIONS**

4. **NEXT STEPS: AUGUST 28, 2014 JOINT MEETING –** [Clark-Nexsen/E&E]

Joint Policy Steering Committee (PSC) / Technical Advisory Committee (TAC) Meeting Summary

August 28, 2014

Attachments: A – Attendees Sign-in Sheet

B – Meeting Agenda

A Joint Policy Steering Committee (PSC)/Technical Advisory Committee (TAC) meeting was held on August 28, 2014 at 2:00 PM at the Lockheed Martin Building located at 33531 Chincoteague Road, Wallops Island, VA. The meeting was conducted according to the attached Meeting Agenda.

Welcome and Overview:

Attendees were welcomed and provided with agenda packets. The Clark Nexsen PM provided a brief review of project status, plan for the day, and discussion guidance.

TAC Recommendations

Steve Todd, representing the contractor project team, presented each of the 15 TAC Recommendations. TAC members and the contractor provided response to questions and comments from PSC members.

The following TAC input on each recommendation was noted:

The current collection of seventeen recommendations was presented, as revised per the previous meetings. The additional input provided by the TAC was as follows:

Recommendation # 1: Develop a plan for mitigating and/or accommodating the effects of recurrent flooding, storm surge events, and sea level rise for the Navy, NASA, and MARS/VCSFA facilities on WFF Wallops Island.

- *Concern was expressed that we are dealing with what is already in place. What about the future – 20, 30 or 100 years? What will Wallops Island look like in 50 years? NASA indicated that its Master Plan reflects no new development on susceptible areas of the Island. Also any new facilities are being raised higher when constructed. Additionally, the PEIS is in lock step with this JLUS. NASA offered to hold as special session for the County to discuss these planning issues for the future.*
- *Concern was expressed that the County is dealing with the coastal resiliency issue now, when it should wait until NASA/Navy come back with a plan for the County to consider. In response, it was indicated that the County is not necessarily the lead on this issue and should not be. NASA indicated that indeed this could be made a longer term issue, but the recommendation should be kept in the mix as addressing a legitimate issue.*

Recommendation # 2: Develop a plan for mitigating and/or accommodating the effects of recurrent flooding, storm surge events, and sea level rise for the coastal areas of Accomack County within the study area.

- *Skipped over Recommendation # 2 to focus on others considered more critical currently.*

Recommendation # 3: Establish a WFF Aircraft Operations Overlay District and amend the Accomack County Zoning Ordinance and Subdivision Ordinance for compatible land use in Clear Zone, APZ 1, and APZ 2, and other affected areas.

- *Concern was expressed with the JLUS document as written – being inconsistent in application of AICUZ guidance, e.g., with reference to a portion of the proposed Atlantic Town Center being considered incompatible development. It was suggested that larger mapping showing specific parcels of land shown more clearly with reference to accident potential zones. One response indicated that this may give a false sense of security for those parcels more clearly shown to be outside of the zones (since the aircraft performing touch and go do not necessarily remain exactly within the theoretical bounds of the zones.*
- *The contractor was directed to remove explicit references to the Atlantic Town Center from the JLUS Report.*

Recommendation # 4: Adopt measures for early and full real estate disclosure with respect to properties located within aircraft accident potential and noise zones. Pursue Commonwealth of Virginia legislation to amend 55-517/55-519 (Required disclosures) to include military aircraft operations on non-military airfields.

- *Some discussion with conclusion that this recommendation is good.*

Recommendation # 5: Establish a process for mitigating existing incompatibilities within the WFF aircraft clear zones.

- *The question arose about the number of acres in the 'clear zone.' The answer given was approximately 75 acres.*

Recommendation # 6: Establish a WFF Rocket Launch Overlay District and provide notifications in the range hazard area.

- *The use of the term 'overlay district' as applied to the WFF rocket launch range hazard area, and was questioned with the suggestion that this is more of a comprehensive plan issue versus a zoning issue. Also there apparently is no precedent for this. A suggestion was made that the contractor might check with property owners outside of Vandenberg AFB.*
- *A question was also raised regarding the largest potential rocket launch impact. NASA indicated the 20,000-foot arc represents the expected maximum reach, although currently NASA is not using the full 20,000 feet for any launches.*
- *The question was raised as to potential launch impacts, with NASA indicating direct blast and debris if failure occurs on a pad or quickly after launch.*
- *Contractor will give further consideration and adjust the recommendation language as appropriate.*

Recommendation # 7: Provide information regarding incentives for retrofits to windows on existing buildings within the range hazard area.

- *Regarding window retrofit incentives, NASA indicated the safety problem could be shattering glass, so it would be good to have these incentives.*

Recommendation # 8: Encourage the application of noise attenuation measures within the aircraft noise zones as part of the permitting process for new construction.

- *County is already planning to take measures to encourage application of noise attenuation.*

Recommendation # 9: Establish a collaborative review process for requests relating to development of commercial wind turbines, cell towers, radio frequency emitters or structures.

- *There was a question about the Chincoteague WiFi system. The process to be put into place was explained.*

Recommendation # 10: NASA and/or Navy notify Accomack County and Working Group of offshore energy development to identify potential operational interference.

- *Some discussion took place regarding offshore energy initiatives and TAC provided clarification.*

Recommendation # 11: Establish a Wallops Advisory Working Group.

- *It was suggested that a Navy POC responsible for Navy aircraft operations should be added to the Wallops Advisory Working Group.*
- *The question was raised as to who would pick the group members.*

Recommendation # 12: Amend/Update the Accomack County Comprehensive Plan.

- *No comments. Recommendation to update the Comprehensive Plan was considered good as is.*

Recommendation # 13: Provide an annual update to the Accomack County Board of Supervisors regarding JLUS implementation progress.

- *The annual update on JLUS implementation progress to Accomack County Board of Supervisors was considered a good means of communicating with the public since these meetings are open to the public.*

Recommendation # 14: Update the Accomack County GIS database with JLUS Report data following adoption by the County Board of Supervisors.

- *It was recommended that this recommendation to update the County's GIS database be considered an ongoing effort, not just the one time to incorporate JLUS Report data.*

Recommendation # 15: Pursue available grants and/or supplemental funding sources for JLUS recommendations implementation.

- *No discussion.*

The meeting closed with the contractor being tasked to amend the recommendations based on PSC/TAC consensus and the PSC voting to endorse the recommendations as amended.

Next Steps

The PSC and TAC will reconvene with a scheduled meeting for September 9, 2014. This meeting will be used to (1) discuss further details involved with implementing these recommendations, and (2) have the contractor present public participation plan materials for review in preparation for conducting a public open house.

The meeting adjourned at approximately 4:00 PM.

Meeting summary notes compiled and prepared by:

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ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Joint Policy Steering Committee - Technical Advisory Committee
Meeting - August 28, 2014

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
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ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Joint Policy Steering Committee - Technical Advisory Committee
Meeting - August 28, 2014

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
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Jim McGowan	Land Protection Manager – Virginia Coast Reserve	The Nature Conservancy	757-422-3049, ext. 22	757-422-5418	jmcgowan@tnc.org	11332 Brownsville Road Nassawadox, VA 23413
Walter Cole	Director of Planning	Clark Nexsen	757-351-1213	757-455-5638	wcole@clarknexsen.com	4525 Main Street Suite 1400 Virginia Beach, VA 23462
Ron Rice	Senior Planner	Clark Nexsen	757-961-7949	757-455-5638	rrice@clarknexsen.com	4525 Main Street Suite 1400 Virginia Beach, VA 23462
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ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Joint Policy Steering Committee - Technical Advisory Committee
Meeting - August 28, 2014

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
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Henry Schoenborn	Special Program Manager	SCSC	757-824-6801		henry.schoenborn@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337

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ACCOMACK COUNTY JOINT LAND USE STUDY JOINT MEETING
POLICY COMMITTEE AND TECHNICAL ADVISORY COMMITTEE

Lockheed Martin Building
8208 Salyer Drive
Wallops Island, Virginia
Thursday, August 28, 2014
2:00 PM

1. **PRESENTATION OF TAC RECOMMENDATIONS**

2. **POLICY COMMITTEE REVIEW & DISCUSSION OF TAC RECOMMENDATIONS**

3. **PUBLIC PARTICIPATION PLAN**

4. **NEXT MEETING/NEXT STEPS: SEPTEMBER 9, 2014 JOINT MEETING**

Joint Policy Steering Committee (PSC) / Technical Advisory Committee (TAC) Meeting Summary

September 9, 2014

Attachments: A – Attendees Sign-in Sheet

B – Meeting Agenda

A Joint Policy Steering Committee (PSC)/Technical Advisory Committee (TAC) meeting was held on September 9, 2014 at 2:00 PM at the Lockheed Martin Building located at 33531 Chincoteague Road, Wallops Island, VA. The meeting was conducted according to the attached Meeting Agenda.

Welcome and Overview:

Attendees were welcomed and provided with agenda packets. Rich Morrison welcomed the attendees. Walt Cole, representing the contractor project team, provided a brief review of project status, plan for the day, and discussion guidance.

Presentation & Discussion of PSC Recommendations Supplemental Information

Mr. Cole presented each of the 15 PSC Recommendations with supplemental information added. PSC and TAC members' comments and questions were addressed.

The following are discussion notes for each recommendation:

Recommendation # 1: Develop a plan for mitigating and/or accommodating the effects of recurrent flooding, storm surge events, and sea level rise for the Navy, NASA, and MARS/VCSFA facilities on WFF Wallops Island.

- *The issue of how priorities were assigned was discussed. Concern was expressed about presenting priorities without clearly showing the basis for them. The County, however, does not want to have the TAC go back to reconsider and develop explicit rationale for the priorities.*

- *Concern was expressed that we can't see detail (particular parcels) on maps in the draft brochure. Note: In the brochure, the rocket arcs on the study area map do not reflect the most recent data, whereas the map showing the arcs as a support to the narrative on the hazard range does represent the latest data.*

- *Suggestion: At the public open house the recommendations should not be numbered and would be better grouped by general priority.*

- *What is the meaning of a coordinative role as contrasted to partner? Suggest change to the following order: Accomack County, NASA, A-NPDC.*

- *NASA: Causeway Rd is not a good example since government will pay for this anyway! Also, what are the roles of the other entities on NASA-federal property?*

- *NASA already has a plan for the island - one that incorporates long term mission plans (~50 years), including input from SCSC.*

- *NASA: This recommendation needs to be a placeholder for the long term, but no one can do anything about it at the current time. What can we ask the County to do? Unsure what exactly NASA would be asking for with respect to assistance from the County? NASA has a credibility issue with this recommendation.*

- *Challenging comment: How can you not plan for the 50-year scenario, when those years will go so fast?*

- *If we eliminate this issue from the study, we will need someone from NASA ready to address the public questions regarding what is the plan.*

- *NASA suggestion: Eliminate priorities and organize these recommendations by timeframe.*

- *Need a legend/explanation of what the colors represent (what is allowed in each of these zones?) on the graphic. This clarifying information needs to be shown in brochure and at the public open house.*

- *County: Would be good to have the AICUZ table of suggested land uses available at the public open house.*

Recommendation # 2: Develop a plan for mitigating and/or accommodating the effects of recurrent flooding, storm surge events, and sea level rise for the coastal areas of Accomack County within the study area.

- *Similar overall view as with # 1.*

- *Recommend that NASA property be excluded from the map.*

Recommendation # 3: Establish a WFF Aircraft Operations Overlay District and amend the Accomack County Zoning Ordinance and Subdivision Ordinance for compatible land use in Clear Zone, APZ 1, and APZ 2, and other affected areas.

- *It would be good to clarify that this represents an addition to the existing airfield overlay district.*

- *Timeframe should be mid-term vs. long-term.*

- *Maps should have a legend for colors shown on AICUZ and Rocket Launch hazard zones. It should also show what uses are permissible for each zone. What exists in each of the zones (e.g., 5 churches, 10 homes, etc.). This comment applies to the larger scale maps and the website maps. Brochures should offer hyperlinks to websites for more information.*

Recommendation # 4: Adopt measures for early and full real estate disclosure with respect to properties located within aircraft accident potential and noise zones. Pursue Commonwealth of Virginia legislation to amend 55-517/55-519 (Required disclosures) to include military aircraft operations on non-military airfields.

- *Accomack County has authority to make this requirement without legislation. We may be able to have deed restrictions although not authority to require full real estate disclosures. To be researched by the County.*

- *Timeframe should be mid-term vs. long-term.*

Recommendation # 5: Establish a process for mitigating existing incompatibilities within the WFF aircraft clear zones.

- *County: Remove the yellow highlighting for the other zones (APZ 1/APZ2), since this recommendation only affects clear zones.*

- *NASA expressed concern of clear zone extension possibility with planned runway extension in the future. The SW clear zone should show dashed extended lines for this future use.*

Recommendation # 6: Establish a WFF Rocket Launch Overlay District and provide notifications in the range hazard area.

- *As part of the notification, there are a handful of houses where County could work with NASA to offer incentives that will enable these folks to vacate their residences during launches.*

- *The PEIS, currently in development, will reflect the heavy class future rockets as a worst case and the 20,000-foot arc will easily cover these.*

- *NASA: We do need to add some verbiage regarding go/no-go situations - NASA will help with this. This situation is where there is requirement for evacuation of a limited number of homes (within the 10,000-foot arc).*

- *USFWS: Notifications should include all areas where the public is affected - mariners, parks, etc. (Group was reminded, however, that that does not affect land use, per se).*

Recommendation # 7: Provide information regarding incentives for retrofits to windows on existing buildings within the range hazard area.

- *NASA: There is no source for incentives currently available. Would have to create the fund for incentivizing. (Need to add this fact about the need for creating the fund to the recommendation verbiage).*

- *Concern was expressed that this could lead to increased home insurance rates.*

- *NASA: The lead role (or facilitating role) should be the County vs. NASA.*

Recommendation # 8: Encourage the application of noise attenuation measures within the aircraft noise zones as part of the permitting process for new construction.

- *Okay as is.*

Recommendation # 9: Establish a collaborative review process for requests relating to development of commercial wind turbines, cell towers, radio frequency emitters or structures.

- *NASA doesn't consider this low priority or long-term issue. Easy to do, recommend this be made a short term implementation.*

Recommendation # 10: NASA and/or Navy notify Accomack County and Working Group of offshore energy development to identify potential operational interference.

- *NASA: DOD & NASA are on the BOEM de-confliction group. Change statement – 'NASA' to communicate... (Versus 'NASA and/or Navy').*

Recommendation # 11: Establish a Wallops Advisory Working Group.

- *Did not discuss specifically.*

Recommendation # 12: Amend/Update the Accomack County Comprehensive Plan.

- *Did not discuss specifically.*

Recommendation # 13: Provide an annual update to the Accomack County Board of Supervisors regarding JLUS implementation progress.

- *Did not discuss specifically.*

Recommendation # 14: Update the Accomack County GIS database with JLUS Report data following adoption by the County Board of Supervisors.

- *Did not discuss specifically.*

Recommendation # 15: Pursue available grants and/or supplemental funding sources for JLUS recommendations implementation.

- *Did not discuss specifically.*

General Comments:

- *Concern expressed that we need to ensure at the public open house that the public be made to understand whether or not there is expectation of zoning change or not, etc. for each of the recommendations.*

- *Concern was expressed that we need to schedule a County Board of Supervisors work session to discuss this information in preparation for presenting to the public. Also, the Board will need to have the larger maps for their work session. The Board should be well prepared so they will be educated prior to receiving comments/questions from the public.*

- *The County indicated it is getting pressure to get something out for the public soon regarding the JLUS.*

Public Participation Plan Presentation and Discussion

- *The PPP was not presented formally. The County wants to have the Board of Supervisors review the materials to be well informed prior to presentation to the public.*

Next Steps

The contractor will continue to prepare current recommendations, implementation, current graphics and public participation plan information and submit to Rich NLT September 16th for an internal review before providing for a special Board of Supervisors working session. The Board will fully vet the latest information in preparation for a Public Open House. The draft JLUS Report will be in process with corrections, etc. The Board will want a large version of the mapping graphics to be able to distinguish particular parcels within hazard zones, etc.

The next Board of Supervisors meeting is scheduled for the week of September 16th. The plan is to schedule the work session for the following week.

The JLUS website will not to be updated & used until after Board's work session and approval of material to be made public.

The meeting adjourned at approximately 4:20 PM.

Meeting summary notes compiled and prepared by:

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ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Joint Policy Steering Committee - Technical Advisory Committee
Meeting – September 9, 2014

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
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ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Joint Policy Steering Committee - Technical Advisory Committee
Meeting – September 9, 2014

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
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ACCOMACK COUNTY JOINT LAND USE STUDY JOINT MEETING
POLICY COMMITTEE AND TECHNICAL ADVISORY COMMITTEE

Lockheed Martin Building
8208 Salyer Drive
Wallops Island, Virginia
Tuesday, September 9, 2014
2:00 PM

1. **PRESENTATION OF RECOMMENDATION SUPPORTING INFORMATION**

2. **COMMITTEE REVIEW & DISCUSSION SUPPORTING INFORMATION**

3. **PUBLIC PARTICIPATION PLAN**

4. **NEXT MEETING/NEXT STEPS**

Policy Steering Committee (PSC) Meeting Summary

October 28, 2014

Attachments: A – Attendees Sign-in Sheet

A Policy Steering Committee (PSC) meeting was held on October 28, 2014 at 2:30 PM at the Lockheed Martin Building located at 33531 Chincoteague Road, Wallops Island, VA. The meeting was conducted according to the attached Meeting Agenda.

Welcome and Overview:

Attendees were welcomed and provided with agenda packets. Mr. Ron Wolff called the meeting to order and Rich Morrison welcomed the attendees. Steve Todd, representing the contractor project team, provided a brief review of project status, a brief re-cap of the past PSC meetings, the plan for this meeting, and discussion guidance.

Presentation & Discussion of PSC Recommendation for Reconsideration

Mr. Todd presented the following recommendation for reconsideration:

- *Establish a process for mitigating existing incompatibilities within the WFF aircraft clear zones.*

PSC members' comments and questions were addressed. Discussion notes were recorded as follows:

- *Ms. Massey stated that the goal is to have NASA be able to support the recommendations and to stand shoulder-to-shoulder with the County in terms of endorsing the recommendations.*
- *Further, NASA cannot support any recommendations that would lead the public to believe that their property would be purchased for hazard mitigation purposes.*
- *Mr. Wolff agreed*
- *Ms. Thornton observed that any time one restricts land use rights, the public will object.*
- *There was general discussion re: the history of the APZs, what is currently in the Accomack County Comprehensive Plan, etc.*
- *NASA's request is to only address future land use.*
- *The JLUS report, recommendations, working group findings, etc. need to be consistent with the terminology used (e.g. "military aircraft" vs "Wallops aircraft").*
- *NASA will not adopt DOD AICUZ guidance for NASA facilities, since NASA has their own process for determining AICUZ/APZ.*
    - *Consider AICUZ to be guidance and not policy*

- *NASA also has its own process for wind turbine proposal review, etc. in addition to the DOD Clearing House.*
    - *As land owner, NASA would make recommendations, relative to offshore energy, to the County and also work directly with the NAVY.*
- *NASA objects to the sentence on p. 8 beginning with "With the potential for the shattering of windows…"*
- *The PSC agreed to the following re-wording for the recommendation in question:*
    - *"Establish a process of identifying County strategies to address existing incompatibilities within the WFF aircraft clear zones".*
- *Mr. Miner noted that Accomack County would be in the lead role for establishing and running the proposed Working Group noted in the recommendations.*
- *The PSC would like the consultant to "fact check" the recommendations for the following:*
    - *Land Use policy affecting NASA property*
    - *AICUZ "policy" vs "guidance"*
    - *Clear Zones shown in the current Accomack County Comprehensive Plan –vs- FAA –vs- AICUZ*

Public Participation Plan Presentation and Discussion

- *No action.*

Next Steps

The meeting adjourned at approximately 4:20 PM.

Meeting summary notes compiled and prepared by:

CLARK • NEXSEN
Architecture & Engineering

ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Joint Policy Steering Committee - Technical Advisory Committee
Meeting – October 28, 2014

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
Rich Morrison	Director, Planning	Accomack County	757-787-5726	757-789-3116	rmorrison@co.accomack.va.us	P.O. Box 686 Accomack, Virginia 23301
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Ron Wolff	Board of Supervisors	Accomack County	757-894-1209		rswolff1@verizon.net	
Dave Lumgair	Planning Commission	Accomack County	757-442-3849		drlumgair@verizon.net	P.O Box 7 Craddockville, VA 23341
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Jack Tarr	Mayor	Town of Chincoteague	757-894-0450		jtelec@verizon.net	
Wanda Thornton	Vice Chair, Board of Supervisors	Accomack County	757-894-1318	757-336-0543	wjt-shore@verizon.net	P.O. Box 8 Chincoteague, VA 23336
Phil Hickman	Chair Planning Commission	Accomack County	757-894-1778	757-894-1770	hickspudl@yahoo.com	P.O. Box 310 Horntown, VA 23355
Robert Ritter	Town Manager	Town of Chincoteague	757-336-6519	757-336-7905	rritter@chincoteague-va.gov	6150 Community Drive Chincoteague, VA 23336

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ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Joint Policy Steering Committee - Technical Advisory Committee
Meeting – October 28, 2014

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Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
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Jim McGowan	Land Protection Manager – Virginia Coast Reserve	The Nature Conservancy	757-422-3049, ext. 22	757-422-5418	jmcgowan@tnc.org	11332 Brownsville Road Nassawadox, VA 23413
Deborah Christie	Representative	Congressman Scott Rigell	757-709-9483		deborah.christie@mail.house.gov	
Jim McGowan	Land Protection Manager – Virginia Coast Reserve	The Nature Conservancy	757-422-3049, ext. 22	757-422-5418	jmcgowan@tnc.org	11332 Brownsville Road Nassawadox, VA 23413
Ace Seybolt	Realtor	CRR	757-710-2407		highcotton57@aol.com	
Debby Ryon	Facilities Engineer	SCSC Wallops Navy	757-824-2053		debra.ryon@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
Todd Winfield	Director of Management Operations	SCSC Wallops Navy	757-824-2558		todd.winfield@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
Henry Schoenborn	Special Program Manager	SCSC	757-824-6801		henry.schoenborn@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337

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ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Joint Policy Steering Committee - Technical Advisory Committee
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Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
Bob Burkholder	Principal	Clark Nexsen	757-455-5800		bburkholder@clarknexsen.com	4525 Main Street Suite 1400 Virginia Beach, VA 23462
Steve Todd	Project Manager	Clark Nexsen	757-351-1236	757-455-5638	stodd@clarknexsen.com	4525 Main Street Suite 1400 Virginia Beach, VA 23462
Walter Cole	Director of Planning	Clark Nexsen	757-351-1213	757-455-5638	wcole@clarknexsen.com	4525 Main Street Suite 1400 Virginia Beach, VA 23462

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ACCOMACK COUNTY JOINT LAND USE STUDY
POLICY COMMITTEE MEETING

Lockheed Martin Building
8208 Salyer Drive
Wallops Island, Virginia
Tuesday, October 28, 2014
2:30 PM

1. **RECONSIDERATION OF FINAL RECOMMENDATION** (Item denoted by stars – page 3)

2. **NEXT STEPS**

Conference Call - Meeting Summary

November 17, 2014

Attachments: A – Attendees Sign-in Sheet

A Conference Call meeting was held on November 17, 2014 at 3:00 PM. The meeting was conducted according to the attached Meeting Agenda.

Agenda:

- Public Participation Meetings
- Rocket Safety Arcs

Discussion

Discussion notes were recorded as follows:

- *NASA may have some new information following 2-3 months of study and discussion regarding Rocket Hazard Areas. NASA does not anticipate any changes and they would only be minor if any.*
- *Public Participation meetings (formerly scheduled for 11/25 and 12/2) would most likely be dominated by rocket safety due to the explosion. It is feared that the remaining portions of the JLUS would not receive proper discussion. These meetings should be postponed till after the first of the year.*
- *NASA and NAVFAC would like copies of the Public Participation materials for early review and comment. CN to forward.*

Next Steps

- *The Public Participation Materials may be presented at the December Board of Supervisors Meeting. Rich Morrison will advise the group whether this will actually occur at that meeting.*

The Conference Call ended at approximately 4:00 PM.

Meeting summary notes compiled and prepared by:

CLARK • NEXSEN
Architecture & Engineering

ACCOMACK COUNTY, VIRGINIA JOINT LAND USE STUDY
Conference Call Meeting
November 17, 2014

ATTACHMENT A

Name:	Title: (Include Code)	Organization: (Explain Acronyms)	Telephone: (Include Area Code)	Fax Number: (Include Area Code)	Email Address:	Mailing Address: (US Postal Address)
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Brian Ballard	Community Plans & Liaison Officer	NAVFAC JEB Little Creek Fort Story	757-462-8421		brian.p.ballard@navy.mil	
Todd Winfield	Director of Management Operations	SCSC Wallops Navy	757-824-2558		todd.winfield@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
Henry Schoenborn	Special Program Manager	SCSC	757-824-6801		henry.schoenborn@navy.mil	30 Battlegroup Way Bldg Q29 Wallops Island VA 23337
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