



**Volume I - June 2013**

Final Environmental Impact Statement

# **Outdoor Research, Development, Test & Evaluation Activities**

Naval Surface Warfare Center, Dahlgren Division  
Dahlgren, Virginia

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Department of the Navy  
Naval Surface Warfare Center, Dahlgren Division,  
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Instruction 5090.1C CH-1;  
pursuant to National Environmental  
Policy Act Section 102(2)(C)



# **Final Environmental Impact Statement Outdoor Research, Development, Test & Evaluation Activities Volume I**

## **Naval Surface Warfare Center, Dahlgren Division Dahlgren, Virginia June 2013**

### **Abstract**

This EIS has been prepared by the US Department of the Navy, Naval Surface Warfare Center, Dahlgren Division (NSWCDD) to evaluate the effects of expanding research, development, test and evaluation (RDT&E) activities within the Potomac River Test Range and Explosives Experimental Area complexes, the Mission Area, and special-use airspace at Naval Support Facility (NSF) Dahlgren. These capabilities include outdoor operations that require the use of ordnance (guns and explosives), electromagnetic energy, lasers, and chemical and biological simulants (non-toxic substances used to mimic dangerous agents). The purpose of the Proposed Action is to enable NSWCDD to meet current and future mission-related warfare and force-protection requirements by providing RDT&E of surface ship combat systems, ordnance, lasers and directed energy systems, force-level warfare, and homeland and force protection. The need for the Proposed Action is to enable the Navy and other stakeholders to successfully meet current and future national and global defense challenges by developing a robust capability to carry out assigned RDT&E activities at NSF Dahlgren. Three alternatives are analyzed in this EIS: the No Action Alternative, which addresses historical and current mission activities; Alternative 1 which addresses baseline activity levels plus known future requirements; and Alternative 2, which addresses current baseline requirements, known future requirements, and projected increases in the foreseeable future based on current trends. Potential effects associated with the alternatives have been identified and evaluated. The Navy concludes that for all three alternatives there would be no significant impact to land use and plans, coastal zone resources, socioeconomics, low-income and minority populations, children, utilities, air quality, noise levels, cultural resources, hazardous materials and hazardous waste, health and safety, geology, topography, soils, and sediments, water resources, and biological resources.

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# EXECUTIVE SUMMARY

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## ES.1 Introduction

Naval Surface Warfare Center, Dahlgren Division (NSWCDD), the action proponent, proposes to expand research, development, test, and evaluation (RDT&E) activities within the Potomac River Test Range (PRTR) and Explosives Experimental Area (EEA) Range complexes, the Mission Area, and special-use airspace (SUA) at Naval Support Facility Dahlgren (NSF Dahlgren). NSWCDD is a tenant upon NSF Dahlgren on the western shore of the Potomac River in King George County, Virginia (Figure ES-1, NSF Dahlgren Location). NSF Dahlgren, a United States (US) Department of the Navy (Navy) facility under the supporting command of Naval Support Activity, South Potomac, Naval District Washington, is located 25 miles (mi) east of Fredericksburg, Virginia and 53 mi south of Washington, DC. NSWCDD is one of the Naval Sea Systems Command (NAVSEA) surface warfare centers. NSWCDD has multiple sites, but this environmental impact statement (EIS) concerns NSWCDD's range and mission area operations at Dahlgren, Virginia and hence will be referred to as NSWCDD in this document.

The EIS focuses on RDT&E activities that take place outdoors and have the potential to affect the human environment. Much of NSWCDD's research and development takes place inside laboratories and does not generate environmental impacts on the human environment outdoors. NSWCDD's Safety and Environmental Office ensures that no indoor impacts take place. Many of NSWCDD's outdoor activities, such as tests of passive sensors, also have no environmental impact, as determined by NSWCDD's Safety and Environmental Office, and are not considered in this EIS. The operating ranges, mission area, and SUA at NSF Dahlgren are shown on Figures ES-2 (Potomac River Test Range Complex), ES-3 (Range Complexes and Mission Area), ES-4 (Special-Use Airspace), and ES-5 (Potomac River Test Range Primary Gunnery Target Area).

The environmental impact analysis in this EIS addresses activities that take place outdoors on range complexes and in the Mission Area. The analysis does not encompass all of NSWCDD's work, much of which takes place indoors in laboratories. These indoor activities are addressed in other NEPA documents – environmental assessments or categorical exclusions, as appropriate. However, the cumulative impacts of NSWCDD's indoor activities when combined with outdoor activities taking place on range complexes and the Mission Area are considered in the cumulative impact analysis in this EIS.

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## ES.2 Purpose and Need

The **purpose** of the Proposed Action is to enable NSWCDD to meet current and future mission-related warfare and force-protection requirements by providing RDT&E of surface ship combat systems, ordnance, lasers and directed energy, force-level warfare, and homeland and force protection.

Under 10 United States Code (U.S.C.) § 5062(d): “The Navy shall develop aircraft, weapons, tactics, technique, organization, and equipment of naval combat and service elements. Matters of joint concern as to these functions shall be coordinated between the Army, the Air Force, and the

# Potomac River Test Range Complex



-  Potomac River Test Range (PRTR) Complex
-  Naval Support Facility (NSF) Dahlgren
-  Military Installation

7 0 7 Miles

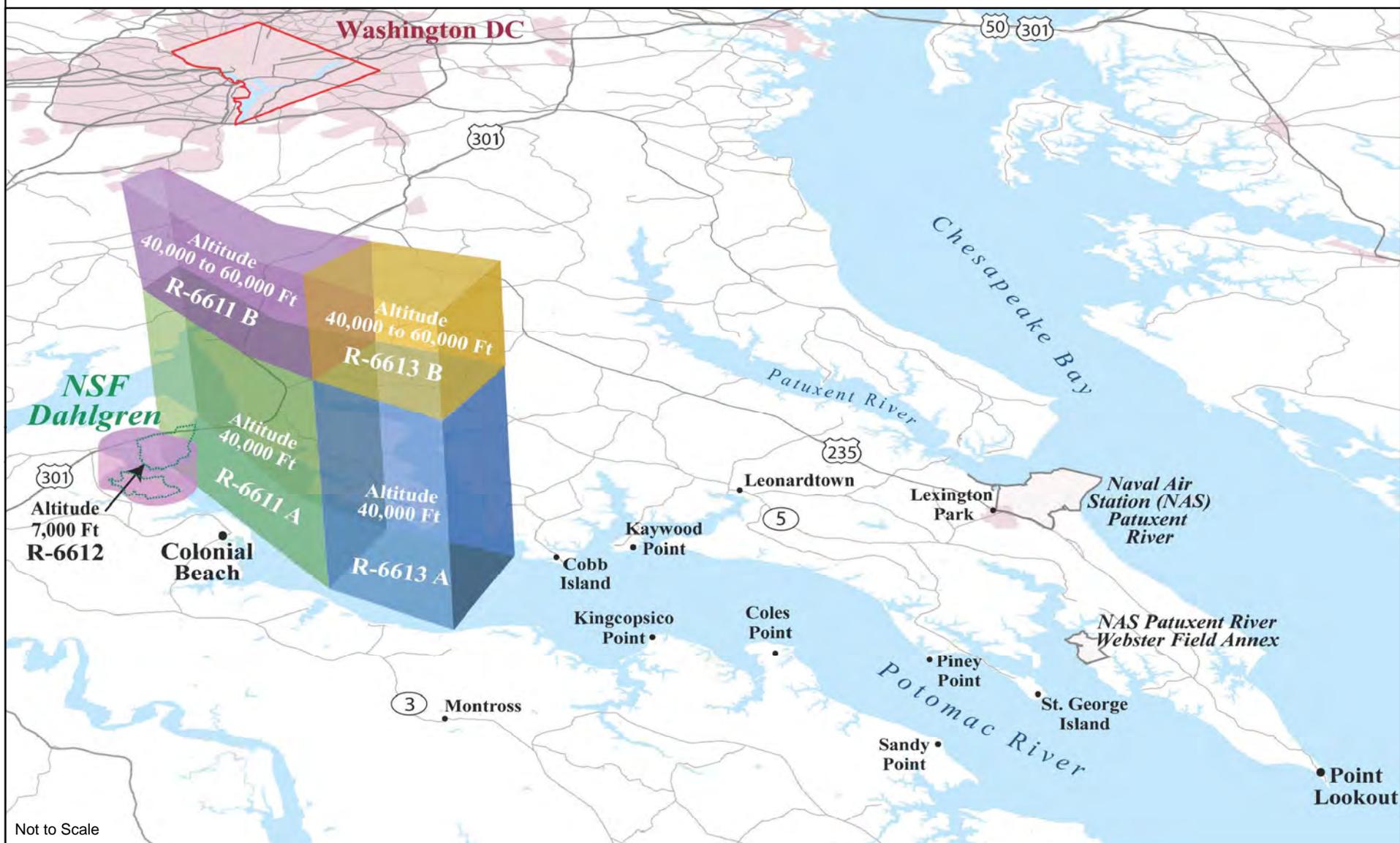
11 0 11 Kilometers



Source: NSWCDD GIS (2008 - 2011); Danger Zones defined in 33 CFR § 334.230.

Figure ES-2

# Special-Use Airspace



Source: FAA, 2005.

Figure ES-4

overlay in the critical area as it limits the density and use that is allowed. The Critical Area Act allows each county to up-zone 5 percent of its resource conservation area to a less-restrictive development overlay – i.e., a limited development area or an intensely developed area – and thereby enable more intensive use, a process termed “growth allocation.” To accommodate the Villages at Swan Point development plan, the developer needed to change the resource conservation area designation to both limited development area and intensely developed area designations. The Charles County Commissioners, in June 2006, and the Maryland CAC, in March and April 2007, approved with conditions the use of growth allocation for the re-designation (Umling, pers. comm., April 24, 2007; Charbonneau, pers. comm., August 25, 2009). These approvals were needed for the project proponent to proceed through Charles County preliminary and final plan approvals for the site development plans.

In 2006, Charles County had approved a master plan and general development plan for the Villages at Swan Point (Dailey, pers. comm., June 3, 2010). The preliminary subdivision plan for the first phase of the development was presented to the county planning commission and reviewed in September 2008. However, certain habitat protection requirements that were imposed as conditions on the growth allocation approvals need to be fulfilled prior to the approval by the county of the first Villages at Swan Point preliminary subdivision plan or preliminary site plan. The requirements pertain to, for example, the following (Umling, pers. comm., April 24, 2007; Dailey, pers. comm., June 3, 2010):

- Submitting for review and approval a detailed critical area buffer management plan
- Addressing the required 404 ac of forest interior dwelling species mitigation in a revised habitat management plan
- Addressing the protection of an active bald eagle nest
- Submitting for review and approval a final habitat management plan
- Establishing a permanent conservation easement

The Charles County Department of Planning and Growth Management currently awaits resolution of the habitat protection requirements (Dailey, pers. comm., June 3, 2010). The requirements will be carried over to each subsequent development phase. Additionally, the growth allocation approvals include a condition that at the time of each preliminary plan, should any additional habitat protection requirements become applicable based upon species migration or new information, the project proponent will be required to amend the habitat protection plan accordingly (Umling, pers. comm., April 24, 2007; Dailey, pers. comm., June 4, 2010).

Initiation of construction of all components of the development has been delayed because of the state of the economy and the housing market. Brookfield Homes anticipates that construction will begin in 2012 (Lannin, pers. comm., July 27, 2010).

Environmental reports have been requested from Brookfield Homes.

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## **5.2.5 St. Mary’s County Regional Airport**

St. Mary’s County Regional Airport is located four miles northeast of Leonardtown, Maryland and approximately 53 miles southeast of Washington, D.C. (Figure 5-1). The airport, owned and

operated by St. Mary's County, has one partial parallel taxiway, three connector taxiways and a turnaround (St. Mary's County, Maryland, 2012).

The Airport Master Plan was updated in 2002 to enable the airport to accommodate growth in aviation demand (Delta Airport Consultants Inc., 2002). As part of future airport improvements, Runway 11-29 will be lengthened and strengthened. St. Mary's County, in conjunction with the FAA and the Maryland Aviation Administration, is working to achieve an Airport Reference Code (ARC) designation of B-II (approach speed of 91-120 knots and a wingspan of 49 -78 ft) with a non-precision instrument approach (i.e., lateral course information only) of 0.5 mile for Runway 11, which will be extended by 1,200 feet from its current condition, and a non-precision instrument approach of one mile for Runway 29.

NSWCDD's special use airspace (Figure 1-6) does not overlap with St. Mary's County Regional Airport. The Proposed Action would not change the hours that airspace is restricted annually. Because the SUA under the Proposed Action would be used more frequently than under the other alternatives, the hours during it would be released to FAA control for potential use by civilian aviation would be reduced. However, commercial airliners fly along long established routes that do not cross the SUA. Although general aviation pilots do have the option of checking whether the SUA is in effect when planning their flights, very rarely do so; as a matter of course, they consider the SUA to be off-limits at all times (see Section 4.1.3.3). There is not expected to be any appreciable adverse effect on civilian aviation, inclusive of current or future availability of instrument approaches and other airspace or operational matters concerning the St. Mary's County Regional Airport.

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### 5.3 Summary of Cumulative Impacts Relative to the Proposed Action

Environmental effects associated with the proposed Navy action were thoroughly analyzed in Chapter 4. Most of these effects were determined to be individually non-significant. However, these actions, when combined with other similar actions occurring in the region of influence, may contribute to a cumulative significant effect on one or more environmental resources.

Table 5-3 shows in tabular format the potential environmental effects – identified previously in this chapter – of each action in the region of influence potentially contributing to a cumulative effect, the potential environmental effects of the Proposed Action, and the potential cumulative effects of all actions combined. A value of “NI” through “◆◆◆” was assigned to each action based on the intensity of its potential adverse effect to a specific resource area. (See the introduction to Chapter 4 for the qualitative framework used in this EIS to evaluate the intensity of impacts.) An explanation of each value is as follows:

- A “NI” value was given to an action that has no negative impacts to a particular resource.
- A “◆” was given to an action that has the potential for negligible or minor, but recoverable, negative impacts to a particular resource. A negative impact is recoverable if the affected resource could, over time, return to its pre-impact condition naturally – i.e., without human intervention – or through implementation of a restorative action.