
Appendix K: World Heritage Site Analysis

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APPENDIX K WORLD HERITAGE SITE ANALYSIS

K.1 DEFINITION OF WORLD HERITAGE

In 1973, the United States was the first country to ratify the World Heritage Convention. Coordination and participation by the United States in this treaty is assigned by law to the Secretary of the Interior. World Heritage sites include monuments, groups of buildings, archaeological sites, geographical formations, and natural sites that are inscribed on the World Heritage List by the United Nations Educational, Scientific and Cultural Organization (UNESCO) for their value to world cultural and natural heritage.. The World Heritage List is maintained by the International Union for Conservation of Nature World Heritage Programme administered by the UNESCO World Heritage Committee.

The United States has made an inventory of its natural and cultural heritage sites on a tentative list from which a particular site of cultural or natural outstanding significance can be nominated for consideration as a World Heritage Site. A site designated as a National Historic Landmark (36 Code of Federal Regulations [C.F.R.] part 65), a National Natural Landmark (36 C.F.R. part 62) under provisions of the 1935 Historic Sites Act (Public Law 74-292; 49 Stat. 666; 16 United States Code [U.S.C.] 461 et seq.), or a National Monument under the Antiquities Act of 1906 (16 U.S.C. 433) can be considered as a World Heritage Site. Pertinent to this proposed action is the fact that, in 1981, Olympic National Park was accepted as a World Heritage site.

K.2 THE WORLD HERITAGE CONVENTION AND OPERATIONAL GUIDELINES

The UNESCO World Heritage Committee is the main body in charge of the implementation of the World Heritage Convention. The purpose of the World Heritage Convention is to enhance worldwide understanding and appreciation of heritage conservation, and to recognize and preserve natural and cultural properties throughout the world that have outstanding universal value (exceptional or superlative value from a global prospective) to mankind (36 C.F.R. § 73.1). The World Heritage Convention defines the kind of natural or cultural sites that can be considered for inscription on the World Heritage List. The Convention sets out the duties of State parties in identifying potential sites and their role in protecting and preserving them. The Convention stipulates the obligation of State parties such as United States to report regularly to the World Heritage Committee on the state of conservation of their World Heritage properties. In 1973, the United States was the first country to ratify the World Heritage Convention. Coordination and participation by the United States in this treaty is assigned by law to the Secretary of the Interior. Currently, 23 sites within the United States are inscribed on the World Heritage List. The only World Heritage site with the potential to be affected by the proposed action is Olympic National Park.

K.2.1 CRITERIA FOR ASSESSMENT

Until the end of 2004, World Heritage sites were selected based on two separate sets of criteria (six cultural and four natural criteria). With the adoption of the revised Operational Guidelines for the Implementation of the World Heritage Convention, only one set of ten criteria exists. Those that are applicable to the Olympic National Park are as follows (United Nations Educational, Scientific and Cultural Organization 2015):

- **Criterion (vii): contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance:**

Rationale for Inclusion: "Olympic National Park is of remarkable beauty, and is the largest protected area in the temperate region of the world that includes in one complex ecosystems from ocean edge through temperate rainforest, alpine meadows and glaciated mountain peaks. It contains one of the

world's largest stands of virgin temperate rainforest, and includes many of the largest coniferous tree species on earth."

- **Criterion (ix): be outstanding examples representing significant ongoing ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals.**

Rationale for Inclusion: "The park's varied topography from seashore to glacier, affected by high rainfall has produced complex and varied vegetation zones, providing habitats of unmatched diversity on the Pacific coast. The coastal Olympic rainforest reaches its maximum development within the property and has a living standing biomass which may be the highest anywhere in the world. The park's isolation has allowed the development of endemic wildlife, subspecies of trout, varieties of plants and unique fur coloration in mammals, indications of a separate course of evolution."

K.2.2 PROTECTION AND MANAGEMENT

Protection and management of World Heritage properties should ensure that their value is sustained or enhanced over time. Properties must have adequate long-term legislative, regulatory, institutional, or traditional protection and management to ensure they are safeguarded. Legislative and regulatory measures at national and local levels should assure the survival of the property and its protection. Each property should have an appropriate management plan or other documented management system that supports and implements appropriate preservation requirements.

The Olympic National Park Final General Management Plan was released by the National Park Service in March 2008. The management plan establishes a vision for managing the Olympic National Park for the next 20 years and aims to protect natural and cultural resources while improving visitors' experiences. An Environmental Impact Statement was prepared for the General Management Plan, and the Record of Decision was signed on 8 August 2008.

K.3 OLYMPIC NATIONAL PARK

In 1909, President Theodore Roosevelt created Mount Olympus National Monument. In 1938, President Franklin Roosevelt signed legislation creating Olympic National Park and, in 1976, it became an International Biosphere Reserve. Olympic National Park was accepted as a World Heritage site in 1981, and in 1988 Congress designated 95 percent of the park as part of the National Wilderness Preservation System.

Olympic National Park covers nearly 1 million acres of preserved wilderness. It is located in the north-west of Washington State and is renowned for the diversity of its ecosystems, featuring 73 miles of coastline (the longest undeveloped coast in the contiguous United States), lakes, mountains and glaciers, and a temperate rainforest. According to UNESCO, "It is the lowest latitude in the world in which glaciers form at relatively low elevation. Its relative isolation and highly varied rainfall have produced complex and varied life zones." (United Nations Educational, Scientific and Cultural Organization 2015) The Olympic National Park contains a large variety of geological formations, and the rocky islets along the coast are remnants of a coastline that is continuously receding and changing. It is the best example of intact and protected temperate rainforest in the Pacific Northwest (Olympic National Park and Forest 2015). The park is also home to numerous native and endemic animal and plant species, including critical populations of the endangered northern spotted owl, marbled murrelet, and bull trout.

K.4 MILITARY TRAINING ACTIVITIES NEAR AND OVER OLYMPIC NATIONAL PARK

The Federal Aviation Administration established the Olympic Military Operations Area (MOA) in 1977 before Olympic National Park was accepted as a World Heritage site. The Olympic MOA begins roughly 53 nautical miles (nm) west of Seattle and extends 3 nm off the coast of Washington State. The Olympic MOA is divided into A and B sections; normal training activities utilize both sections as a unified block of airspace (Figure K-1). The lower altitude limit for the MOA is 6,000 feet (ft.) (1,828.8 meters [m]) above mean sea level (MSL), and aircraft are further restricted from operating below 1,200 ft. (365.8 m) above ground level. The upper limit is up to but not including 18,000 ft. (5,486.4 m) above MSL, with a total area coverage of 1,614 square nautical miles. Flight training activities conducted within the Olympic MOA include a range of aircraft and mission types. Specific mission types and associated aircraft for these missions are defined in the Northwest Training and Testing (NWTT) Final Environmental Impact Statement (EIS)/Overseas Environmental Impact Statement (OEIS), Chapter 2 (Description of Proposed Action and Alternatives) and Appendix A (Navy Activities Descriptions).

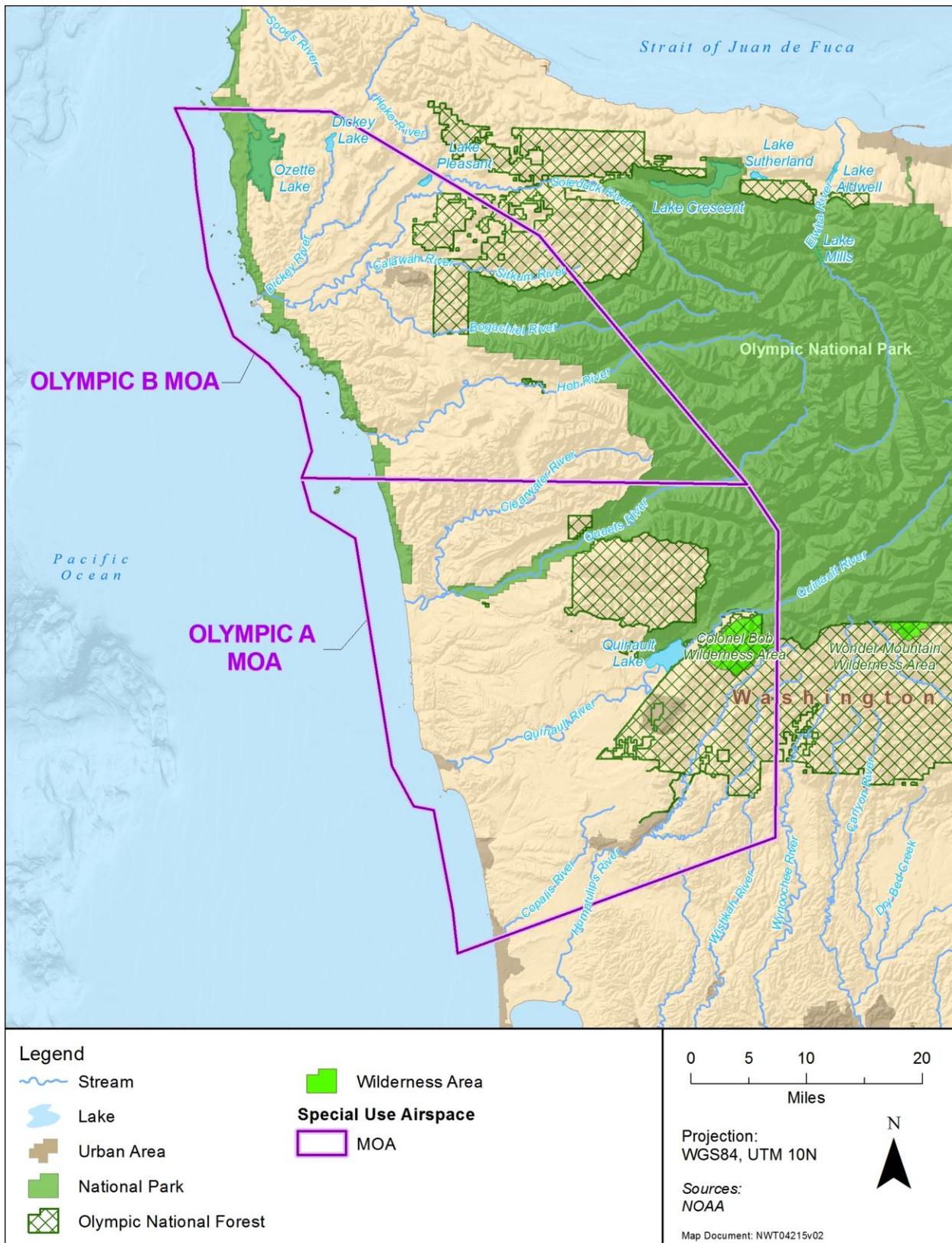


Figure K-1: Olympic Military Operations Area

K.5 FACTORS AFFECTING OLYMPIC NATIONAL PARK

In 2008, the World Heritage Committee adopted a standard list of factors/threats affecting the Outstanding Universal Value of World Heritage properties. The list was established following a 2-year consultation process with experts in the fields of natural and cultural heritage and consists of 14 primary factors. The primary threats are:

- Buildings and Development
- Utilities or Service Infrastructure
- Biological resource use/modification
- Local conditions affecting physical fabric
- Other human activities
- Sudden ecological or geological events
- Management and institutional factors
- Transportation/Infrastructure
- Pollution
- Physical resource extraction
- Social/cultural uses of heritage
- Climate change and severe weather events
- Invasive/alien species or hyper-abundant species
- Other factors

For purposes of this analysis, the primary factor affecting the Olympic National Park pertains to “Other human activities,” where military activities are considered a secondary factor under that category. For military training activities, noise associated with aircraft overflights would be a factor that could result in potential effects on the Olympic National Park and its soundscape.

It should be noted that the list of factors or threats on World Heritage sites are not presented in any priority order or whether it is an ascertained danger or potential danger. If a property is threatened or could be effected by one or more of these factors, the World Heritage Committee can decide to inscribe the property on the List of World Heritage in Danger. Currently, there are 48 properties which the World Heritage Committee has decided to include on the List of World Heritage in Danger, in accordance with Article 11(4) of the Convention.

K.6 IMPACT ANALYSIS

The *Final General Management Plan/Environmental Impact Statement Olympic National Park* identified methods and assumptions for analyzing impacts to the soundscape in the Olympic National Park. The National Park Service is currently preparing a Wilderness Stewardship Plan EIS for Olympic National Park. The plan will guide the long-term management of park lands designated as wilderness pursuant to the 1964 Wilderness Act. Once completed, the Wilderness Steward Plan will establish long-term goals, monitoring, and management strategies that will protect wilderness character in the Olympic National Park and supersede the General Management Plan.

Context, time, and intensity together determined the level of impacts for an action or activity (National Park Service 2008). Noise for a certain period and intensity would be a great impact in a highly sensitive context, and a given intensity would be a greater impact if it occurred more often or for a longer duration. As presented in the NWTT EIS/OEIS, it was necessary to evaluate context, time, and intensity together to determine the level of noise impact. In addition, it is also important to consider the National Parks Service’s Director’s Order #47: Soundscape Preservation and Noise Management. Table K-1 presents the criteria for determining the level of impact to soundscape in the park:

Table K-1: Impact Criteria for Soundscape in Olympic National Park

Level of Impact	Criteria
Negligible	Natural sounds would prevail; human-caused noise would be absent or very infrequent, mostly immeasurable, and inaudible.
Minor	Natural sounds would predominate in zones where management objectives call for natural processes to predominate, with human-caused noise infrequent at low levels. In zones where human-caused noise is consistent with park purpose and objectives, natural sounds could be heard occasionally.
Moderate	In zones where management objectives call for natural processes to predominate, natural sounds would predominate, but human-caused noise could occasionally be present at low to moderate levels. In zones where more human-caused noise is consistent with the zone desired conditions, it would predominate during daylight hours but would not be overly disruptive to noise-sensitive visitor activities in the area; in such areas, natural sounds could still be heard occasionally.
Major	In zones where management objectives call for natural processes to predominate, natural sounds would be impacted by human-caused noise sources frequently or for extended periods of time. In zones where human-caused noise is consistent with the zone desired conditions, the natural soundscape would be impacted most of the day; noise could disrupt conversation for long periods of time and/or make enjoyment of other activities in the area difficult. Natural sounds would rarely be heard during the day.

Source: National Park Service 2008

The Olympic National Park Final General Management Plan indicates that noise from overflights by commercial air traffic, air tours, and park and other agency and tribal aerial operations, can create adverse impacts on the park's soundscape. Specifically, the plan identifies overflight noise related to commercial aircraft as resulting in short-term, moderate adverse impacts to the wilderness experience in the park. The plan also identifies park activities resulting in localized, short-term, moderate adverse impacts to the park's natural soundscape, including those utilizing mechanized tools and helicopters during ranger station operation and maintenance, radio repeater maintenance and repairs, cultural resources management, trail maintenance, and backcountry privy management.

Although addendum Section 402 of the National Historic Preservation Act does not specifically apply to the Proposed Action, the Navy has considered the importance of the Olympic National Park World Heritage Site in the analysis of potential impacts in light of United States obligations under the Convention. There are no land activities as part of the Proposed Action that would occur directly within the property boundaries of Olympic National Park, and airspace activities that may occur in designated Special Use Airspace (SUA) overlaying the park are fully in compliance with Federal Aviation Administration regulations and recommendations applicable to these areas.

Aircraft noise associated with Navy training activities conducted in the airspace delineated by the Olympic MOA could contribute to noise impacts to the portion of the Olympic National Park that lies beneath the MOA (refer to Figure K-1). Therefore, a detailed noise analysis was completed for SUA activities within the Olympic MOA (refer to the NWTT Final EIS/OEIS, Appendix J [Airspace Noise Analysis for the Olympic Military Operations Areas]). Noise was analyzed using the Department of Defense (DoD) noise model MOA-Range NOISEMAP (MRNMAP) and the National Park Service's Noise Model Simulation noise model. Based on the analysis, noise exposure within the Olympic MOA is within the DoD's Noise Zone 1, with Day Night average noise levels below 65 A-weighted sound pressure level (or A-weighted decibels [dBA]) for the entire area studied. Small portions of the Olympic National Park that underlie the MOA and where the terrain elevation is higher than 4,000 ft. (1,219 m) above MSL could be exposed to maximum noise levels of 105 dBA for periods of less than 1 second per aircraft sortie. Over an entire year of training, under the Proposed Action, high elevation locations (above 4,000 ft. [1,219 m] MSL) beneath the MOA could experience a total of 4 minutes of noise at this maximum level. Lower

elevations can expect lower levels of maximum noise, with the bulk of the area beneath the MOA (over 75 percent) receiving a maximum noise level of no more than 84 dBA. It is important to note that this noise level would not occur over the entirety of the MOA but only in the area of the aircraft overflight, and the noise would only reach these levels for brief moments (seconds) as aircraft fly directly overhead. Equally important, the Navy's aircraft overflights in the MOA would occur only over the western portion of the Olympic National Park, which covers about 24 percent of the park (an estimated 344 square miles). Thus, the probability of someone experiencing these noise levels from a Navy aircraft overflight is relatively low, and the probability of someone in the Olympic National Park experiencing them is lower. According to the criteria presented in Table K-1, noise levels associated with military aircraft overflights would result in minor impacts to the soundscape within the Olympic National Park because overflights would only generate noise levels above 105 dBA at higher elevations in areas with limited park visitors. These noise levels would be no more than a total of 4 minutes over a 1-year period.

Other attributes of the Olympic National Park World Heritage Site that contribute to its outstanding universal value, including topography, remarkable beauty, and the complexity of the Olympic ecosystems, would not be affected by the Navy's proposed aircraft overflights. There are no land activities as part of the Proposed Action. Airspace activities are not expected to disrupt the isolation that led to species development; overflights were occurring prior to the park's designation as a World Heritage Site. There is no evidence that noise or air emissions would result in rainforest depletion. The Proposed Action and alternatives would not result in changes that would alter the complex and varied ecosystems. Continuation of Navy training activities in the airspace above the park will not result in changes to the baseline of this natural site, the ecosystem, or habitats within the Park. Based on the nature of the military training activities, there would be no associated development pressures, environmental pressures (e.g., pollution, climate change, desertification), or environmental deterioration affecting flora and fauna. Lastly, the noise study conducted for the Olympic MOAs concluded that aircraft noise impacts associated with the Proposed Action would be negligible (refer to the NWTT Final EIS/OEIS, Appendix J [Airspace Noise Analysis for the Olympic Military Operations Areas]). Therefore, no significant impacts to the Olympic National Park World Heritage Site would occur as a result of implementation of the Proposed Action.

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REFERENCES

National Park Service. (2008). *Final General Management Plan/Environmental Impact Statement Olympic National Park*.

Olympic National Park and Forest. (2015). "Park History: Preserved and Cherished History," <http://www.olympicnationalparks.com/olympic-peninsula-history.aspx>

United Nations Educational, Scientific and Cultural Organization. (2015). "Olympic National Park," <http://whc.unesco.org/en/list/151>

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