

1. World Heritage Property Data

2. Statement of Outstanding Universal Value

1.1 - Name of World Heritage Property

Grand Canyon National Park

2.1 - Statement of Outstanding Universal Value / Statement of Significance

1.2 - World Heritage Property Details

State(s) Party(ies)

- United States of America

Type of Property

natural

Identification Number

75


Year of inscription on the World Heritage List

1979

1.3 - Geographic Information Table

Name	Coordinates (longitude / latitude)	Property (ha)	Buffer zone (ha)	Total (ha)	Inscription year
Grand Canyon National Park	36.101 / -112.091	493270	0	493270	1979
Total (ha)		493270	0	493270	

1.4 - Map(s)

Title	Date	Link to source
Grand Canyon National Park	03/04/2006	

1.5 - Governmental Institution Responsible for the Property

- Jonathan Putnam
US National Park Service Office of International Affairs
World Heritage Program Officer

1.6 - Property Manager / Coordinator, Local Institution / Agency

- David Uberuaga
Grand Canyon National Park
Superintendent

1.7 - Web Address of the Property (if existing)

1. [Grand Canyon National Park \(U.S. World Heritage\)](#)
2. [Grand Canyon National Park \(U.S. National Park Service\)](#)
3. [Natural site datasheet from WCMC](#)
4. [World Heritage in the United States](#)

Comment

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1.8 - Other designations / Conventions under which the property is protected (if applicable)

Comment

Over 94% of the Park is recommended for Wilderness designation.

Statement of Significance

The Grand Canyon is among the earth's greatest on-going geological spectacles. Its vastness is stunning, and the evidence it reveals about the earth's history is invaluable. The 1.5-kilometer (0.9 mile) deep gorge ranges in width from 500 m to 30 km (0.3 mile to 18.6 miles). It twists and turns 445 km (276.5 miles) and was formed during 6 million years of geologic activity and erosion by the Colorado River on the upraised earth's crust. The buttes, spires, mesas and temples in the canyon are in fact mountains looked down upon from the rims. Horizontal strata exposed in the canyon retrace geological history over 2 billion years and represent the four major geologic eras.

Criteria

(vii) Widely known for its exceptional natural beauty and considered one of the world's most visually powerful landscapes, the Grand Canyon is celebrated for its plunging depths; temple-like buttes; and vast, multihued, labyrinthine topography. Scenic wonders within park boundaries include high plateaus, plains, deserts, forests, cinder cones, lava flows, streams, waterfalls, and one of America's great whitewater rivers.

(viii) Within park boundaries, the geologic record spans all four eras of the earth's evolutionary history, from the Precambrian to the Cenozoic. The Precambrian and Paleozoic portions of this record are particularly well exposed in canyon walls and include a rich fossil assemblage. Numerous caves shelter fossils and animal remains that extend the paleontological record into the Pleistocene.

(ix) Grand Canyon is an exceptional example of biological environments at different elevations that evolved as the river cut deeper portraying five of North America's seven life zones within canyon walls. Flora and fauna species overlap in many of the zones and are found throughout the canyon.

(x) The park's diverse topography has resulted in equally diverse ecosystems. The five life zones within the canyon are represented in a remarkably small geographic area. Grand Canyon National Park is an ecological refuge, with relatively undisturbed remnants of dwindling ecosystems (such as boreal forest and desert riparian communities), and numerous endemic, rare or endangered plant and animal species.

Comment

Updates are needed for accuracy: The geologic record is less than 2 billion years. With the exception of minor outcroppings of the Mesozoic units, the rock record consists of Proterozoic, Paleozoic, & Cenozoic volcanics, cave formations, travertine, surficial units and Pleistocene fossils. The landscape is much older than reported. Under the Retrospective Statements of Outstanding Universal Value, the US will be proposing new language for Grand Canyon.

2.2 - The criteria (2005 revised version) under which the property was inscribed

(vii)(viii)(ix)(x)

2.3 - Attributes expressing the Outstanding Universal Value per criterion

2.4 - If needed, please provide details of why the Statement of Outstanding Universal Value should be revised

2.5 - Comments, conclusions and / or recommendations related to Statement of Outstanding Universal Value

3. Factors Affecting the Property

3.14. Other factor(s)

3.14.1 - Other factor(s)

Noise Pollution: Natural quiet is a park resource. Impacts from aircraft activity. Negative, current, outside property origin. Widespread, ongoing, significant. Groundwater impacts. Groundwater impacts from mining and wells may impact springs and seeps. Negative, current & potential, outside property origin. Restricted, ongoing, significant

3.15. Factors Summary Table

3.15.1 - Factors summary table

	Name	Impact					Origin	
3.1	Buildings and Development							
3.1.1	Housing		⊖		⚠		🔄	
3.1.2	Commercial development		⊖		⚠		🔄	
3.1.4	Major visitor accommodation and associated infrastructure	⊕	⊖	⚠	⚠	🔄	🔄	
3.1.5	Interpretative and visitation facilities	⊕		⚠		🔄	🔄	
3.2	Transportation Infrastructure							
3.2.1	Ground transport infrastructure	⊕	⊖	⚠	⚠	🔄		
3.3	Services Infrastructures							
3.3.1	Water infrastructure	⊕	⊖	⚠		🔄	🔄	
3.3.2	Renewable energy facilities		⊖	⚠	⚠		🔄	
3.3.3	Non-renewable energy facilities		⊖	⚠			🔄	
3.3.4	Localised utilities		⊖		⚠	🔄	🔄	
3.4	Pollution							
3.4.2	Ground water pollution		⊖		⚠		🔄	
3.4.3	Surface water pollution		⊖		⚠	🔄	🔄	
3.4.4	Air pollution		⊖	⚠	⚠	🔄	🔄	
3.4.5	Solid waste		⊖		⚠		🔄	
3.5	Biological resource use/modification							
3.5.4	Livestock farming / grazing of domesticated animals		⊖	⚠			🔄	
3.5.7	Subsistence wild plant collection	⊕		⚠	⚠	🔄	🔄	
3.5.10	Forestry /wood production	⊕			⚠		🔄	
3.6	Physical resource extraction							
3.6.4	Water (extraction)		⊖	⚠	⚠		🔄	
3.7	Local conditions affecting physical fabric							
3.7.1	Wind		⊖	⚠			🔄	
3.8	Social/cultural uses of heritage							
3.8.1	Ritual / spiritual / religious and associative uses	⊕		⚠	⚠	🔄	🔄	
3.8.3	Indigenous hunting, gathering and collecting	⊕	⊖	⚠	⚠	🔄	🔄	
3.8.4	Changes in traditional ways of life and knowledge system		⊖		⚠		🔄	
3.8.6	Impacts of tourism / visitor / recreation	⊕	⊖	⚠	⚠	🔄	🔄	
3.9	Other human activities							
3.9.1	Illegal activities		⊖	⚠	⚠	🔄	🔄	
3.9.2	Deliberate destruction of heritage		⊖		⚠		🔄	
3.10	Climate change and severe weather events							
3.10.3	Drought		⊖	⚠	⚠	🔄	🔄	
3.10.7	Other climate change impacts		⊖		⚠	🔄	🔄	
3.11	Sudden ecological or geological events							
3.11.1	Volcanic eruption	⊕			⚠	🔄	🔄	
3.11.2	Earthquake		⊖		⚠	🔄	🔄	
3.11.4	Avalanche/ landslide		⊖		⚠	🔄	🔄	
3.11.6	Fire (wildfires)	⊕	⊖		⚠	🔄	🔄	
3.12	Invasive/alien species or hyper-abundant species							
3.12.1	Translocated species		⊖	⚠	⚠		🔄	
3.12.2	Invasive/alien terrestrial species		⊖	⚠	⚠	🔄	🔄	

Name		Impact				Origin	
3.12.3	Invasive / alien freshwater species						
3.12.5	Hyper-abundant species						
3.13	Management and institutional factors						
3.13.1	Low impact research / monitoring activities						
3.13.3	Management activities						
Legend	Current	Potential	Negative	Positive	Inside	Outside	

3.16. Assessment of current negative factors

3.16.1 - Assessment of current negative factors

	Spatial scale	Temporal scale	Impact	Management response	Trend
3.1 Buildings and Development					
3.1.4 Major visitor accommodation and associated infrastructure	restricted	on-going	minor	medium capacity	increasing
3.2 Transportation Infrastructure					
3.2.1 Ground transport infrastructure	restricted	on-going	minor	medium capacity	increasing
3.3 Services Infrastructures					
3.3.1 Water infrastructure	restricted	on-going	significant	high capacity	static
3.3.2 Renewable energy facilities	restricted	on-going	minor	medium capacity	static
3.3.3 Non-renewable energy facilities	widespread	on-going	significant	medium capacity	decreasing
3.4 Pollution					
3.4.4 Air pollution	widespread	on-going	significant	medium capacity	increasing
3.5 Biological resource use/modification					
3.5.4 Livestock farming / grazing of domesticated animals	localised	intermittent or sporadic	minor	medium capacity	static
3.6 Physical resource extraction					
3.6.4 Water (extraction)	localised	on-going	significant	medium capacity	increasing
3.7 Local conditions affecting physical fabric					
3.7.1 Wind					
3.8 Social/cultural uses of heritage					
3.8.3 Indigenous hunting, gathering and collecting	localised	intermittent or sporadic	insignificant	medium capacity	increasing
3.8.6 Impacts of tourism / visitor / recreation	localised	on-going	significant	high capacity	static
3.9 Other human activities					
3.9.1 Illegal activities	localised	frequent	minor	high capacity	static
3.10 Climate change and severe weather events					
3.10.3 Drought	widespread	on-going	minor	medium capacity	increasing
3.12 Invasive/alien species or hyper-abundant species					
3.12.1 Translocated species	restricted	on-going	significant	medium capacity	static
3.12.2 Invasive/alien terrestrial species	widespread	on-going	significant	medium capacity	static
3.12.3 Invasive / alien freshwater species	restricted	on-going	minor	medium capacity	increasing
3.12.5 Hyper-abundant species	localised	on-going	minor	medium capacity	increasing
3.13 Management and institutional factors					
3.13.1 Low impact research / monitoring activities	localised	on-going	minor	high capacity	static

3.17. Comments, conclusions and / or recommendations related to factors affecting the property

3.17.1 - Comments

4. Protection, Management and Monitoring of the Property

4.1. Boundaries and Buffer Zones

4.1.1 - Buffer zone status

There is **no buffer zone**, and it is not needed

4.1.2 - Are the boundaries of the World Heritage property adequate to maintain the property's Outstanding Universal Value?

The boundaries of the World Heritage property are **adequate** to maintain the property's Outstanding Universal Value

4.1.3 - Are the buffer zone(s) of the World Heritage property adequate to maintain the property's Outstanding Universal Value?

The property had **no buffer zone** at the time of its inscription on the World Heritage List

4.1.4 - Are the boundaries of the World Heritage property known?

The boundaries of the World Heritage property are known by both the management authority and local residents / communities / landowners.

4.1.5 - Are the buffer zones of the World Heritage property known?

The property had **no buffer zone** at the time of its inscription on the World Heritage List

4.1.6 - Comments, conclusions and / or recommendations related to boundaries and buffer zones of the World Heritage property

Though legal protective measures exist, the park is threatened by external factors including uranium mining, water extraction, light, sound and air pollution, developments along the boundaries and climate change. Managers continue to work with all entities to afford the greater protections needed to preserve integrity. The recent withdrawal of ~1 million acres land from mineral dev. is an example.

4.2. Protective Measures

4.2.1 - Protective designation (legal, regulatory, contractual, planning, institutional and / or traditional)

Grand Canyon National Park is owned by the United States Government on behalf of the American public. Grand Canyon National Park is managed by the National Park Service, a federal agency within the U.S. Department of the Interior, a major division of the Executive Branch of the United States Government. As a national park, it receives the highest level of conservation protection afforded by federal law in the United States. The park is also protected by the laws of the State of Arizona.

The property is a national park, initially authorized by the U.S. Congress in 1919. It was enlarged in 1975 by congressional action to encompass approximately 1,218,375 acres (493,059 hectares). The United States Government owns, and the National Park Service manages, all land within the congressionally authorized boundary with the following exceptions: approximately 17,237 acres (6,976 hectares) are an inholding of the Navajo Nation; three parcels totaling approximately 393 acres (159 hectares) are privately owned; and approximately 11,860 acres (4,800 hectares)—the bed of the Colorado River through Grand Canyon National Park—are the property of the State of Arizona.

The following are United States federal statutes:

Antiquities Act, 1906 (16 USC 431 et seq.)

Act to Establish the National Park Service (Organic Act), 1916 (16 USC 1)

Act to Establish the Grand Canyon National Park, 1919 (16 USC 221 et seq.)

Wilderness Act, 1964 (16 USC 1131 et seq.)

National Historic Preservation Act, 1966 (16 USC 470 et seq.)

Clean Air Act, 1967, as amended (42 USC 7401–671)

National Environmental Policy Act, 1969, as amended (42 USC 4321 et seq.)

Act to Improve the Administration of the National Park System (General Authorities Act, 1970, as amended (16 USC 1a-5 et seq.)

Federal Water Pollution Control Act, 1972 (Clean Water Act), as amended (33 USC 1251 et seq.)

Endangered Species Act, 1973 (16 USC 1531 et seq.)

Grand Canyon Enlargement Act, 1975, as amended (16 USC 228a-j)

Resource Conservation and Recovery Act, 1976, as amended (42 USC 6901 et seq.)

American Indian Religious Freedom Act, 1978 (42 USC 1996 et seq.)

Archaeological Resources Protection Act, 1979 (16 USC 470aa et seq.)

National Parks Overflights Act, 1987 (Public Law 100-91)

Native American Graves Protection and Repatriation Act, 1990 (25 USC 3001 et seq.)

Grand Canyon Protection Act, 1992 (Public Law 102-575)

National Park Air Tour Management Act, 2000 (Public Law 106-181)

Comment

Approximately 25 additional legal and or regulatory designations help protect Grand Canyon National Park.

4.2.2 - Is the legal framework (i.e. legislation and / or regulation) adequate for maintaining the Outstanding Universal Value including conditions of Integrity and / or Authenticity of the property?

The legal framework for the maintenance of the Outstanding Universal Value including conditions of Authenticity and / or Integrity of the World Heritage property provides **an adequate or better basis** for effective management and protection

4.2.3 - Is the legal framework (i.e. legislation and / or regulation) adequate in the buffer zone for maintaining the Outstanding Universal Value including conditions of Integrity and / or Authenticity of the property?

The property had **no buffer zone** at the time of inscription on the World Heritage List

4.2.4 - Is the legal framework (i.e. legislation and / or regulation) adequate in the area surrounding the World Heritage property and buffer zone for maintaining the

Outstanding Universal Value including conditions of Integrity and / or Authenticity of the property?

An **adequate** legal framework exists for the area surrounding the World Heritage property and the buffer zone, but **there are some deficiencies in its implementation** which undermine the maintenance of the Outstanding Universal Value including conditions of Authenticity and / or Integrity of the property

4.2.5 - Can the legislative framework (i.e. legislation and / or regulation) be enforced?

There is **excellent** capacity / resources to enforce legislation and / or regulation in the World Heritage property

4.2.6 - Comments, conclusions and / or recommendations related to protective measures

Although legal protective measures exist, the Grand Canyon is threatened by numerous external factors including uranium mining, water extraction, light, sound and air pollution, developments along the boundaries and climate change. Park managers continue to work with all entities to afford the greater protections needed to preserve the integrity of the Park. The recent withdrawal of ~1million acres of land from mineral development is one example of protective measures needed for the Park.

4.3. Management System / Management Plan

4.3.1 - Management System

Management authority for the site rests with the Superintendent of Grand Canyon National Park, who reports to the National Park Service Intermountain Regional Director, who reports to the Director of the National Park Service in Washington, D.C. Within the park, the Superintendent, assisted by a deputy, supervises chiefs of several divisions, including resource management (Science Center), interpretation and education, resource and visitor protection, administration, maintenance, concessions, and the project management team.

The management of the Colorado River's physical and biological resources within the park is influenced by several other entities through the Glen Canyon Dam Adaptive Management Program (AMP). Operation of Glen Canyon Dam, located a short distance upstream from the park boundary, profoundly affects riverine and riparian conditions in the park. The AMP is a federal, multi-stakeholder advisory committee initiated in 1996 to comply with provisions of the Grand Canyon Protection Act (Act) of 1992 (P.L. 102-575) and the Environmental Impact Statement and Record of Decision for the Operation of Glen Canyon Dam (completed in 1995). The AMP's purpose is to provide an organization and process for cooperatively integrating dam operations, downstream resource protection and management, and monitoring and research information. It is also dedicated to improving the values for which Grand Canyon National Park was established. The AMP members include the seven Colorado River basin states, federal and state agencies, and American Indian tribes, as well environmental groups, recreation interests, and power purchase contractors. The research and monitoring arm of the AMP is the Grand Canyon Monitoring and Research Center (GCMRC). GCMRC oversees flow experiments and monitors the impact of dam operations on downstream resources, including water quality, sediment transport and deposition, fish and other aquatic resources, the riparian ecosystem, cultural sites, and recreational activities. Three American Indian tribes border park land: the Navajo Nation, the Havasupai Tribe, and the Hualapai Tribe. Park

personnel coordinate with these tribes on management issues, such as protection of valued tribal resources within park boundaries, regulation of backcountry or river recreationists who stray from park lands onto tribal property, and the use of park resources by tribal members. Grand Canyon National Park collaborates on management of recreational use of the lower 108 miles of the Colorado River with the Hualapai Tribe, and consults with the Havasupai Tribe on managing tribal use of a 95,300-acre (38,567-hectare) area within park boundaries. This area was designated Havasupai Traditional Use Lands by the Grand Canyon Enlargement Act of 1975. Park personnel confer with their tribal counterparts in both standing and ad hoc committee meetings and often address tribal council and local chapter meetings. The park also consults with more distantly located tribes who have traditional links with Grand Canyon to ensure that their concerns about traditional resources are considered in management decisions. Tribes sometimes participate in management processes as cooperating agencies and collaborate in research projects.

Grand Canyon National Park operates in accordance with several management plans. Chief among them is the General Management Plan (GMP), which took effect in 1995 and provides the framework for all other plans. The GMP, which can be found online at <http://www.nps.gov/grca/gmp/>, states the park's purpose, significance, vision, and management objectives. It provides overall direction for the management of resources, visitor use, and general development for a 10- to 15-year period. The first-stated, of the plan's 65 management objectives, is to "Manage the park to preserve its integrity as a World Heritage Site with natural and cultural resources of national and international significance."

According to the GMP, all lands within the park are classified into one of three management zones: the Natural Zone, the Cultural Zone, or the Development Zone. Over 94% of parklands are managed as wilderness and classified within the Natural Zone, as are some undeveloped but relatively accessible areas on the South Rim. The Cultural Zone applies to hundreds of individual archeological sites, places of traditional cultural importance to American Indians, and historic structures. The Development Zone comprises less than 1% of the park and includes visitor and management facilities on the South and North Rims, a remote site on the northwest rim of the canyon (Tuweep), approximately 33 miles of cross-canyon corridor trails, and visitor and management facilities in the inner canyon at Indian Gardens and Phantom Ranch. The GMP provides a blueprint for addressing the park's most pressing management issue: the crush of 4-5 million visitors who annually congregate in the relatively small developed areas, mostly on the South Rim. A summary of the GMP is presented in section 4n1.

The GMP also provides guidance for the ongoing management of natural and cultural resources, and goals and objectives for visitor experience in the backcountry and Colorado River corridor. Specific provisions for managing scenic, ecological, and paleontological resources—values for which the park was inscribed as a World Heritage Site—include the following (all of which are in various stages of implementation):

(1) Components of the human environment that adversely affect scenic resources will be identified; the National Park Service will work with the necessary entities to minimize such intrusions. Overlooks will be maintained for resource protection and scenic quality. Air quality and visibility in the park will be improved by cooperatively reducing in-house and external emission sources. The intent is to improve the visitor experience at overlooks during the day and add to the enjoyment of the night sky.

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(2) The National Park Service will develop and implement an ecosystem approach to managing threatened and endangered species, and will institute an active research and recovery program.

(3) A vegetation management program will be developed and implemented, focusing on revegetating disturbed areas, reestablishing native landscaping, removing nonnative species, and using low-impact techniques to manage overlooks and vistas.

(4) The natural role of fire within park ecosystems will be restored within the constraints specified in the park's Fire Management Plan.

(5) A cave management plan will be developed that will include specific standards, indicators, monitoring programs, and methodology for addressing problems if standards are not met. [Caves contain some of the park's most significant paleontological and cultural resources. Pursuant to this GMP directive, a draft Cave and Karst Management Plan was completed in 1998.] Plans for managing visitor use are described in Section 4n1. Specific plans for managing resources are listed below (only the draft wilderness plan is available online):

(6) Resource Management Plan (1997)

(7) Fire Management Plan (1995, amended 1998; currently being revised; expected completion date 2004)

(8) Draft Cave and Karst Management Plan (1998)

(9) Draft Wilderness Management Plan (1998; finalization pending completion of the Colorado River Management Plan): <http://www.nps.gov/grca/wilderness/draftwmp.htm>

4.3.2 - Management Documents

Comment

The Park Foundation Statement can be found at <http://www.nps.gov/grca/parkmgmt/upload/grca-foundation20100414.pdf>

4.3.3 - How well do the various levels of administration (i.e. national / federal; regional / provincial / state; local / municipal etc.) coordinate in the management of the World Heritage Property ?

There is **excellent coordination** between all bodies / levels involved in the management of the property

4.3.4 - Is the management system / plan adequate to maintain the property's Outstanding Universal Value ?

The management system / plan is **fully adequate** to maintain the property's Outstanding Universal Value

4.3.5 - Is the management system being implemented?

The management system is being **fully** implemented and monitored

4.3.6 - Is there an annual work / action plan and is it being implemented?

An annual work / action plan exists and **many activities** are being implemented

4.3.7 - Please rate the cooperation / relationship with World Heritage property managers / coordinators / staff of the following

Local communities / residents	Fair
Local / Municipal authorities	Good
Indigenous peoples	Good
Landowners	Fair
Visitors	Good

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Researchers	Good
Tourism industry	Good
Industry	Fair

4.3.8 - If present, do local communities resident in or near the World Heritage property and / or buffer zone have input in management decisions that maintain the Outstanding Universal Value?

Local communities have **some input** into discussions relating to management but no direct role in management

4.3.9 - If present, do indigenous peoples resident in or regularly using the World Heritage property and / or buffer zone have input in management decisions that maintain the Outstanding Universal Value?

Indigenous peoples have **some input** into discussions relating to management but no direct role

4.3.10 - Is there cooperation with industry (i.e. forestry, mining, agriculture, etc.) regarding the management of the World Heritage property, buffer zone and / or area surrounding the World Heritage property and buffer zone?

There is contact but only **some cooperation** with industry regarding the management of the World Heritage property, buffer zone and / or area surrounding the World Heritage property and buffer zone

4.3.11 - Comments, conclusions and / or recommendations related to human resources, expertise and training

4.3.12 - Please report any significant changes in the legal status and / or contractual / traditional protective measures and management arrangements for the World Heritage property since inscription or the last Periodic report

4.4. Financial and Human Resources

4.4.1 - Costs related to conservation, based on the average of last five years (relative percentage of the funding sources)

Multilateral funding (GEF, World Bank, etc)	0%
International donations (NGO's, foundations, etc)	0%
Governmental (National / Federal)	48%
Governmental (Regional / Provincial / State)	0%
Governmental (Local / Municipal)	0%
In country donations (NGO's, foundations, etc)	
Individual visitor charges (e.g. entry, parking, camping fees, etc.)	29%
Commercial operator payments (e.g. filming permit, concessions, etc.)	9%
Other grants	14%

4.4.2 - International Assistance received from the World Heritage Fund (USD)

Comment

Grand Canyon National Park does not receive assistance from the World Heritage Fund.

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4.4.3 - Is the current budget sufficient to manage the World Heritage property effectively?

The available budget is **acceptable** but could be further improved to fully meet the management needs

4.4.4 - Are the existing sources of funding secure and likely to remain so?

The existing sources of funding **are secure** in the medium-term and planning is underway to secure funding in the long-term

4.4.5 - Does the World Heritage property provide economic benefits to local communities (e.g. income, employment)?

There is a **major flow** of economic benefits to local communities from activities in and around the World Heritage property

4.4.6 - Are available resources such as equipment, facilities and infrastructure sufficient to meet management needs?

There are **some** adequate equipment and facilities, but deficiencies in at least one key area **constrain** management at the World Heritage property

4.4.7 - Are resources such as equipment, facilities and infrastructure adequately maintained?

There is **basic** maintenance of equipment and facilities

4.4.8 - Comments, conclusion, and / or recommendations related to finance and infrastructure

Park infrastructure was primarily constructed for visitation numbers and patterns from the 1930's; upgrades were completed in the 1960's for the demands of post WWII recreational needs. However, 50 years has passed and infrastructure upgrades are needed, especially to the aging water pipeline. The pipeline is the life blood for the human population of the Park. Completed in 1968, it breaks routinely and is in need of replacement.

4.4.9 - Distribution of employees involved in managing the World Heritage property (% of total)

Full-time	98%
Part-time	2%

4.4.10 - Distribution of employees involved in managing the World Heritage property (% of total)

Permanent	60%
Seasonal	40%

4.4.11 - Distribution of employees involved in managing the World Heritage property (% of total)

Paid	92%
Volunteer	8%

4.4.12 - Are available human resources adequate to manage the World Heritage property?

Human resources are **adequate** for management needs

4.4.13 - Considering the management needs of the World Heritage property, please rate the availability of professionals in the following disciplines

Research and monitoring	Good
Promotion	Not applicable
Community outreach	Good
Interpretation	Good
Education	Good
Visitor management	Good
Conservation	Good
Administration	Good
Risk preparedness	Good
Tourism	Not applicable
Enforcement (custodians, police)	Good

4.4.14 - Please rate the availability of training opportunities for the management of the World Heritage property in the following disciplines

Research and monitoring	Medium
Promotion	Not applicable
Community outreach	Medium
Interpretation	Medium
Education	Medium
Visitor management	Medium
Conservation	Medium
Administration	Medium
Risk preparedness	Medium
Tourism	Medium
Enforcement (custodians, police)	Medium

4.4.15 - Do the management and conservation programmes at the World Heritage property help develop local expertise?

A capacity development plan or programme is in place and **partially implemented**; some technical skills are being transferred to those managing the property locally **but most of the technical work is carried out by external staff**

4.4.16 - Comments, conclusions and / or recommendations related to human resources, expertise and training

4.5. Scientific Studies and Research Projects

4.5.1 - Is there adequate knowledge (scientific or traditional) about the values of the World Heritage property to support planning, management and decision-making to ensure that Outstanding Universal Value is maintained?

Knowledge about the values of the World Heritage property is **sufficient** for most key areas **but there are gaps**

4.5.2 - Is there a planned programme of research at the property which is directed towards management needs and / or improving understanding of Outstanding Universal Value?

There is **considerable** research but it is **not directed** towards management needs and / or improving understanding of Outstanding Universal Value

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4.5.3 - Are results from research programmes disseminated?

Research results are **shared widely** with the local, national and international audiences

4.5.4 - Please provide details (i.e. authors, title, and web link) of papers published about the World Heritage property since the last Periodic Report

Papers published about Grand Canyon National Park since the last periodic report are listed on the Grand Canyon bibliography at <http://www.grandcanyonbiblio.org/>

4.5.5 - Comments, conclusions and / or recommendations related to scientific studies and research projects

Although significant research has been conducted in the park, significant data gaps exist. For example, only 6% of the acreage has been surveyed for cultural resources; there have been no systematic surveys of caves, invertebrates, etc... Nearly \$10 million annually is spent on research on effects from Glen Canyon Dam operations and few funds are spent on other resources in the park.

4.6. Education, Information and Awareness Building

4.6.1 - At how many locations is the World Heritage emblem displayed at the property?

In **many locations and easily visible** to visitors

4.6.2 - Please rate the awareness and understanding of the existence and justification for inscription of the World Heritage property amongst the following groups

Local communities / residents	Average
Local / Municipal authorities within or adjacent to the property	Average
Local Indigenous peoples	Average
Local landowners	Average
Visitors	Excellent
Tourism industry	Excellent
Local businesses and industries	Average

4.6.3 - Is there a planned education and awareness programme linked to the values and management of the World Heritage property?

There is a **planned and effective** education and awareness programme that contributes to the protection of the World Heritage property

4.6.4 - What role, if any, has designation as a World Heritage property played with respect to education, information and awareness building activities?

World Heritage status has influenced education, information and awareness building activities, **but it could be improved**

4.6.5 - How well is the information on Outstanding Universal Value of the property presented and interpreted?

There is **excellent presentation and interpretation** of the Outstanding Universal Value of the property

4.6.6 - Please rate the adequacy for education, information and awareness building of the following

Section II-Grand Canyon National Park

visitor facilities and services at the World Heritage property

Visitor centre	Excellent
Site museum	Excellent
Information booths	Adequate
Guided tours	Excellent
Trails / routes	Adequate
Information materials	Excellent
Transportation facilities	Excellent
Other	Excellent

4.6.7 - Comments, conclusions and / or recommendations related to education, information and awareness building

4.7. Visitor Management

4.7.1 - Please provide the trend in annual visitation for the last five years

Last year	Static
Two years ago	Static
Three years ago	Static
Four years ago	Static
Five years ago	Static

4.7.2 - What information sources are used to collect trend data on visitor statistics?

Entry tickets and registries
Accommodation establishments
Other

4.7.3 - Visitor management documents

Comment

General Management Plan, 1995 North Rim Development Plan, 2006 Draft Wilderness Management Plan, 1998 Colorado River Management Plan, 2006 Comprehensive Interpretive Plan, 2007 South Rim Visitor Management Plan, 2008 Mule Operations and Stock Use Plan, 2011

4.7.4 - Is there an appropriate visitor use management plan (e.g. specific plan) for the World Heritage property which ensures that its Outstanding Universal Value is maintained?

Visitor use of the World Heritage property is **effectively managed** and does not impact its Outstanding Universal Value

4.7.5 - Does the tourism industry contribute to improving visitor experiences and maintaining the values of the World Heritage property?

There is **limited co-operation** between those responsible for the World Heritage property and the tourism industry to present the Outstanding Universal Value and increase appreciation

4.7.6 - If fees (i.e. entry charges, permits) are collected, do they contribute to the management of the World Heritage property?

The fee is collected and makes a **substantial contribution** to the management of the World Heritage property

4.7.7 - Comments, conclusions and / or recommendations related to visitor use of the World Heritage property

4.8. Monitoring

4.8.1 - Is there a monitoring programme at the property which is directed towards management needs and / or improving understanding of Outstanding Universal Value?

There is a **comprehensive, integrated programme** of monitoring, which is relevant to management needs and / or improving understanding of Outstanding Universal Value

4.8.2 - Are key indicators for measuring the state of conservation used to monitor how the Outstanding Universal Value of the property is maintained?

Information on the values of the World Heritage property is sufficient and key indicators have been defined but **monitoring the status of indicators could be improved**

4.8.3 - Please rate the level of involvement in monitoring of the following groups

World Heritage managers / coordinators and staff	Excellent
Local / Municipal authorities	Average
Local communities	Excellent
Researchers	Average
NGOs	Excellent
Industry	Poor
Local indigenous peoples	Excellent

4.8.4 - Has the State Party implemented relevant recommendations arising from the World Heritage Committee?

No relevant Committee recommendations to implement

4.8.5 - Please provide comments relevant to the implementation of recommendations from the World Heritage Committee

4.8.6 - Comments, conclusions and / or recommendations related to monitoring

4.8.2.3 comment on what we aren't monitoring; sound, water as examples

4.9. Identification of Priority Management Needs

4.9.1 - Please select the top 6 managements needs for the property (if more than 6 are listed below)

Please refer to question 5.2

5. Summary and Conclusions

5.1. Summary - Factors affecting the Property

5.1.1 - Summary - Factors affecting the Property

	World Heritage criteria and attributes affected	Actions	Monitoring	Timeframe	Lead agency (and others involved)	More info / comment	
3.3	Services Infrastructures						
3.3.3	Non-renewable energy facilities	Criteria/attributes affected by development of uranium mines surrounding the park relate to (vii), scenic qualities, and (ix) potential impacts to the biological communities through the spread of contaminants to air and water resources	The Secretary of the Interior withdrew over 1 million acres of land surrounding the park from new mineral entry for the next 20 years. However, valid existing mining claims are allowed to proceed into development despite the withdrawal.	A multi-agency, multi-discipline monitoring program has been developed to evaluate the on-going impacts of mining to air, water, vegetation, animals, viewsheds. Effort is lead by the United States Geological Survey.	Implementation of monitoring programs will begin in 2013, with the majority of the intensive work scheduled through 2018.	Bureau of Land Management, United States Geological Survey, National Park Service	The proliferation of uranium mines surrounding the Grand Canyon has been a concern since the 1950's. One historic mine within the park is in process of clean-up; 2 mines outside the park are currently active.
3.4	Pollution						
3.4.4	Air pollution	Criteria/attributes affected by air pollution directly relates to (vii), scenic qualities and viewsheds	The park has been active in programs to reduce emissions from local powerplants and is a participant in the "green parks" initiative. Energy audits are conducted and efforts made to reduce all emissions both in the park and outside.	The park maintains air quality monitoring sites within the park and participates in both regional and national monitoring programs.	on-going	National Park Service	Air pollution is a region-wide issue; NPS has limited influence over urbanization in the region; however, NPS has been successful at limiting emissions from near-by coal fired power plants.
3.10	Climate change and severe weather events						
3.10.3	Drought	Criteria/attribcutes affected by drought relates directly to (ix), biological communities and (x) diverse ecosystems	The Park is working with other agencies and communities to develop additional water sources and water conservation measures.	The Park maintains a seeps and springs monitoring program at selected locations.	on-going	NPS, working with local commuities, universities and American Indian Tribes	The Bureau of Reclamation recently completed on study on the Colorado River basin specifically examining the effects of climate change on water availability in the western United States.
3.12	Invasive/alien species or hyper-abundant species						
3.12.2	Invasive/alien terrestrial species	Criteria/atrricutes affected by translocated species is directly related to (ix), biological communities and (x) diverse ecosystems through the introduction of non-native species.	The park has active programs to remove invasive brown and rainbow trout from sensitive tributaries; develop a management plan to address non-native hybrid bison; manage non-native elk population; and actively manage non-native invasive plant species	Monitoring programs have been developed to track non-native aquatics species, vegetation and wildlife	on-going	NPS is the lead; the Arizona Game and Fish Department and US Forest Service are collaborating on bison management; Numerous partners are working on aquatic invasives; Numerous partners are working on vegetation programs.	Numerous species have either been intentionally or unintentionally located within the boundaries of the Park. Management is working to elimiate the non-native specieis.

5.2. Summary - Management Needs

5.2.2 - Summary - Management Needs

Answers provided have not outlined any serious management need.

5.3. Conclusions on the State of Conservation of the Property

5.3.1 - Current state of Authenticity

Not applicable (for sites inscribed exclusively under criteria vii to x)

5.3.2 - Current state of Integrity

The integrity of the World Heritage property is **intact**

5.3.3 - Current state of the World Heritage property's Outstanding Universal Value

The World Heritage property's Outstanding Universal Value has been **maintained**.

5.3.4 - Current state of the property's other values

Other important cultural and / or natural values and the state of conservation of the World Heritage property are **predominantly intact**

5.4. Additional comments on the State of Conservation of the Property

5.4.1 - Comments

6. World Heritage Status and Conclusions on Periodic Reporting Exercise

6.1 - Please rate the impacts of World Heritage status of the property in relation to the following areas

Conservation	Positive
Research and monitoring	Positive
Management effectiveness	Positive
Quality of life for local communities and indigenous peoples	Positive
Recognition	Very positive
Education	Positive
Infrastructure development	Positive
Funding for the property	No impact
International cooperation	Positive
Political support for conservation	No impact
Legal / Policy framework	Positive
Lobbying	No impact
Institutional coordination	No impact
Security	Not applicable
Other (please specify)	Not applicable

6.2 - Comments, conclusions and / or recommendations related to World Heritage status

The update is important and maintaining accurate information about the World Heritage Status of Grand Canyon National Park is important in continuing the goals of the National Park Service.

6.3 - Entities involved in the preparation of this Section of the Periodic Report

Governmental institution responsible for the property
Site Manager/Coordinator/World Heritage property staff

6.4 - Was the Periodic Reporting questionnaire easy to use and clearly understandable?

no

6.5 - Please provide suggestions for improvement of the Periodic Reporting questionnaire

The questionnaire and internet interface were not particularly user-friendly. The questions could be more clearly stated and the guidance document could be developed specific to site types, world-side regions and management authorities. For example, threats we see on a local level to important WHS attributes may be minor when compared to world-wide considerations. A practical user guide, developed region specific, would aid in timely and accurate updating.

6.6 - Please rate the level of support for completing the Periodic Report questionnaire from the following entities

UNESCO	Fair
State Party Representative	Very good
Advisory Body	Fair

6.7 - How accessible was the information required to complete the Periodic Report?

Most of the required information was accessible

6.8 - The Periodic Reporting process has improved the understanding of the following

The World Heritage Convention
The concept of Outstanding Universal Value
The property's Outstanding Universal Value
The concept of Integrity and / or Authenticity
The property's Integrity and / or Authenticity
Managing the property to maintain the Outstanding Universal Value
Monitoring and reporting
Management effectiveness

6.9 - Please rate the follow-up to conclusions and recommendations from previous Periodic Reporting exercise by the following entities

UNESCO	Not Applicable
State Party	Excellent
Site Managers	Satisfactory
Advisory Bodies	Not Applicable

6.10 - Summary of actions that will require formal consideration by the World Heritage Committee

• **Statement of Outstanding Universal Value / Statement of Significance**

Reason for update: Updates are needed for accuracy: The geologic record is less than 2 billion years. With the exception of minor outcroppings of the Mesozoic units, the rock record consists of Proterozoic, Paleozoic, & Cenozoic volcanics, cave formations, travertine, surficial units and Pleistocene fossils. The landscape is much older than reported. Under the Retrospective Statements of Outstanding Universal Value, the US will be proposing new language for Grand Canyon.

6.11 - Comments, conclusions and / or recommendations related to the Assessment of the Periodic Reporting exercise