



Patuxent River Complex Testing and Training Environmental Impact Statement



Public Scoping Meeting Guide

Open House Public Scoping Meeting Schedule

DATE	LOCATION	TIME
March 4, 2019	Light of Christ Anglican Church 9500 Northumberland Highway Heathsville, VA 22473	4:00 - 7:00 pm
March 5, 2019	Southern Maryland Higher Education Center Building 1 Multi-Purpose Room 44219 Airport Road California, MD 20619	4:00 - 7:00 pm
March 6, 2019	University of Maryland, Eastern Shore Richard A. Henson Center Ballroom 30690 University Boulevard South Princess Anne, MD 21853	4:00 - 7:00 pm
March 7, 2019	St. Paul's United Methodist Church, Parish Hall 205 Maryland Avenue Cambridge, MD 21613	4:00 - 7:00 pm

Please Check In!

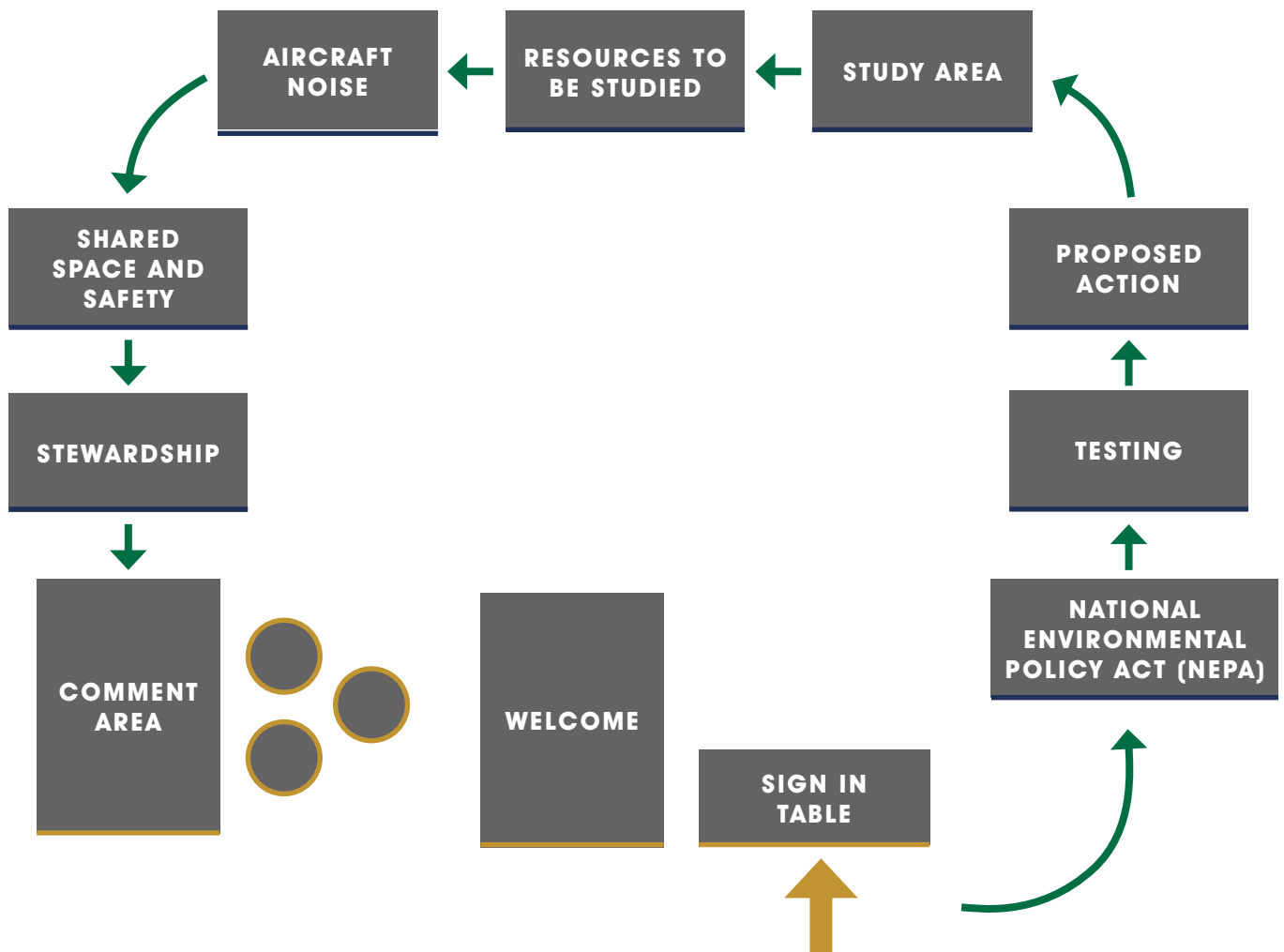
Scoping is your opportunity to provide comments to help us focus our analysis.
Please visit the project website at www.PRCEIS.com

If you have questions or would like more information about the PRC EIS process, please contact NAVAIR Ranges Sustainability Office at (301) 342-9902. Note, comments will not be accepted via the telephone.

Welcome

Welcome to the U.S. Navy's public meetings for the Patuxent River Complex (PRC) Testing and Training Environmental Impact Statement (EIS). The Navy is preparing an EIS to assess the potential impacts on the community and environment from conducting ongoing and new research, development, acquisition, testing, and evaluation ("testing") and training activities in the PRC.

The public meetings are open-house format. Please take your time to review the displays, talk to project staff, and provide comments. We are in the early stages of the EIS process and appreciate your time and interest.



NEPA

What is NEPA?

The National Environmental Policy Act (NEPA) of 1969 is environmental legislation that requires federal agencies to assess the environmental effects of their proposed actions prior to making decisions. Citizens are invited to participate in the process.

The Navy invites you to participate in the Environmental Impact Statement process.

What is an EIS?

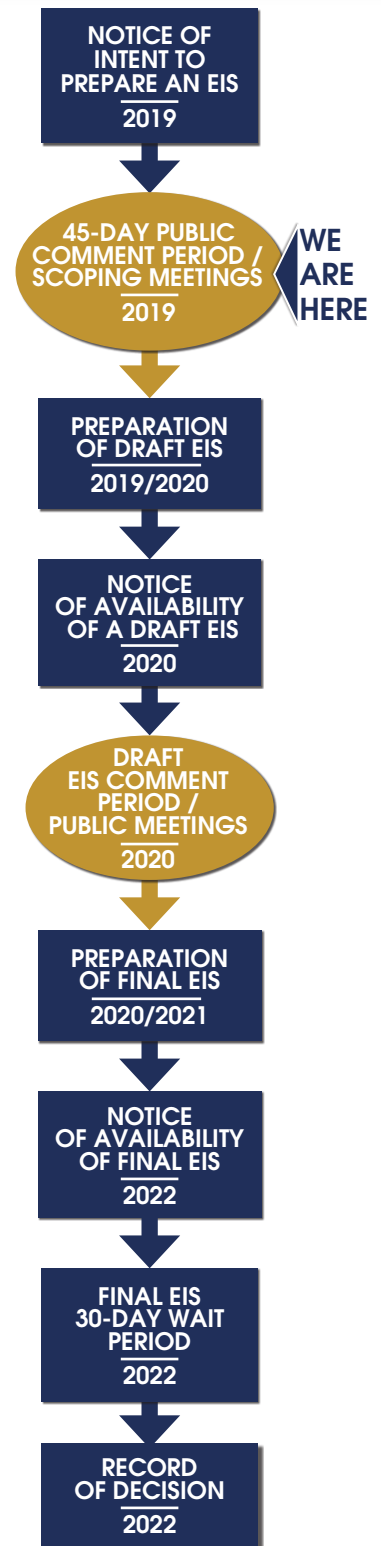
An Environmental Impact Statement (EIS) is a detailed public document providing an assessment of the potential effects a major federal action may have on the human, natural, and cultural environment.

An EIS:

- Is a report prepared by a multidisciplinary team
- Considers alternative ways to accomplish the proposed action
- Includes an evaluation of existing resources
- Assesses the impact of the proposed action and alternatives on the environment
- Evaluates best management practices and mitigation measures to reduce environmental impacts

A typical EIS contains the following sections:

1. Introduction and Purpose and Need – project objectives and why the proposed action is needed
2. Proposed Action and Alternatives – what the Navy wants to do and alternatives that can meet their needs
3. Affected Environment – description of the existing environment or baseline conditions
4. Environmental Consequences – analysis of affected environmental resource areas associated with implementation of each alternative
5. Cumulative Impacts – effects of the proposed action considered along with other projects occurring in the same area
6. Mitigation Measures – best management practices and measures that could lessen environmental impacts



*Gold ovals represent public involvement opportunities

What is Scoping?

Scoping occurs at the beginning of the NEPA process to help understand community-specific concerns regarding the scope of analysis. It encourages the participation of other federal, state, and local agencies, as well as citizens. Scoping helps determine what should be studied in the EIS and alternatives to be analyzed.

Get Involved

There are several opportunities where your participation is encouraged. The schedule highlights in gold the steps where you can get involved. During the scoping step, engaging the public in an early and open process helps identify, define, and prioritize resources to be evaluated in the Draft EIS. Once the Draft EIS is released, the Navy invites citizens to review and comment on the analysis. The release of the Draft EIS and the opening of the Draft EIS comment period will be announced in newspapers, and additional public meetings will be held to receive comments on the report. The Navy then prepares a Final EIS, considering the comments received on the Draft EIS. Once the Final EIS is complete, a Notice of Availability is published in the *Federal Register* and local newspapers. This is followed by a 30-day wait period. The final decision will then be published in the *Federal Register* as a Record of Decision.



TESTING

Testing ensures that aircraft, systems, and equipment meet the needs of our Sailors and Marines.

Importance of the Patuxent River Complex (PRC)



The PRC is a national asset for aircraft testing and training for all branches of the U.S. military. Testing at the PRC has been occurring since 1943. All types of Navy and Marine Corps aircraft are tested in the PRC. The PRC is unique in that it provides the facilities, military restricted airspace, instrumentation, and people with the technical expertise to support aircraft, aviation systems, and non-explosive weapons integration testing. All Navy aircraft, systems, and equipment must be tested to ensure proper functioning before delivery to

the U.S. military for use. Testing activities conducted in the PRC are important for maintaining readiness. Research and development of new technologies by the U.S. Department of Defense occurs continually to ensure that the U.S. military can counter new and emerging threats.

Proposed Navy testing and training activities are similar to the types of activities that have been occurring in the PRC for decades.

What is Testing?

Testing at the PRC includes: aircraft, aviation systems, non-explosive weapons, and their ability to operate on aircraft carriers and other ships. Testing explores the capabilities of aircraft and equipment at various speeds, altitudes, maneuvers, and weapons configurations, using systematic methods to work safely from the known towards the unknown.



- **Test Activities** – testing activities include:
 - › Air Vehicle Testing – tests during flights to expose the airframe and aircrew to varying altitude, speed, load factor, weight, and other conditions
 - › Carrier and Shipboard Suitability Testing – tests conducted in ground-based facilities designed to simulate a ship
 - › Mission Systems Testing – tests to evaluate the performance and operability of electronic, computer, communications, and control systems including, black boxes, avionics, and aircraft electronics
 - › Electronic Warfare Testing – tests to evaluate electronic systems designed to interrupt enemy electronic systems
 - › Weapons Integration Testing – tests to evaluate the integration of non-explosive weapons with aircraft and associated systems
- **Training Activities** – training of Naval Air Station Patuxent River and other military aircrew
 - › U.S. Navy Test Pilot School training for new test pilots
 - › Aircrew proficiency and Field Carrier Landing Practice
 - › Air Force, Army, and National Guard training in support of national defense
- **Support Activities** – aircraft flights and surface vessels that provide support to testing or training missions
- **Ground Activities** – ground-based activities related to aircraft flight activities. Examples include: aircraft pre- and post-flight checks, ground taxiing, and static engine tests



What is the Navy Proposing?

The Navy conducts testing and training on aircraft and weapons to ensure service members are equipped to be successful in their mission of national defense.

Proposed Action

The Navy proposes to continue conducting military testing and training activities within the Patuxent River Complex (PRC) to meet current and projected military readiness requirements.

U.S. Sailors and Marines:

- Protect and defend the United States against enemies
 - Protect rights to move freely on the oceans
 - Provide humanitarian assistance
-



Purpose

To provide Sailors and Marines with equipment and technology that operate effectively and safely to support current and projected future military readiness requirements

Need

To meet the Navy's requirement to maintain military readiness of naval forces to win wars, deter aggression, and maintain freedom of the seas, now and into the future

Alternatives

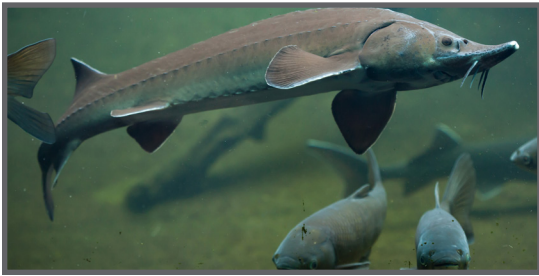
The Navy is developing a range of alternatives that take into consideration the Navy's operational needs for the foreseeable future as well as public input received during scoping.

Considerations in Developing Alternatives

- Continued testing and training during all seasons, day and night, in the PRC
- Annual capacity to meet current and future military readiness requirements
- Annual capacity to meet emergent military readiness requirements in response to increased global conflict



The proposed action includes testing and training activities analyzed in the 1998 PRC Final Environmental Impact Statement (EIS) and subsequent Environmental Assessments, as well as adjustments in testing and training activities from current types and tempos required to support projected Navy military readiness requirements into the foreseeable future.



Updated environmental impact analysis is warranted due to changes in:

Technology: The EIS will address new aircraft, test activities, and changes in the number of non-explosive weapons. All aircraft, non-explosive weapons, and test activities are very similar to those conducted and used for the past 20 years.

Environment: The EIS will address the natural and cultural resources of the PRC Study Area. The PRC Study Area (a map is provided on the Study Area fact sheet) includes supporting land areas (Naval Air Station Patuxent River, Outlying Landing Field Webster, and the Bloodsworth Island Range), water areas (e.g., Chesapeake Bay, lower Potomac, St. Mary's, and lower Patuxent Rivers), airspace, and Atlantic Test Ranges assets (e.g., fixed targets, aim points, recovery areas, and instrumentation sites).

Science: The EIS will use the best available science. Since 1998, there have been changes in the natural and cultural resources within the PRC that are documented in new published scientific studies. New methodologies and studies will be used to update the analysis of potential environmental impacts from ongoing and proposed testing and training activities.

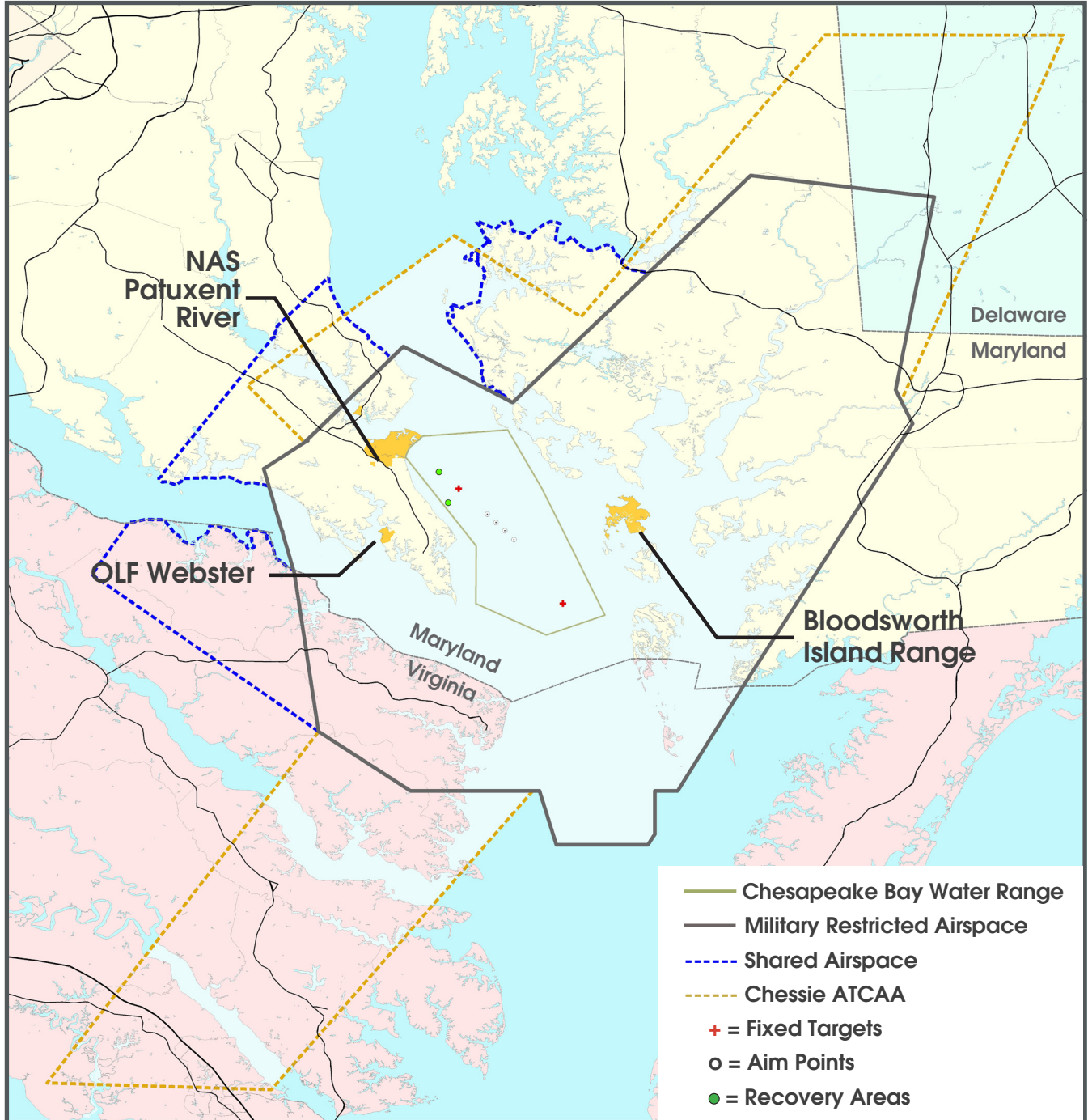
Navy Policy and Regulations: The EIS will use the most current standards for conducting environmental impact analysis, incorporate multiple Navy National Environmental Policy Act (NEPA) documents into a single EIS document, and address new environmental regulatory requirements (e.g., new protected species).



The Navy invites you to provide input on what to consider in the development of the alternatives to be evaluated in the EIS.

Study Area

The Study Area is presented in the map below.



NAS -Naval Air Station

OLF - Outlying Landing Field

ATCAA - Air Traffic Control Assigned Airspace

Land Areas

- **Naval Air Station (NAS) Patuxent River:** Covers 6,304 acres in St. Mary's County, and contains the main airfield, two runways, control tower, and the majority of aircraft and aircraft systems testing facilities.
- **Outlying Landing Field (OLF) Webster:** An annex to NAS Patuxent River, OLF Webster covers 852 acres along the eastern shore of the St. Mary's River, with St. Inigoes Creek and Molls Cove forming the northern boundary, and is primarily used for unmanned aircraft research, development, testing, and evaluation.
- **Bloodsworth Island Range:** The range covers 4,738 acres, located 25 miles southeast of NAS Patuxent River in the Chesapeake Bay. The Navy conducts aviation-related testing activities within the military restricted airspace that overlies the Bloodsworth Island Range.

Water Areas

- **Chesapeake Bay Water Range:** Located in the middle Chesapeake Bay between the mouth of the Patuxent River and the mouth of the Potomac River, this Range supports aircraft testing and training activities, including the release of non-explosive weapons to ensure safe release from aircraft.
- **Patuxent River Seaplane Area:** A designated area historically used for seaplane takeoffs and landings.
- **Potomac and St. Mary's Rivers surrounding OLF Webster:** These waters are used for non-impact testing activities, including aircraft overflights, surface vessels, and unmanned underwater vehicles.

Airspace

- **Military Restricted Airspace:** Designated airspace that provides a safe and controlled area for aircraft testing and evaluation.
- **Adjacent Shared Airspace:** Adjacent airspace shared by other users, including private and commercial aircraft.
- **Chessie Air Traffic Control Assigned Airspace (ATCAA):** High-altitude airspace that can be assigned to the military to accommodate flight activities that require additional space beyond the boundaries of the military restricted airspace.




Atlantic Test Ranges (ATR) Assets

- **Fixed Targets, Aim Points, and Recovery Areas:** Used as reference points for non-explosive weapons and mission systems.
- **Instrumentation Sites:** ATR is a fully instrumented range with shore-based radars, telemetry, optical, and communications systems.

What resources will be studied in the Environmental Impact Statement?

The Navy will be studying potential impacts on the following representative resource areas within the Patuxent River Complex (PRC). The scoping process helps to identify which resources will be studied.

Resource Area

 Airspace and Airfield Activities	<ul style="list-style-type: none"> • Aircraft testing and evaluation in military restricted airspace • Use of adjacent shared airspace • Flight activities in high-altitude airspace • Number of aircraft flight hours
 Noise	<ul style="list-style-type: none"> • Types and sources of noise • Sensitive receptors
 Public Health and Safety	<ul style="list-style-type: none"> • Flight safety • Bird/Animal aircraft strike hazard • Range safety • Hazardous materials and wastes
 Shared Space	<ul style="list-style-type: none"> • Land use compatibility • Recreation • Environmental justice
 Air Quality	<ul style="list-style-type: none"> • Air emissions from aircraft maintenance, testing, and training • Greenhouse gases
 Biological Resources	<ul style="list-style-type: none"> • Terrestrial vegetation and wildlife • Marine resources • Protected species • Essential fish habitat
 Water Resources and Sediments	<ul style="list-style-type: none"> • Surface waters, including the Chesapeake Bay • Wetlands • Sediments
 Cultural Resources	<ul style="list-style-type: none"> • Archaeological resources • Architectural resources • Traditional cultural properties

Aircraft Noise

Aircraft flying in the Patuxent River Complex (PRC) generate noise, and the Navy is preparing a noise assessment as part of this Environmental Impact Statement (EIS).

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air or water, and are sensed by the human ear. Sound is all around us. The perception and evaluation of sound involves three basic physical characteristics:

- **Intensity** – the acoustic energy, which is expressed in terms of sound pressure, in decibels (dB)
- **Frequency** – the number of cycles per second the air vibrates, in hertz
- **Duration** – the length of time the sound can be detected

What is Noise?

Noise is considered to be unwanted sound that interferes with normal activities or otherwise diminishes the quality of the environment.

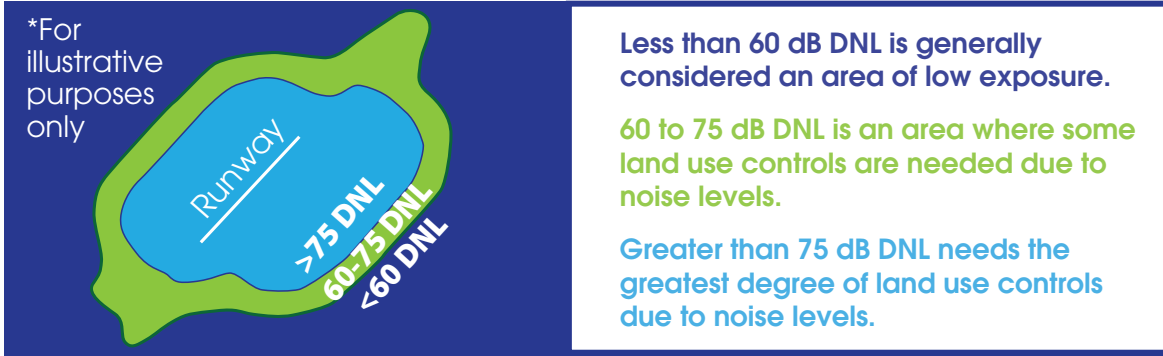
The response of different individuals to similar noise events is diverse and is influenced by many factors including: the type of noise, interference with activity, time of day, how long the noise lasts, how many times it occurs, background or ambient noise levels, previous experiences within the community, and individual sensitivity to noise.

Aircraft noise is the predominant noise source at the PRC. Noise is generated from testing and training activities at Naval Air Station (NAS) Patuxent River and Outlying Landing Field (OLF) Webster and in the water and airspace.

How is Noise Assessed?

The U.S. Environmental Protection Agency (EPA), Federal Aviation Administration (FAA), and Department of Defense (DoD) use the Day-Night Average Sound Level (DNL) as the primary metric to measure long-term community noise exposure and assess noise impacts on the natural and human environment.

DNL represents the average sound energy of events over a 24-hour period, with a 10-dB adjustment added to nighttime activities (10:00 p.m. to 7:00 a.m.). This 10-dB adjustment accounts for the added intrusiveness of noise when background noise levels are low and noise-sensitive activities such as sleep take place. DNL is depicted as noise contours, a continuous line around a noise source (e.g., 65 dB DNL, 70 dB DNL), connecting points of equal noise levels. DNL takes into account the factors that influence the perception of noise by people (loudness, number and duration of events, and time of day) and includes them in one metric that is used to identify land uses that are compatible with specific noise levels.



Supplemental metrics are used to assess specific types of noise impacts, such as interference with sleep, speech, and classroom learning.

This EIS will include a comprehensive noise study of the PRC. The study will use the latest approved DoD environmental noise computer models to quantify and assess noise at the airfields and in the water and airspace for the baseline conditions and the operational alternatives. The following noise metrics will be included in the PRC noise study:

<p>A-Weighted Day-Night Average Sound Level (ADNL)</p>	<ul style="list-style-type: none"> • Used for evaluating community response to aircraft noise and land use compatibility • 24-hour cumulative noise metric • 10 dB added to events occurring between 10 p.m. and 7 a.m. to account for nighttime noise disturbance • A-weighted dB levels are used to represent human hearing frequency
<p>C-Weighted DNL (CDNL)</p>	<ul style="list-style-type: none"> • Used to describe sonic boom and impulsive noise • C-weighted dB levels best describe noise that can be felt as well as heard
<p>A-Weighted Monthly Onset Rate DNL (Ldnmr)</p>	<ul style="list-style-type: none"> • Used for evaluating community response to aircraft noise and land use compatibility • A monthly average calculated based on the number of daily flights and the number of flying days in a month with the highest tempo
<p>A-Weighted Sound Exposure Level (SEL)</p>	<ul style="list-style-type: none"> • Used to compare relative noise levels of various flights • Used to estimate the potential for sleep disturbance • Noise exposure of a single event (e.g., flyover) as if it occurs in 1 second
<p>Maximum A-Weighted Sound Level (Lmax)</p>	<ul style="list-style-type: none"> • Used to estimate the potential for task interference and classroom interruptions • Maximum sound level that humans can hear during an overflight event
<p>Unweighted Peak Sound Level (dBP)</p>	<ul style="list-style-type: none"> • Used to estimate the likelihood of complaints associated with large-arms firing • Highest instantaneous sound level generated by weapon firing

How is Noise Modeled?

The DoD uses environmental noise models to predict and compare noise levels of current conditions and future operational alternatives. Noise model input includes aircraft types, number of activities, flight tracks, engine power settings, aircraft speed, terrain, temperature, and relative humidity. Engine maintenance testing is also included in the models. The output of noise models is presented on land use maps in the form of noise contours.

Noise Management:

The Navy has a comprehensive noise management program for the PRC including:

- Noise response system with a toll-free noise hotline to report noise disturbances
- Annual aircrew awareness briefings
“Be Safe, Be Smart, and Be Sensitive”
- Sonic boom monitors throughout the PRC
- Noise management instructions to reduce noise impacts
- Monitoring and tracking of activities
- Community noise advisories
- Real estate disclosure clause to notify prospective buyers of potential impacts from nearby military installations
- Noise zones to promote compatible development

Noise Hotline 866-819-9028



Shared Space and Safety

The water and airspace within the Patuxent River Complex (PRC) are used by many people for commercial and recreational purposes. The Navy shares the water and airspace with the community and recognizes the importance of public access.

The Navy ensures public safety during testing and training activities by:

- Making sure any watermen or recreational users are clear of impact areas and targets before testing begins
- Canceling or delaying activities if public or personnel safety is a concern
- Communicating via radio to local watermen and recreational users of the location, date, and time of range closures
- Implementing temporary access restrictions to testing and training areas
- Designating restricted airspace for multiple, high-speed, military aircraft
- Limiting the number of aircraft within restricted airspace
- Using a Military Radar Unit, named BayWatch, for surveillance when the restricted area is activated

Communication is Key
The Navy uses marine very high frequency (VHF) Channels 81 and 82

Thorough environmental and safety reviews are conducted for all tests.

The Navy conducts diverse testing and training in the PRC.

Some access restrictions must occur for public safety.

The safety measures implemented before and during testing and training, along with the cooperation of the public, commercial, and recreational users of the air and sea spaces, enable safe testing and training.

PUBLIC NOTIFICATION

Noise advisories are posted to inform the public of dates and times when noise-generating activities are scheduled.

Temporary access limitations (usually lasting several hours) can occur during testing and training activities for the safety of commercial and recreational users.



Stewardship

Programs

The Navy's stewardship programs contribute to both the success of the mission and the protection of the Chesapeake Bay for future generations.



Naval Air Station (NAS) Patuxent River manages robust community service and environmental stewardship programs. Multiple partnerships with the private sector and government agencies have been successful in advancing environmental compliance, conservation, and education.

Initiatives include:

- Wildlife habitat protection and enhancement
- Rare, threatened, and endangered species monitoring
- Archaeological surveys and site protection
- Marine mammal surveillance
- Overflight restrictions to minimize wildlife disturbance

For example, the Navy works with the College of William and Mary to study bald eagle nesting success on NAS Patuxent River (top right) and archaeologists have excavated a test pit showing a brick foundation dating to the 1800s (bottom right).



NAS Patuxent River did the first test flight of the Green Hornet, a bio-fueled F/A-18 jet.

Partnering

- The Navy partners with nonprofit organizations and local, state, and federal agencies to manage lands for uses such as agriculture, recreation, and natural habitat. Over 8,000 acres of land have been protected as conservation areas or easements.
- NAS Patuxent River partners with the University of Maryland to develop creative solutions to protect native terrapin (top right). Natural resource experts found that prime terrapin nesting sites overlapped with an established helicopter landing zone. Working with the pilots, an acceptable alternative landing zone site was identified. Through an agricultural outlease, farmers cleared excess vegetation on the new site, and a terrapin exclusion fence was installed.
- Navy experts built heron nesting platforms at Bloodsworth Island Range (bottom right).
- The Navy participates in the North American Waterfowl Management Plan along with the U.S. Fish and Wildlife Service and Maryland Department of Natural Resources.



Please visit the project website at www.PRCEIS.com



How to Provide Comments:



Complete a comment form tonight and place it in the comment box.



By mail:

Naval Air Warfare Center Aircraft Division
Attn: EIS Project Manager
NAVAIR Ranges Sustainability Office
Atlantic Test Ranges, Building 2118
23013 Cedar Point Road
Patuxent River, MD 20670-1183



Electronically via the project website:
www.PRCEIS.com

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