IUCN Conservation Outlook Assessment 2014 **(archived)**
Finalised on 23 September 2014

Please note: this is an archived Conservation Outlook Assessment for Olympic National Park. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Olympic National Park

SITE INFORMATION

Country:
United States of America (USA)
Inscribed in: 1981
Criteria:
(vii) (ix)

Site description:

Located in the north-west of Washington State, Olympic National Park is renowned for the diversity of its ecosystems. Glacier-clad peaks interspersed with extensive alpine meadows are surrounded by an extensive old growth forest, among which is the best example of intact and protected temperate rainforest in the Pacific Northwest. Eleven major river systems drain the Olympic mountains, offering some of the best habitat for anadromous fish species in the country. The park also includes 100 km of wilderness coastline, the longest undeveloped coast in the contiguous United States, and is rich in native and endemic animal and plant species, including critical populations of the endangered northern spotted owl, marbled murrelet and bull trout. © UNESCO

SUMMARY

2014 Conservation Outlook

Good with some concerns

Internally the park is well managed and protected despite a number of threats that will need continued attention. Within the parameters of normal fluctuation, most park resources are viewed as stable or improving. External threats, and especially long term global warming, are harder to predict and mitigate.

Current state and trend of VALUES

Low Concern
Trend: Deteriorating

Assessment is generally positive at the present time. Within the parameters of normal fluctuation, most park resources are viewed as stable or improving. However, several endangered species continue to decline and off site activities continue to limit the recovery of anadromous fish stocks.
Looking to the future, on-going climate change poses the most serious threat to the OUV of the site. Particularly notable will be the loss of sub-alpine habitat, glaciers and more frequent flooding and other weather related events.

Overall THREATS

Low Threat

For the period of this assessment cycle, we would assess the identified threats in the low threat category. In the longer term, as mentioned, both climate change and potential budget cuts may pose more serious threats.

Overall PROTECTION and MANAGEMENT

Highly Effective

Highly effective at this time, but key concern is real potential of budget cuts which could compromise future efforts to protect and management park

resources. Additionally, long term global warming patterns have the potential to importantly alter the character of the OUV.

FULL ASSESSMENT

Description of values

Values

World Heritage values

- **The Western Hemisphere’s largest stands of temperate rainforest**
  Criterion:(vii)

  Olympic National Park is the largest and best example in the western hemisphere of virgin temperate rainforest. 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 (Statement of Significance, 2006).

- **Remarkable combination of habitats**
  Criterion:(vii)

  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 (Statement of significance, 2006).

- **Glaciers**
  Criterion:(vii)

  The mountains contain about 60 active glaciers; the area is unique in because it is the lowest latitude in the world in which glaciers begin at an elevation lower than 2,000 m and exist below 1,000 m (Statement of Significance, 2006).

► Diversity of flora and fauna which continues to evolve in a relative natural state

Criterion:(ix)

The park contains 981 species of native, terrestrial, vascular plants and 342 species of native aquatic plants, 205 species of marine algae 301 species of birds, 59 species of terrestrial mammals, and 11 species of marine mammals, 536 species of marine invertebrates, 65 species of intertidal fish that collectively are continuing to evolve in a relative natural state.

► Habitats of unmatched diversity on the Pacific coast

Criterion:(ix)

Within the park boundary, there are 10 major watersheds, 311 glaciers, and 112 km of roadless coastline. Topographic characteristics of Olympic Mountains results in dramatic climate gradients within and immediately outside park. 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 (Statement of Significance, 2006).

► Endemic species associated with park’s isolation

Criterion:(ix)

The park’s isolation has allowed the development of endemic wildlife. The park is rich in native and endemic animal and plant species, including critical populations of the endangered northern spotted owl, marbled murrelet and bull trout (Statement of Significance, 2006). Endemic species and subspecies in the park also include 2 sensitive plants and 6 others, 3 mammals, including the Olympic marmot (full species), 3 subspecies of endemic fish, and 7 endemic insects (Olympic National Park General Management Plan 2010).

► Wilderness coastline

Criterion:(vii)

The park includes 100 km of wilderness coastline, the longest undeveloped

coast in the contiguous United States (Statement of Significance, 2006)

Other important biodiversity values

► Endangered species

The park contains 22 threatened and endangered animal species, 4 candidates for listing, and 17 species of federal concern. The Whitebark Pine is a candidate species for listing. There are 11 species of plants listed as threatened and 42 listed as sensitive by the State of Washington, but none are federally designated. Olympic National Park General Management Plan 2010.

► Roosevelt Elk

The park protects the largest population of Roosevelt elk in its natural environment in the world. Olympic National Park General Management Plan 2010

► Native fish populations

The park’s 10 major watersheds and over 200 streams support 22 breeding native fish species, including anadromous as well as resident populations of 7 salmonid species. Olympic National Park General Management Plan 2010 http://www.nps.gov/olym/parkmgmt/olympic-fun-facts.htm

Assessment information

Threats

Current Threats

High Threat

Though in general park resources are effectively managed and protected.

However, a significant number of current threats identified fall into the high threat category.

► Invasive Non-Native/ Alien Species

Low Threat
Inside site

Ecosystem impacts were identified at localized sites, currently population is low and consequently threats are low; however, population is growing and this threat level may increase in the future. (NPCA 2004, NPS 2011)

► Fishing / Harvesting Aquatic Resources

High Threat
Inside site
Outside site

Intensive commercial and recreational harvest outside the park influence the number of adult salmonids that return to the park. Commercial gill-net fisheries exist at river mouths most weeks of the year and sport anglers come from around the world to fish in the park. Additionally, hatchery fish pose threats to wild fish populations in the park. Federal, state, and tribal hatcheries annually release millions of hatchery fish in portions of rivers located outside park boundaries. The relatively conservative fisheries management regulations implemented by the park are not enough to minimize impacts to park resources. (NPCA 2004, Olympic National Park General Management Plan 2010).

► Other Ecosystem Modifications

Very High Threat
Outside site

Spotted owls and marbled murrelets continue to decline at alarming levels despite in-park protections. Extirpation is expected if the current trends continue.
Continued loss of apex predator continues to alter wildlife and plant community composition and relative abundance. (NPCA 2004, Olympic National Park General Management Plan 2010)
Trend information for endangered fish species within the park is either lacking or shows populations to be relative stable in the short term. Though

uncertain, threats to listed fish species without intervention are high.

► Logging/ Wood Harvesting

High Threat
Outside site

The activity most relevant to this category of threat is illegal harvest inside the park of shrubs, ferns, and mosses for the floral trade. This incident is sporadic and localized; park law enforcement staff are aware of the problem and work to identify and respond to incidents.
A number of streams within the park are on the 3030(d) list due to elevated temperatures, turbidity, or biological indexes of integrity. It is suspected that logging adjacent to the park boundary significantly contributed to the degradation of water quality, although this has improved. (NPCA 2011, Olympic National Park General Management Plan 2010)

► Invasive Non-Native/ Alien Species

High Threat
Inside site

The exotic flora of the park includes species with the potential to degrade habitat for the native plants and animals in habitats including riparian/aquatic areas, non-forested uplands, and forests. New invasive exotic species which could spread to the park are identified in the region regularly. The park has increased staffing for treatment of invasive plants and enhanced coordination between working groups within the park and collaboration with partners including tribes, counties, and other federal agencies. However, at present the park’s resources are not adequate to treat all known occurrences of invasive, exotic plants. (Olympic National Park General Management Plan 2010).
Invasion of some unpalatable species affect nutritional carrying capacity for some herbivore; localized impact in low elevation areas.

► Habitat Shifting/ Alteration, Droughts, Temperature changes

Very High Threat
Inside site
Outside site

Two recent publications have described potential effects of climate change

on vegetation on federal lands on the Olympic Peninsula Aubry et al. (2011) and Halofsky et al. (2011). Climate change is expected to result in altered geographic ranges of dominant plant species, increase the probability of establishment of regeneration failures, and increased drought stress leading to decreased growth of forests. Habitats most at risk include wetlands, alpine and subalpine areas, temperate rainforest with Sitka spruce, and high-elevation forests dominated by Pacific silver fir, subalpine fir, mountain hemlock, and Alaska yellow-cedar. The park is developing some capacity to identify which potential consequences of climate change are occurring most rapidly through the development of long-term monitoring with other NPS units in western Washington. Effective responses will require reevaluation of agency policy and other guidance, increased collaboration with other agencies and an increase in staff and funding
Park also has some data, and is collecting more, on ocean acidification, water temperatures, etc. and their potential impact on coastal organisms.
Loss of subalpine habitat will lead to extinction of state listed marmots and federal candidate (and soon to be listed) mazama pocket gopher; diminishment of forage available for migratory elk, bear, deer, subalpine birds small animals and numerous other species. (Halofsky et al. 2011).

Potential Threats

Low Threat

Most of the potential threats fall into the low threat category. The one exception is climate change, which will be gradual but from available data, a critical threat to the OUV of the park.

► Other

High Threat
Inside site

Highway 101 lies very close to both Lake Crescent and the ocean coastline. It is heavily used by both recreational and commercial traffic with potential for runoff that contaminates adjacent waters.
Research to date has shown that automobile traffic on the highway adjacent to the lake is responsible for 5% of the annual total lake nitrogen inputs. And along this busy, commercial, route, the possibility of a major input of toxic

material does exist.

► Housing/ Urban Areas

Low Threat
Inside site
Outside site

Puget Sound is a rapidly growing urban area with increasing construction of primary residences and increasing demands for recreational areas. Localized high levels of human recreation lead to habituation of wildlife and food conditioning, leading to alteration in animal behavior and movement patterns. Effects of hunting on boundary areas and on migratory wildlife populations is minimal at present. Increased interest in cougar population management to increase elk harvest opportunities outside park is growing concern.

► Tourism/ Recreation Areas

Low Threat
Inside site
Outside site

There are multiple sites in and adjacent to the park on which lodges and other tourism facilities, as well as staff offices and residences, have been built. They are generally well planned and managed, but never-the-less provide focal points for intense use with local resource degradation and exotic plant establishment sites.

► Shipping Lanes

Low Threat
Outside site

Effect on sea otters, seabirds, (key nesting colonies on off shore islands) peregrine falcons and bald eagles occurred as a result of spills is 1988 and 1991. The potential for future oil spills continues to exist.

► Other

Low Threat

Thought to be minimal because the adjacent marine sanctuary does not

support fish farming at this time.

Protection and management

Assessing Protection and Management

▶ Relationships with local people

Mostly Effective

Key stakeholders have been identified and are generally supportive of the park. For a variety of reasons there are individuals and small groups that oppose park and world heritage status. The park undertook a significant public consultation process in drafting its most recent management plan.

▶ Legal framework and enforcement

Some Concern

The legal framework under which the park is managed and protected is highly effective. The existing law enforcement effort is also effective, but current and anticipated budget reductions may limit the park’s ability to patrol and enforce park regulations. (Olympic National Park General Management Plan 2010).

▶ Integration into regional and national planning systems

Mostly Effective

Integration into the regional and national park service planning systems is generally effective.

▶ Management system

Highly Effective

The existing management system is highly effective. The development of the management plan / environmental impact statement for the park was the result of an almost 7 year process involving three public consultation periods and over 500 public comments resulting in a 15-20 year plan. http://parkplanning.nps.gov/PlanProcess.cfm?projectID=10233

► Management effectiveness

Highly Effective

Management effectiveness is highly efficient.

► Implementation of Committee decisions and recommendations

Highly Effective

The park has been responsive to Committee decisions for expanding boundaries and developing emergency response mechanisms for oil spills off the coast. See decisions 14COM VII.E, 15COM VIII, 16COVIII.

► Boundaries

Mostly Effective

The resource protection effectiveness of the existing boundaries is improved by the surrounding U.S. Forest Service lands. Much of site's OUV is well protected by the existing boundaries, but some resources, such as anadromous fish, are not protected over their full life cycle.
Several minor boundary adjustments (expansions) are proposed in the approved General Management Plan. This is off set by the removal of two parcels of land (both small) along the coast to allow local Indian tribes to relocate key facilities to sites above the tsunami exposure zone. (Olympic National Park General Management Plan 2010).

► Sustainable finance

Some Concern

Annual budgets rise and fall with different administrations, but have generally been sufficient to maintain the site's OUV.

► Staff training and development

Some Concern

This relates directly to funding and the same pattern described above also fits this category.

► Sustainable use

Mostly Effective

Sustainable use in the park is largely tourism and the programs designed to facilitate it. The level of tourism is presently sustainable, though some programs, i.e. education, are at risk from budget cuts. Some land management practices outside the park have previously been identified as potential threats, but are generally considered sustainable and consistent with maintaining the OUV.

► Education and interpretation programs

Serious Concern

Education and interpretations are frequently among the first to be reduced during tight fiscal times. To some extent the reduction in government programs is being offset by education provided by non-profit organizations within and around the park.

► Tourism and interpretation

Some Concern

There is an increasing recognition in the region surrounding the park of the monetary value that park related tourism brings to the region. A portion of park entrance fees are returned to the park.

► Monitoring

Highly Effective

Improving and effective.

► Research

Highly Effective

About 80 research permits issued annually. There is a vibrant research program in park.

Overall assessment of protection and management

Highly Effective

Highly effective at this time, but key concern is real potential of budget cuts which could compromise future efforts to protect and management park resources. Additionally, long term global warming patterns have the potential to importantly alter the character of the OUV.

▶ Assessment of the effectiveness of protection and management in addressing threats outside the site

Mostly Effective

Assessment of the threats is generally effective, but there are many legal and fiscal restraints that limit the extent to which these threats can be mitigated.

▶ Best practice examples

There are excellent best practice examples on display everywhere in the park. Two notable examples are the removal of the two Elwha river dams and re-introduction of native fisher.

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ The Western Hemisphere’s largest stands of temperate rainforest

Low Concern
Trend:Stable

Appears stable and fairly resilient to changes impacting disturbed forest communities outside the park.

▶ Remarkable combination of habitats

High Concern
Trend:Deteriorating

Due to global warming trend, glaciers are disappearing, sea levels are slowly rising, flood events, leading to erosion of river drainages, are becoming more frequent, as are drought cycles.

▶ Glaciers

High Concern
Trend:Deteriorating

Due to global warming trend, glaciers are disappearing, sea levels are slowly rising, flood events, leading to erosion of river drainages, are becoming more frequent, as are drought cycles.

▶ Diversity of flora and fauna which continues to evolve in a relative natural state

Low Concern
Trend:Stable

Generally stable, with localized impact from exotic plant invasions. Potential loss of some native species that are on the endangered list (see below).

▶ Habitats of unmatched diversity on the Pacific coast

High Concern
Trend:Deteriorating

Due to global warming trend, glaciers are disappearing, sea levels are slowly rising, flood events, leading to erosion of river drainages, are becoming more frequent, as are drought cycles.

▶ Endemic species associated with park’s isolation

High Concern
Trend:Stable

The Olympic Marmot and subalpine pocket gopher continue to decline, though endemic fish in Lake Crescent appear stable. Removal of two Elwha River dams is expected to boost anadromous fish populations in this river system. Some native fish are being crowded out by exotic species. Hatchery

operations outside the park impact native fish stocks.

► Wilderness coastline

Low Concern
Trend:Stable

Climate change, with associated sea level rises, and more frequent flood events in coastal drainages is expected to alter both the intertidal flora and fauna and coastal physiography.

Other important biodiversity values

► Endangered species

The park contains 22 threatened and endangered animal species, 4 candidates for listing, and 17 species of federal concern. The Whitebark Pine is a candidate species for listing. There are 11 species of plants listed as threatened and 42 listed as sensitive by the State of Washington, but none are federally designated. Olympic National Park General Management Plan 2010.

► Roosevelt Elk

The park protects the largest population of Roosevelt elk in its natural environment in the world. Olympic National Park General Management Plan 2010

► Native fish populations

The park’s 10 major watersheds and over 200 streams support 22 breeding native fish species, including anadromous as well as resident populations of 7 salmonid species. Olympic National Park General Management Plan 2010 http://www.nps.gov/olym/parkmgmt/olympic-fun-facts.htm

Summary of the Values

► Assessment of the current state and trend of World Heritage values

Low Concern

Trend: Deteriorating

Assessment is generally positive at the present time. Within the parameters of normal fluctuation, most park resources are viewed as stable or improving. However, several endangered species continue to decline and off site activities continue to limit the recovery of anadromous fish stocks.
Looking to the future, on-going climate change poses the most serious threat to the OUV of the site. Particularly notable will be the loss of sub-alpine habitat, glaciers and more frequent flooding and other weather related events.

▶ Assessment of the current state and trend of other important biodiversity values

Low Concern

Trend: Data Deficient

Some listed species, notably the marbled murrelet and spotted owl continue to decline, while native fishers have been re-introduced to the park. Some salmon runs are threatened by activities

Additional information

Key conservation issues

▶ Decline/extinction of endangered species

Regional

Key endangered species continue to decline, notably the endemic Olympic Marmot, subalpine pocket gopher, and the endangered marbled murrelet, and spotted owl. Efforts to re-introduce the extirpated wolf have been strongly opposed locally. On the upside, the extirpated fisher has been re-introduced and appears be increasing.

▶ Climate change impacts

Global

Everything else pales in comparison to the potential impact of long term

climate change.

▶ Exotic plant invasion

Regional

Several species of exotic plants continue to expand their range and density with the potential to degrade habitat for native plants and animals.

▶ Logging and other forest products adjacent to park, and illegally from inside park

Local

Harvest of park ferns, mosses, and shrubs for the floral industry continues, and will likely increase with anticipated cuts in enforcement budgets and staff.

▶ Exotic mountain goats

Local

A major effort was taken in the 1980’s to exterminate exotic mountain goats inside the park boundary. For a variety of reasons, this stalled in the 1990’s. Goat populations have rebounded and threaten native plant populations and human safety

▶ Human recreation

National

Human recreation is a key element in justifying and managing national parks. Olympic received about 3,000,000 visitors annually. In general, visitation is stable, well managed, and sustainable at this level.

▶ Contaminants from highway 101

Regional

See worksheet 2b. This is already a measureable nitrogen input in Lake Crescent, and there is potential for catastrophic spills along the 101 corridor that is within the park.

▶ Potential oil spills

Regional

Though minimal on a given time in this time frame, the potential is always

there for a major ocean oil spill. Exploration activity now occurring in the North Olympic Marine Sanctuary may increase this potential.

▶ **Urban pressures**

Regional

The Puget Sound region remains a fast growing area, with long term potential of adding to residential and recreational pressures on the park.

Benefits

Understanding Benefits

▶ **Outdoor recreation and tourism**

A major element and critical justification for the park, as previously described.

▶ **Is the protected area valued for its nature conservation?**

The park is rich in biodiversity and protects important populations of certain species (e.g. Roosevelt elk), a number of threatened and endangered species, and numerous endemics.

▶ **Importance for research**

This includes contrasting the character of largely pristine environments with disturbed areas outside park boundaries, as well as monitoring long term trends such as global warming

▶ **Contribution to education**

Educating targeting visitors, local and regional students, and offering a source of academic study to scientist from a wide variety of disciplines

▶ **Outdoor recreation and tourism**

It is estimated that visitation to the park, directly and indirectly, generates over 150 million dollars in regional income, supporting several thousand jobs.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	Park staff		Restoration of Elwha River watershed following removal of two dams (now in progress)
2	Park staff		Monitor and assess endangered Native American sites, especially along the park coastline
3	Park staff		Inventory and Monitoring program that is assessing 9 vital indicators
4	Park staff/contract and university associated scientists		Process and manage approximately 80 research projects annually
5	Park staff		Skokomish river anadromous fish restoration following modification of hydro dam structures to allow more effective fish passage

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	Park and United States Geologic Survey staff	Continue to investigate feasibility and logistics of re-introducing extirpated wolf population	
2	Park and NSGS staff	Assess and manage exotic goat population with long term goal of eliminating this species from the park.	

REFERENCES

№	References
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