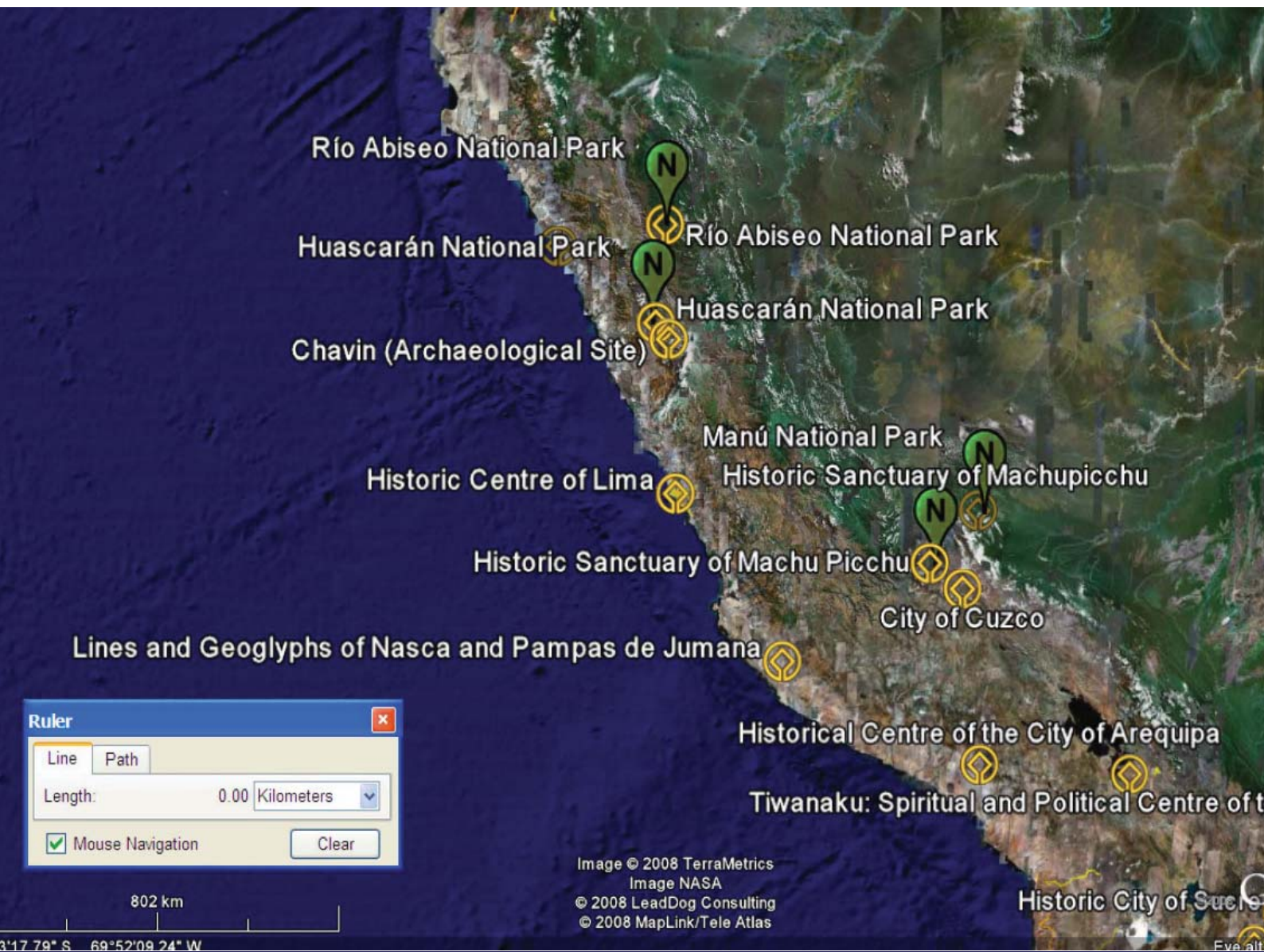




World Heritage and protected areas

An initial analysis of the contribution of the World Heritage Convention to the global network of protected areas presented to the 32nd session of the World Heritage Committee, Québec City, Canada in July 2008.



IUCN Protected Areas Programme - World Heritage Studies



About IUCN

IUCN, International Union for Conservation of Nature, helps the world find pragmatic solutions to our most pressing environment and development challenges.

IUCN works on biodiversity, climate change, energy, human livelihoods and greening the world economy by supporting scientific research, managing field projects all over the world, and bringing governments, NGOs, the UN and companies together to develop policy, laws and best practice.

IUCN is the world's oldest and largest global environmental organization, with more than 1,000 government and NGO members and almost 11,000 volunteer experts in some 160 countries. IUCN's work is supported by over 1,000 staff in 60 offices and hundreds of partners in public, NGO and private sectors around the world.

www.iucn.org

This study is produced as part of IUCN's role as advisory body to the UNESCO World Heritage Convention on natural heritage.

Acknowledgements

The source of information collated in this project is the World Database on Protected Areas (WDPA), a joint project of UNEP and IUCN, managed by the UNEP World Conservation Monitoring Centre (WCMC) and the IUCN World Commission on Protected Areas (WCPA), at 29 May 2008. Please contact protectedareas@unep-wcmc.org for more information.

IUCN would like to particularly acknowledge Lucy Fish and Charles Besançon at UNEPWCMC for facilitating access to this information and acknowledge comments from Jeff McNeely, David Sheppard, Pedro Rosabal, Josephine Langley, Andrew Hurd of IUCN and colleagues at UNEP-WCMC and the UNESCO World Heritage Centre.

IUCN

Programme on Protected Areas

Rue Mauverney 28

CH-1196 Gland

Switzerland

www.iucn.org/wcpa



The designation of geographical entities in this book, and the presentation of the material, do not imply the expression of any opinion whatsoever on the part of IUCN concerning the legal status of any country, territory, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The views expressed in this publication do not necessarily reflect those of IUCN.

Published by: IUCN, Gland, Switzerland

Copyright: © 2008 International Union for Conservation of Nature and Natural Resources

Reproduction of this publication for educational or other non-commercial purposes is authorized without prior written permission from the copyright holder provided the source is fully acknowledged.

Reproduction of this publication for resale or other commercial purposes is prohibited without prior written permission of the copyright holder.

Citation: Tim Badman and Bastian Bomhard (2008). *World Heritage and Protected Areas*. Gland, Switzerland: IUCN. 22pp.

Cover photo: World Heritage Site data displayed on Google Earth. With acknowledgements.

Layout by: Delwyn Dupuis

Produced by: IUCN Protected Areas Programme

Printed by: IUCN

Available from: IUCN (International Union for Conservation of Nature)
Publications Services
Rue Mauverney 28
1196 Gland
Switzerland
Tel +41 22 999 0000
Fax +41 22 999 0020
books@iucn.org
www.iucn.org/publications

A catalogue of IUCN publications is also available.

The text of this book is printed on paper made from wood fibre from well-managed forests certified in accordance with the rules of the Forest Stewardship Council (FSC).

World Heritage & protected areas

An initial analysis of the contribution of the World Heritage Convention to the global network of protected areas presented to the 32nd session of the World Heritage Committee, Québec City, Canada in July 2008.

World Heritage and Protected Areas

This report presents an initial analysis of the role of natural World Heritage Sites¹ within the global protected areas “estate”. It is primarily based on protected area data included in the UNEP-IUCN World Database on Protected Areas (WDPA). The WDPA is a joint product of UNEP and IUCN, managed by the UNEP World Conservation Monitoring Centre (WCMC) and the IUCN World Commission on Protected Areas (WCPA) working with governments and collaborating NGOs (www.wdpa.org). It also refers to some current figures held by the UNESCO World Heritage Centre (whc.unesco.org) on the areas of natural World Heritage Sites.

The analysis is based on figures held within WDPA on the recorded areas of natural World Heritage Sites relative to the extent of different protected areas recognized in the IUCN system of Protected Area Management Categories, which recognizes six categories of protected areas (I-VI), as summarized in Table 1 below.

Table 1: The IUCN Protected Area Management Categories

CATEGORY Ia	Strict Nature Reserve: protected area managed mainly for science
Definition	Area of land and/or sea possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily for scientific research and/or environmental monitoring.
CATEGORY Ib	Wilderness Area: protected area managed mainly for wilderness protection
Definition	Large area of unmodified or slightly modified land, and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition.
CATEGORY II	National Park: protected area managed mainly for ecosystem protection and recreation
Definition	Natural area of land and/or sea, designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.
CATEGORY III	Natural Monument: protected area managed mainly for conservation of specific natural features
Definition	Area containing one, or more, specific natural or natural/cultural feature which is of outstanding or unique value because of its inherent rarity, representative or aesthetic qualities or cultural significance.
CATEGORY IV	Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
Definition	Area of land and/or sea subject to active intervention for management purposes so as to ensure the maintenance of habitats and/or to meet the requirements of specific species.
CATEGORY V	Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
Definition	Area of land, with coast and sea as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/or cultural value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area.
CATEGORY VI	Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems
Definition	Area containing predominantly unmodified natural systems, managed to ensure long term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs.

¹ UNESCO tends to use the word “World Heritage property” to refer to a World Heritage Site. In some countries the term “World Heritage Area” is also used. The term World Heritage Site is used within this report.

Notes on the Analysis

A number of points should be noted in relation to the analysis presented in this report:

1. Unless otherwise stated the figures quoted are from the WDPA.
2. During the course of this analysis it was noted that there are some differences between the UNESCO figures and those included within the WDPA, and likely to be some errors in both data sets. The analysis presented is sufficiently broad brush that the overall effect of these errors should not affect too greatly the overall analysis. No attempt has been made to systematically harmonise the information held by UNESCO and UNEP-WCMC in this initial evaluation. It is possible that there may be some individual errors in the data within WDPA that could affect any figures cited that are based on small numbers of sites.
3. WDPA gathers data by geographical units that distinguish a greater range of places (such as overseas territories of larger countries). The regional analysis includes overseas territories within the home region of their member state, rather than their geographical region (for instance UK territories in the southern hemisphere are still counted as "Europe and North America" by UNESCO, and included in Europe within this analysis).
4. The analysis in some places presents figures with and without the Great Barrier Reef, as this very large World Heritage Site has a significant impact on some figures.

Question 1: How many natural World Heritage Sites are there?

Answer: At 1 June 2008, there are 191 natural World Heritage Sites that have been recognised by the UNESCO World Heritage Committee as being of “Outstanding Universal Value”². Of these 166 are listed only for their natural values, and a further 25 are “mixed” sites which are listed for both natural and cultural values. IUCN provided advice to the World Heritage Committee on all of the sites when they were inscribed. IUCN and the UNESCO World Heritage Centre monitor the state of conservation of all natural World Heritage Sites. 660 sites are listed as cultural World Heritage, so in total there are currently 851 World Heritage Sites. These figures will change at the next meeting of the World Heritage Committee which will be held in Québec City, Canada, in July 2008.

Question 2: How significant is the coverage of natural World Heritage Sites in relation to the global coverage of protected areas?

Answer: The total area of natural World Heritage Sites amounts to just over 10% of the total area of all IUCN-classified protected areas currently listed within the WDPA. The figure is around 8% if the Great Barrier Reef is excluded from the calculations. Considering all protected areas (PAs) currently listed in the WDPA (including those not currently assigned an IUCN category), natural World Heritage Sites cover 7.8% of the total protected area worldwide. The total area of protected areas classified in IUCN categories I-IV is c. 1,002.8 million hectares and the total area of natural World Heritage Sites is c. 177.4 million hectares.

The total area of terrestrial natural World Heritage Sites is just over 8% of the total area of all IUCN-classified terrestrial protected areas and around 6% of all listed terrestrial protected areas. The total terrestrial coverage of protected areas is estimated by WCPA at around 12% of the land surface. On this basis natural World Heritage Sites cover an area between 0.5-1% of the total land surface of the Earth.

Marine natural World Heritage Sites cover 20.9% of the total area of marine protected areas (MPAs) listed in the WDPA, although this figure is only just over 3% if the Great Barrier Reef is left out of the analysis. It should also be noted that the level of coverage of the oceans by protected areas (less than 1% of the total area of the oceans is within protected areas) lags significantly behind that on land. This issue is beginning to be addressed and World Heritage has a significant potential role to play in assisting this process. It is also expected that a number of new MPAs are likely to be large and so there is significant scope for the proportion covered by World Heritage to vary significantly if large new areas are created.

Detailed figures are shown in Table 2 below and Figures 1-3 overleaf.

Table 2: The global coverage of natural World Heritage Sites (WHS)

**Figure excludes Great Barrier Reef – 34,781,500ha (33,126,500ha marine) noted in the WDPA.*

	Total Area of all IUCN Category I-IV Protected Areas (ha)	Total Area of all IUCN Category I-VI Protected Areas (ha)	Total Area of all Protected Areas listed in WDPA (ha)	Total Area of Natural World Heritage Sites (ha)	Natural WHS as % of total I-IV	Natural WHS as % of total I-VI	Natural WHS as % of all Protected Areas
All	1,002,763,150	1,724,657,375	2,279,192,012	177,424,839	17.7%	10.3% (8.4%*)	7.8% (6.4%*)
Land	866,404,644	1,523,717,295	2,045,641,063	128,411,782	14.82%	8.4%	6.3%
Marine	137,463,750	201,947,144	234,222,868	49,013,057	35.66%	24.3% (9.4%*)	20.9% (7.9%*)

² Outstanding Universal Value is the key phrase used in the World Heritage Convention to define the threshold for recognizing a site on the World Heritage List.

Figure 1: Total area (ha) of natural World Heritage Sites (WHS) and all IUCN classified protected areas and those protected areas classified in categories I-IV and I-VI

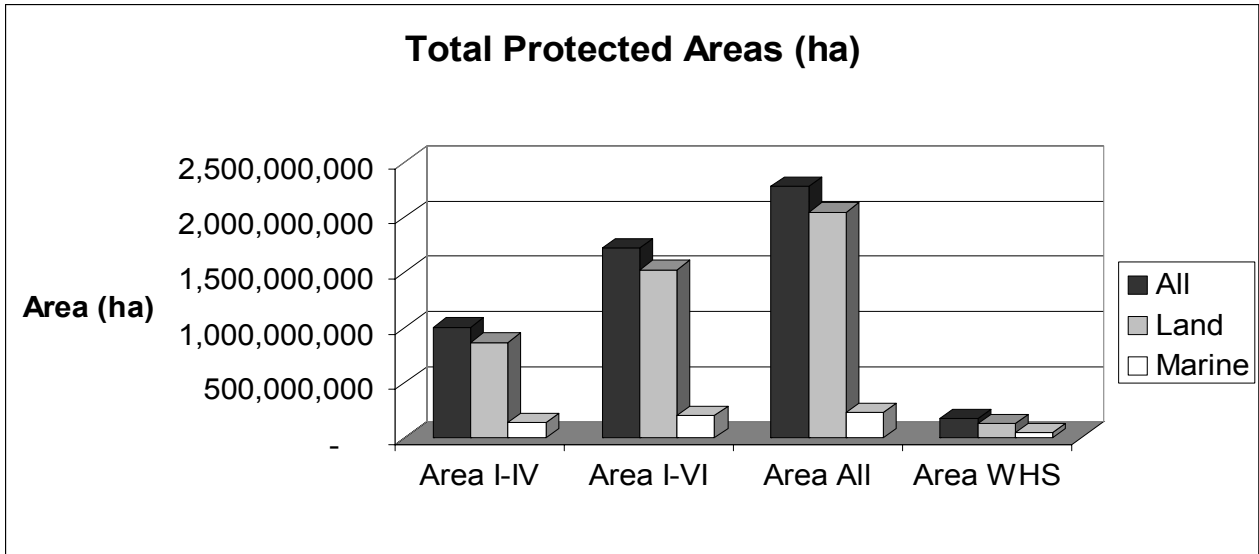


Figure 2: Total area (ha) of different categories of IUCN classified terrestrial protected areas and natural World Heritage Sites (WHS)

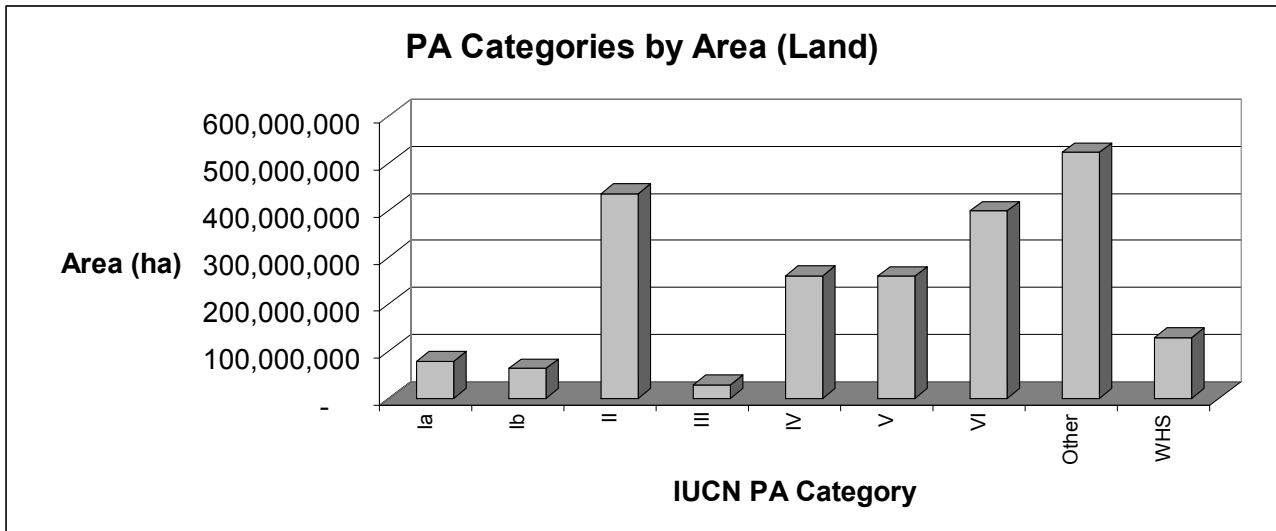
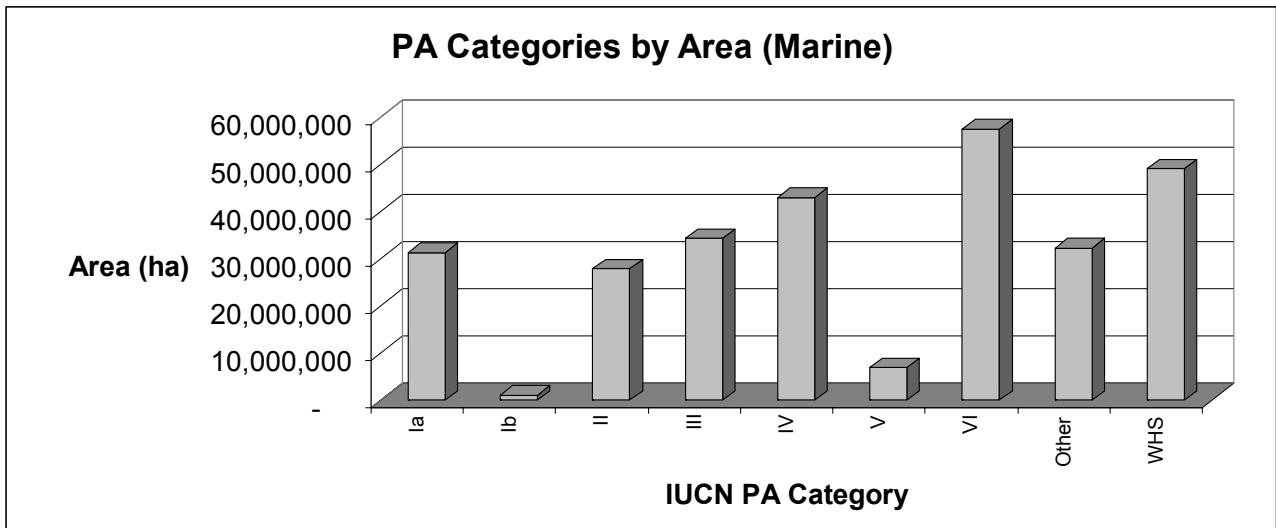


Figure 3: Total area (ha) of different categories of IUCN classified marine protected areas and natural World Heritage Sites (WHS)



Question 3: How significant is natural World Heritage Site coverage in different regions?

Answer: The relative significance of natural World Heritage Sites in relation to the total area of protected areas varies from region to region and detailed figures are shown in Table 3 below and Figures 4 and 5 overleaf. The Asia Pacific region has the greatest area of World Heritage Sites (over 60 million hectares of which 75% is made up of the Great Barrier Reef MPA), and also the greatest proportion (10.7%) of the total protected areas within World Heritage Sites (but note this figure drops to the lowest regional figure (4.8%) if the Great Barrier Reef is excluded from the calculations). Africa has 9.1% of the total protected areas included within World Heritage Sites. In all regions except Europe and North America, the total area protected within World Heritage Sites is between 20-30% of the area of all category I-IV protected areas

Table 3: Coverage of natural World Heritage Sites relative to other protected areas by region

*Figure excludes Great Barrier Reef – 34,781,500ha (33,126,500ha marine) noted in the WDPA.

Region	Total Area of all IUCN Category I-IV Protected Areas (ha)	Total Area of all IUCN Category I-VI Protected Areas (ha)	Total Area of all WDPA listed Protected Areas (ha)	Total Area of Natural World Heritage Sites (ha)
Africa	139,534,748.82	192,973,629.95	322,780,534.55	29,431,456
Arab States	38,644,040	131,219,969	158,420,650	9,238,500
Asia Pacific	204,411,267.72	443,785,039.74	560,360,118.09	60,097,808
Europe and North America	480,085,919.23	635,488,910.40	721,100,030.93	45,045,786
Latin America Caribbean	139,787,579.14	320,890,230.66	516,077,583.35	33,611,289
Antarctica	299,595	299,595	453,095	0
Region	Area of natural World Heritage Sites as % of Area of all IUCN Category I-IV Protected Areas	Area of natural World Heritage Sites as % of Area of all IUCN Category I-VI Protected Areas	Area of natural World Heritage Sites as % of Area of all WDPA listed Protected Areas	
Africa	21.1%	15.3%	9.1%	
Arab States	23.9%	7.0%	5.8%	
Asia Pacific	29.4% (12.4%*)	13.5% (6.2*)	10.7% (4.8%*)	
Europe and North America	9.4%	7.1%	6.2%	
Latin America Caribbean	24.0%	10.5%	6.5%	
Antarctica	0%	0%	0%	

Figure 4: The total area of natural World Heritage Sites (WHS) as a proportion of all protected areas listed in the WDPA, analyzed by region

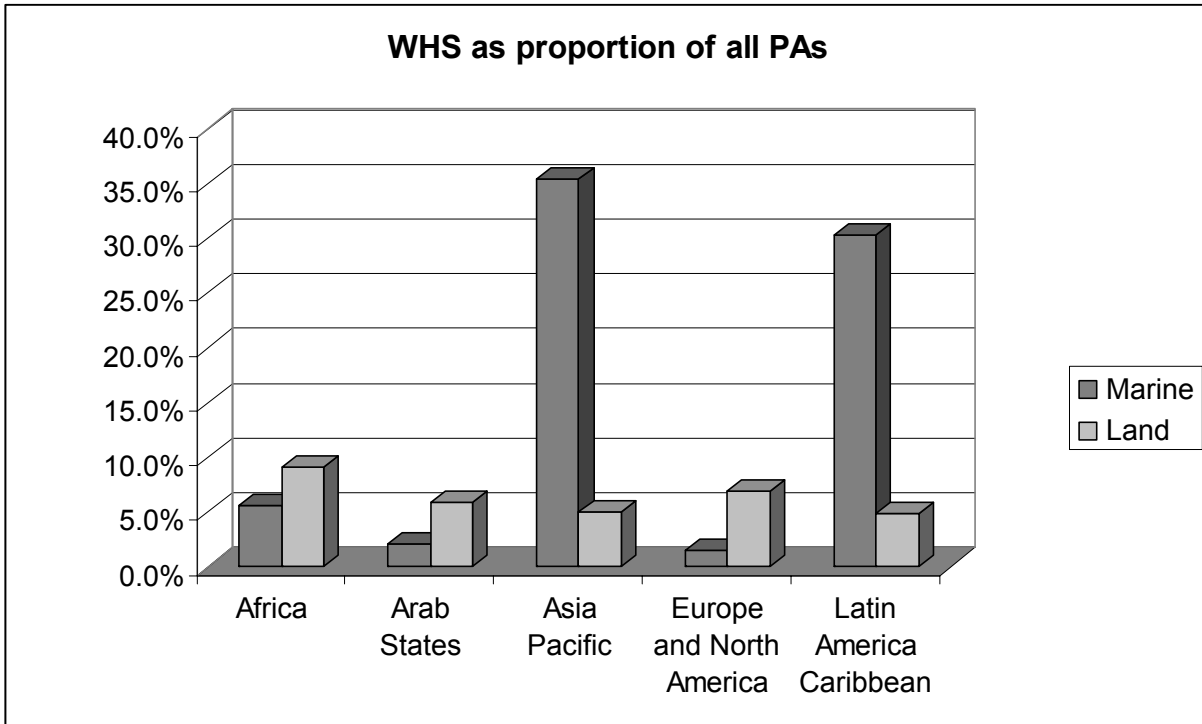
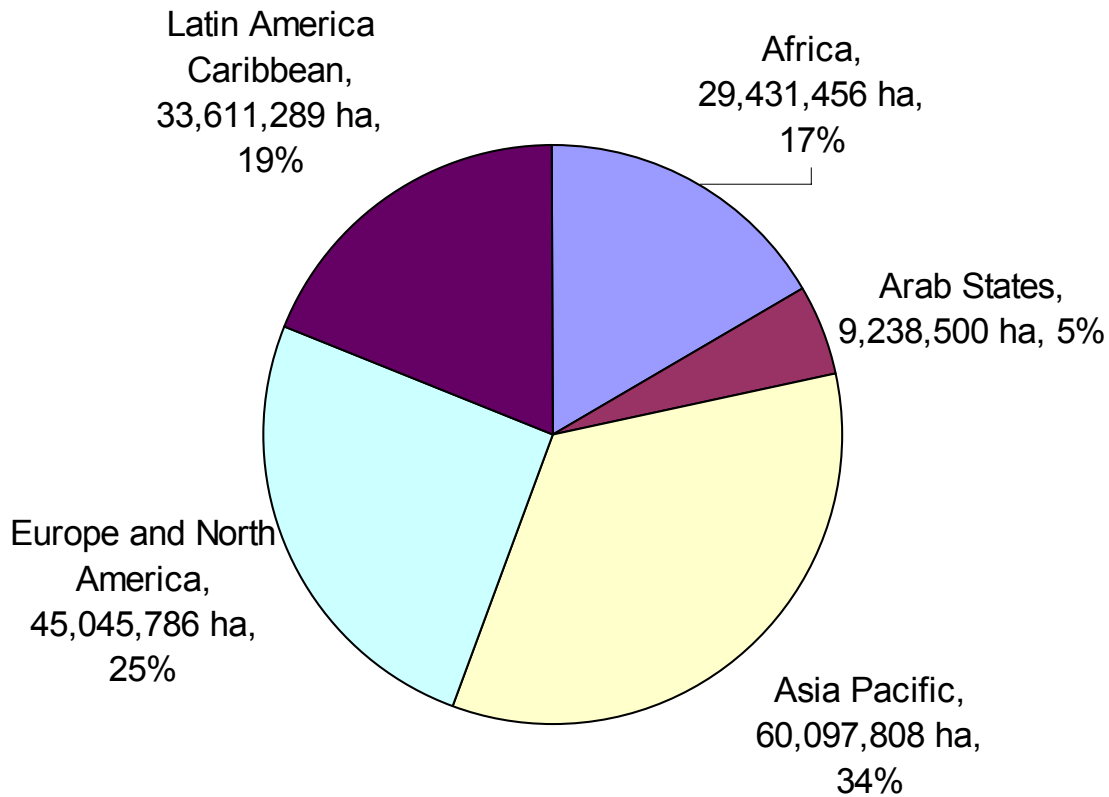


Figure 5: The regional distribution of natural World Heritage Sites by total area



Question 4: How significant is natural World Heritage Site coverage in relation to the protected area system of different countries?

Answer: The significance of natural World Heritage in relation to the total area of protected areas varies significantly from country to country. Table 4 below shows all 77 countries and territories where the WDPA notes areas of natural World Heritage Sites. In 17 countries or territories the extent of natural World Heritage Sites is more than a quarter (25%) of all protected areas. In 32 countries the coverage is 10% or more of all protected areas. However, another key statistic is that less than one third of all countries and territories listed in the WDPA have a natural World Heritage Site.

Table 4: Total area of natural World Heritage Sites and protected areas by country (table shows all countries with World Heritage Sites listed in the WDPA in order of the proportion of natural World Heritage Sites relative to other protected areas listed in the WDPA)

* Figure includes 3,700ha listed in the WDPA as Pitcairn.

Country or Territory	Total Area of all IUCN Category I-VI Protected Areas (ha)	Total Area of all WDPA listed Protected Areas (ha)	Total Area of Natural World Heritage Sites (ha)	Area of Natural World Heritage Sites as % of Area of all IUCN Category I-VI Protected Areas	Area of Natural World Heritage Sites as % of Area of all WDPA listed Protected Areas
1. St. Helena (UK)	11,830	11,922	397,000	>100%	>100%
2. Solomon Islands	41,160	42,160	37,000	89.89%	87.76%
3. Seychelles	45,152	45,322	35,019	77.56%	77.27%
4. Niger	8,414,100	11,184,984	7,956,000	94.56%	71.13%
5. Mauritania	1,773,000	1,773,000	1,200,000	67.68%	67.68%
6. Algeria	11,956,774	12,071,181	8,000,000	66.91%	66.27%
7. Suriname	1,981,220	2,553,620	1,600,000	80.76%	62.66%
8. Bangladesh	207,027	245,185	139,700	67.48%	56.98%
9. Costa Rica	1,437,406	1,917,874	854,300	59.43%	44.54%
10. New Zealand	8,672,134	9,341,309	4,066,388	46.89%	43.53%
11. Ecuador	18,342,807	20,949,685	9,028,439	49.22%	43.10%
12. Montenegro, Republic of	98,711	103,369	32,000	32.42%	30.96%
13. Australia	144,135,258	144,527,429	44,640,708	30.97%	30.89%
14. Panama	1,781,652	4,008,194	1,234,825	69.31%	30.81%
15. Democratic Republic of the Congo	16,693,937	22,784,954	6,854,625	41.06%	30.08%
16. Côte d'Ivoire	2,047,600	5,485,364	1,484,250	72.49%	27.06%
17. Sweden	4,788,836	4,913,680	1,276,900	26.66%	25.99%
18. Saint Lucia	10,398	12,404	2,909	27.98%	23.45%
19. Romania	2,105,645	3,018,628	679,222	32.26%	22.50%
20. Macedonia	183,302	183,302	38,000	20.73%	20.73%
21. Senegal	2,297,144	5,072,976	929,000	40.44%	18.31%
22. Tanzania, United Republic of	25,008,548	38,716,922	6,860,453	27.43%	17.72%
23. Central African Republic	7,663,729	10,885,047	1,740,000	22.70%	15.99%
24. Honduras	1,015,526	3,472,229	525,000	51.70%	15.12%
25. Mexico	19,336,353	19,594,958	2,736,962	14.15%	13.97%
26. South Africa	4,473,998	7,931,783	1,065,490	23.82%	13.43%
27. Russian Federation	129,204,766	165,476,921	20,997,027	16.25%	12.69%
28. Zimbabwe	4,698,270	5,752,471	679,681	14.47%	11.82%
29. Mali	2,518,060	3,400,158	400,000	15.89%	11.76%
30. Canada	82,790,325	92,158,832	10,663,549	12.88%	11.57%
31. Peru	7,689,999	20,906,650	2,179,918	28.35%	10.43%
32. Thailand	11,061,844	11,676,858	1,192,964	10.78%	10.22%
33. Cameroon	3,851,994	5,378,009	526,000	13.66%	9.78%
34. Madagascar	1,859,055	4,713,990	424,485	22.83%	9.00%
35. Indonesia	36,137,890	66,422,281	5,192,373	14.37%	7.82%
36. Belize	1,260,994	1,263,635	96,300	7.64%	7.62%
37. Nepal	2,447,700	2,840,200	208,000	8.50%	7.32%

Country or Territory	Total Area of all IUCN Category I-VI Protected Areas (ha)	Total Area of all WDPA listed Protected Areas (ha)	Total Area of Natural World Heritage Sites (ha)	Area of Natural World Heritage Sites as % of Area of all IUCN Category I-VI Protected Areas	Area of Natural World Heritage Sites as % of Area of all WDPA listed Protected Areas
38. Bolivia	21,094,783	23,939,339	1,523,000	7.22%	6.36%
39. Argentina	18,125,239	18,205,239	1,136,200	6.27%	6.24%
40. Norway	2,070,316	2,070,316	122,712	5.93%	5.93%
41. Croatia	572,143	572,143	29,482	5.15%	5.15%
42. Switzerland	1,185,207	1,185,207	56,126	4.74%	4.74%
43. Venezuela	55,685,315	66,170,733	3,000,000	5.39%	4.53%
44. Mongolia	20,991,817	21,791,177	946,726	4.51%	4.34%
45. United States	238,130,211	241,332,955	10,133,617	4.26%	4.20%
46. Viet Nam	1,648,393	3,582,365	150,000	9.10%	4.19%
47. Kenya	4,507,345	8,225,743	304,982	6.77%	3.71%
48. Bulgaria	611,002	1,134,474	40,969	6.71%	3.61%
49. Brazil	134,406,187	253,625,836	8,595,679	6.40%	3.39%
50. Uganda	2,077,549	4,876,288	131,692	6.34%	2.70%
51. Cuba	3,522,039	4,107,502	103,800	2.95%	2.53%
52. Puerto Rico	184,433	218,704	5,502	2.98%	2.52%
53. Colombia	10,722,816	45,096,630	929,500	8.67%	2.06%
54. China	146,736,313	146,736,313	2,947,075	2.01%	2.01%
55. Portugal	763,924	763,924	15,000	1.96%	1.96%
56. Guatemala	3,135,583	3,594,098	57,600	1.84%	1.60%
57. Spain	4,300,339	5,440,028	86,934	2.02%	1.60%
58. Tunisia	46,032	796,227	12,600	27.37%	1.58%
59. Japan	4,257,171	6,718,222	83,818	1.97%	1.25%
60. India	17,270,931	25,407,464	300,089	1.74%	1.18%
61. Malaysia	2,218,286	10,956,760	128,234	5.78%	1.17%
62. Philippines	5,449,059	5,649,679	53,402	0.98%	0.95%
63. Sri Lanka	856,564	2,061,660	11,331	1.32%	0.55%
64. Guinea	51,200	2,712,512	13,000	25.39%	0.48%
65. Greenland (Denmark)	98,009,945	98,009,945	402,400	0.41%	0.41%
66. United Kingdom	5,119,500	7,567,673	*30,521	0.60%	0.40%
67. Belarus	1,304,335	1,315,282	5,000	0.38%	0.38%
68. France	7,452,241	7,551,613	23,055	0.31%	0.31%
69. Egypt	7,494,847	8,507,848	25,900	0.35%	0.30%
70. Malawi	1,058,500	3,209,022	9,400	0.89%	0.29%
71. Dominican Republic	1,985,269	2,367,359	6,857	0.35%	0.29%
72. Slovenia	149,589	149,602	413	0.28%	0.28%
73. Turkey	1,255,922	4,422,492	9,576	0.76%	0.22%
74. Greece	490,995	688,430	711	0.14%	0.10%
75. Ethiopia	18,609,840	23,024,185	13,600	0.07%	0.06%
76. Denmark	248,607	293,695	70	0.03%	0.02%
77. Zambia	23,692,091	31,200,173	3,779	0.02%	0.01%

Question 5: How significant is natural World Heritage Site coverage relative to the extent of IUCN category I-IV protected areas³?

Answer: The significance of natural World Heritage in relation to the total area of protected areas classified in IUCN categories I-IV only also varies significantly from country to country (see Table 5 overleaf). In 6 countries/territories the extent of natural World Heritage Sites is equal or more than the total extent of category I-IV protected areas (up to 37 times as large). In 48 countries/territories the area of natural World Heritage Sites is more than 10% of the total area of all category I-IV protected areas.

³ The distinction has also been made in the application of the categories, such as within the IUCN Amman Declaration on mining in protected areas, which calls for a ban on mining in category I-IV protected areas.

Table 5: Total area of natural World Heritage Sites and IUCN category I-IV protected areas by country/territory

Country or Territory	Total Area of all IUCN Category I-IV Protected Areas (ha)	Total Area of Natural World Heritage Sites (ha)	Area of Natural World Heritage Sites as % of Area of all IUCN Category I-IV Protected Areas
1. St. Helena (UK)	10,594	397,000	3747.4%
2. Solomon Islands	1,090	37,000	3394.5%
3. China	93,400	2,947,075	3155.3%
4. Ecuador	3,182,172	9,028,439	283.7%
5. Mexico	2,175,445	2,736,962	125.8%
6. Saint Lucia	2,365	2,909	123.0%
7. Niger	8,414,100	7,956,000	94.6%
8. Costa Rica	970,809	854,300	88.0%
9. Suriname	1,897,900	1,600,000	84.3%
10. Seychelles	45,056	35,019	77.7%
11. Côte d'Ivoire	1,985,500	1,484,250	74.8%
12. Panama	1,653,519	1,234,825	74.7%
13. Bangladesh	190,562	139,700	73.3%
14. Mauritania	1,773,000	1,200,000	67.7%
15. Algeria	11,876,774	8,000,000	67.4%
16. Democratic Republic of the Congo	11,261,361	6,854,625	60.9%
17. New Zealand	7,210,215	4,066,388	56.4%
18. Peru	3,956,421	2,179,918	55.1%
19. Honduras	969,526	525,000	54.2%
20. Australia	83,722,360	44,640,708	53.3%
21. Romania	1,396,139	679,222	48.7%
22. Tanzania, United Republic of	14,206,181	6,860,453	48.3%
23. Senegal	2,296,388	929,000	40.5%
24. Montenegro, Republic of	86,580	32,000	37.0%
25. Sweden	4,205,832	1,276,900	30.4%
26. Madagascar	1,419,558	424,485	29.9%
27. Tunisia	46,032	12,600	27.4%
28. Guinea	51,200	13,000	25.4%
29. Indonesia	20,479,134	5,192,373	25.4%
30. Zimbabwe	2,739,874	679,681	24.8%
31. South Africa	4,469,608	1,065,490	23.8%
32. Central African Republic	7,320,452	1,740,000	23.8%
33. Croatia	139,054	29,482	21.2%
34. Nepal	991,700	208,000	21.0%
35. Macedonia	183,302	38,000	20.7%
36. Argentina	6,129,040	1,136,200	18.5%
37. Switzerland	317,262	56,126	17.7%
38. Brazil	48,868,107	8,595,679	17.6%
39. Russian Federation	119,615,730	20,997,027	17.6%
40. Venezuela	18,543,503	3,000,000	16.2%
41. Mali	2,518,060	400,000	15.9%
42. Canada	73,613,522	10,663,549	14.5%
43. Cameroon	3,782,849	526,000	13.9%
44. United Kingdom	223,308	30,521	13.7%
45. Belize	762,951	96,300	12.6%
46. Bulgaria	347,287	40,969	11.8%
47. Thailand	11,061,844	1,192,964	10.8%
48. Portugal	142,641	15,000	10.5%
49. Viet Nam	1,542,441	150,000	9.7%
50. Colombia	10,294,550	929,500	9.0%
51. Kenya	3,489,146	304,982	8.7%
52. Bolivia	18,613,810	1,523,000	8.2%
53. Norway	1,601,589	122,712	7.7%
54. Cuba	1,432,655	103,800	7.2%
55. Japan	1,162,131	83,818	7.2%
56. Uganda	1,906,135	131,692	6.9%
57. United States	149,447,833	10,133,617	6.8%
58. Guatemala	920,913	57,600	6.3%
59. Malaysia	2,092,915	128,234	6.1%

Country or Territory	Total Area of all IUCN Category I-IV Protected Areas (ha)	Total Area of Natural World Heritage Sites (ha)	Area of Natural World Heritage Sites as % of Area of all IUCN Category I-IV Protected Areas
60. Mongolia	20,991,817	946,726	4.5%
61. Spain	2,003,048	86,934	4.3%
62. Puerto Rico	173,170	5,502	3.2%
63. France	804,376	23,055	2.9%
64. India	16,132,431	300,089	1.9%
65. Philippines	3,240,797	53,402	1.6%
66. Sri Lanka	856,564	11,331	1.3%
67. Turkey	905,851	9,576	1.1%
68. Malawi	1,058,500	9,400	0.9%
69. Egypt	3,205,636	25,900	0.8%
70. Slovenia	84,532	413	0.5%
71. Greenland (Denmark)	98,009,738	402,400	0.4%
72. Belarus	1,304,335	5,000	0.4%
73. Dominican Republic	1,901,659	6,857	0.4%
74. Ethiopia	5,517,540	13,600	0.2%
75. Greece	455,034	711	0.2%
76. Zambia	6,366,310	3,779	0.1%
77. Denmark	195,206	70	0.04%

Question 6: Which countries have the largest area of natural World Heritage Sites?

Answer: Table 6 below shows the countries and territories with natural World Heritage Sites recorded in the World Database on Protected Areas. This shows that the country with the greatest area of natural World Heritage Sites is Australia, to the extent that this one country has a greater area of World Heritage Sites than that of all of the World Heritage Sites in the regions of Latin America and the Caribbean and the Arab States combined (or Africa and the Arab States combined). Australia, the Russian Federation, Canada, and the United States of America all each have a greater area of World Heritage Sites than the entire area of World Heritage Sites in the Arab States Region.

Table 6: Total area of natural World Heritage Sites in different countries/territories and the five World Heritage Regions

Region, Country or Territory	Total Area of Natural World Heritage Sites (ha)
<i>(Asia Pacific Region)</i>	<i>(60,097,808)</i>
<i>(Europe and North America Region)</i>	<i>(45,045,786)</i>
1. Australia	44,640,708
<i>(Latin America Caribbean Region)</i>	<i>(33,611,289)</i>
<i>(Africa Region)</i>	<i>(29,431,456)</i>
2. Russian Federation	20,997,027
3. Canada	10,663,549
4. United States	10,133,617
<i>(Arab States Region)</i>	<i>(9,238,500)</i>
5. Ecuador	9,028,439
6. Brazil	8,595,679
7. Algeria	8,000,000
8. Niger	7,956,000
9. Tanzania, United Republic of	6,860,453
10. Democratic Republic of the Congo	6,854,625
11. Indonesia	5,192,373
12. New Zealand	4,066,388
13. Venezuela	3,000,000
14. China	2,947,075
15. Mexico	2,736,962
16. Peru	2,179,918
17. Central African Republic	1,740,000
18. Suriname	1,600,000
19. Bolivia	1,523,000
20. Côte d'Ivoire	1,484,250
21. Sweden	1,276,900
22. Panama	1,234,825
23. Mauritania	1,200,000

Region, Country or Territory	Total Area of Natural World Heritage Sites (ha)
24. Thailand	1,192,964
25. Argentina	1,136,200
26. South Africa	1,065,490
27. Mongolia	946,726
28. Colombia	929,500
29. Senegal	929,000
30. Costa Rica	854,300
31. Zimbabwe	679,681
32. Romania	679,222
33. Cameroon	526,000
34. Honduras	525,000
35. Madagascar	424,485
36. Greenland	402,400
37. Mali	400,000
38. St. Helena	397,000
39. Kenya	304,982
40. India	300,089
41. Nepal	208,000
42. Viet Nam	150,000
43. Bangladesh	139,700
44. Uganda	131,692
45. Malaysia	128,234
46. Norway	122,712
47. Cuba	103,800
48. Belize	96,300
49. Spain	86,934
50. Japan	83,818
51. Guatemala	57,600
52. Switzerland	56,126
53. Philippines	53,402
54. Bulgaria	40,969
55. Macedonia	38,000
56. Solomon Islands	37,000
57. Seychelles	35,019
58. Montenegro, Republic of	32,000
59. United Kingdom	30,521
60. Croatia	29,482
61. Egypt	25,900
62. France	23,055
63. Portugal	15,000
64. Ethiopia	13,600
65. Guinea	13,000
66. Tunisia	12,600
67. Sri Lanka	11,331
68. Turkey	9,576
69. Malawi	9,400
70. Dominican Republic	6,857
71. Puerto Rico	5,502
72. Belarus	5,000
73. Zambia	3,779
74. Saint Lucia	2,909
75. Greece	711
76. Slovenia	413
77. Denmark	70

Question 7: Which are the largest natural World Heritage Sites?

Answer: The ten largest natural World Heritage Sites are listed in Table 7 below. The largest by a considerable margin is the Great Barrier Reef. Annex 1 lists the natural World Heritage Sites and their areas from the largest to the smallest.

Table 7: The ten largest natural World Heritage Sites and their areas

Name of World Heritage Site	Country	Type of Site	Total Area (ha) in WDPA
1. Great Barrier Reef	Australia	Natural	34,781,500.00
2. Kluane/Wrangell-St Elias/Glacier Bay/Tatshenshini-Alsek	United States/Canada	Natural	9,839,148.00
3. Lake Baikal	Russian Federation	Natural	8,800,000.00
4. Galápagos Islands	Ecuador	Natural, World Heritage in Danger List	8,756,514.00
5. Tassili n'Ajjer	Algeria	Mixed (Natural and Cultural)	8,000,000.00
6. Air and Ténéré Natural Reserves	Niger	Natural, World Heritage in Danger List	7,736,000.00
7. Central Amazon Conservation Complex	Brazil	Natural	6,096,086.00
8. Selous Game Reserve	Tanzania, United Republic of	Natural	4,480,000.00
9. Wood Buffalo National Park	Canada	Natural	4,480,000.00
10. Volcanoes of Kamchatka	Russian Federation	Natural	4,378,115.00

The average size of a natural World Heritage Site is 928,925 hectares although if the Great Barrier Reef is excluded from the analysis the average size is just over 746,823 hectares. The distribution of natural World Heritage Sites in different size classes is as follows:

- More than 10 million hectares: 1 site
- More than 5 million hectares: 7 sites
- More than 1 million hectares: 36 sites
- More than 500,000 hectares: 60 sites
- More than 100,000 hectares: 109 sites
- More than 50,000 hectares: 131 sites
- More than 10,000 hectares: 165 sites
- Less than 10,000 hectares: 26 sites.

Natural World Heritage Sites contain amongst their number a significant number of large protected areas. Such larger areas have particular importance in relation to the extinction crisis being experienced by global biodiversity as they include large tracts of the last remaining wilderness areas of the world and areas that provide large-scale connectivity between protected and unprotected areas.

Conclusions

This preliminary analysis is a first attempt to quantify the contribution that natural World Heritage Sites make to the global protected areas estate. Natural World Heritage Sites make a considerable contribution to the global protected areas estate, at a level which might not be expected as they represent only 191 sites amongst the 134,156 areas listed in the World Database on Protected Areas. In fact, analysis of the WDPA suggests this small number of sites makes up over 10% of the global protected areas estate.

This analysis implies a range of areas of follow up work that should be considered:

- Strengthening the partnership between IUCN and UNESCO, and with UNEP-WCMC, to ensure that the work undertaken by the UNESCO World Heritage Centre and the IUCN Programme on Protected Areas feeds quality data from States Parties into the WDPA.
- Discussing the results of the analysis with States Parties to understand the reasons for country and regional differences, and feeding this intelligence into the Global Strategy for World Heritage.
- Enhancing the understanding of the relationship between natural World Heritage Sites, the different categories of protected areas and the protected areas that lie outside the IUCN system of Protected

Area Management Categories. This would require further study of the categories to which different natural World Heritage Sites are assigned.

IUCN considers this analysis can be significantly improved as the accuracy of both the World Heritage Centre's database of World Heritage Sites and the WDPA improves. IUCN would welcome comments on how this initial analysis could be refined and developed as well as the notification of any corrections.

IUCN
Programme on Protected Areas
June 2008

ANNEX 1: List of natural World Heritage Sites in order of their area as listed in the WDPA (uncorrected)

Name of World Heritage Site	Country	Type of Site	Total Area (ha) in WDPA
1. Great Barrier Reef	Australia	Natural	34,781,500.00
2. Lake Baikal	Russian Federation	Natural	8,800,000.00
3. Galápagos Islands	Ecuador	Natural, World Heritage in Danger List	8,756,514.00
4. Tassili n'Ajjer	Algeria	Cultural, Natural	8,000,000.00
5. Air and Ténéré Natural Reserves	Niger	Natural, World Heritage in Danger List	7,736,000.00
6. Kluane/Wrangell-St Elias/Glacier Bay/Tatshenshini-Alesek	United States	Natural	6,679,648.00
7. Central Amazon Conservation Complex	Brazil	Natural	6,096,086.00
8. Selous Game Reserve	Tanzania, United Republic of	Natural	4,480,000.00
9. Wood Buffalo National Park	Canada	Natural	4,480,000.00
10. Volcanoes of Kamchatka	Russian Federation	Natural	4,378,115.00
11. Salonga National Park	Democratic Republic of the Congo	Natural, World Heritage in Danger List	3,600,000.00
12. Virgin Komi Forests	Russian Federation	Natural	3,280,000.00
13. Kluane/Wrangell-St Elias/Glacier Bay/Tatshenshini-Alesek	Canada	Natural	3,159,500.00
14. Canaima National Park	Venezuela	Natural	3,000,000.00
15. Te Wahipounamu - South West New Zealand	New Zealand	Natural	2,600,000.00
16. Tropical Rainforest Heritage of Sumatra	Indonesia	Natural	2,500,000.00
17. Lorentz National Park	Indonesia	Natural	2,350,000.00
18. Canadian Rocky Mountain Parks	Canada	Natural	2,306,884.00
19. Shark Bay, Western Australia	Australia	Natural	2,197,300.00
20. Kakadu National Park	Australia	Cultural, Natural	1,980,400.00
21. Islands and Protected Areas of the Gulf of California	Mexico	Cultural, Natural	1,838,012.00
22. Manovo-Gounda St. Floris National Park	Central African Republic	Natural, World Heritage in Danger List	1,740,000.00
23. Three Parallel Rivers of Yunnan Protected Areas	China	Natural	1,698,400.00
24. Atlantic Forest Southeast Reserves	Brazil	Natural	1,691,750.00
25. Golden Mountains of Altai	Russian Federation	Natural	1,611,457.00
26. Central Suriname Nature Reserve	Suriname	Natural	1,600,000.00
27. Central Sikhote-Alin	Russian Federation	Natural	1,549,179.00
28. Manú National Park	Peru	Natural	1,532,806.00
29. Noel Kempff Mercado National Park	Bolivia	Natural	1,523,000.00
30. Serengeti National Park	Tanzania, United Republic of	Natural	1,476,300.00
31. New Zealand Sub-Antarctic Islands	New Zealand	Natural	1,386,792.00
32. Tasmanian Wilderness	Australia	Natural	1,383,640.00
33. Okapi Wildlife Reserve	Democratic Republic of the Congo	Natural, World Heritage in Danger List	1,372,625.00
34. Banc d'Arguin National Park	Mauritania	Natural	1,200,000.00
35. Comoé National Park	Côte d'Ivoire	Natural, World Heritage in Danger List	1,149,250.00
36. Greater Blue Mountains Area	Australia	Natural	1,030,000.00
37. Uvs Nuur Basin	Mongolia	Natural	946,726.00
38. Laponian Area	Sweden	Cultural, Natural	940,000.00
39. Sichuan Giant Panda Sanctuaries	China	Natural	924,500.00
40. Niokolo-Koba National Park	Senegal	Natural, World Heritage in Danger List	913,000.00
41. Yellowstone	United States	Natural	898,349.00
42. Wet Tropics of Queensland	Australia	Natural	894,420.00
43. Malpelo Fauna and Flora Sanctuary	Colombia	Natural	857,500.00
44. Ngorongoro Conservation Area	Tanzania, United Republic of	Natural	828,800.00

Name of World Heritage Site	Country	Type of Site	Total Area (ha) in WDPA
45. Virunga National Park	Democratic Republic of the Congo	Natural, World Heritage in Danger List	790,000.00
46. Natural System of Wrangel Island Reserve	Russian Federation	Natural	761,900.00
47. Danube Delta	Romania	Natural	679,222.00
48. Mana Pools National Park, Sapi and Chewore Safari Areas	Zimbabwe	Natural	676,600.00
49. Heard and McDonald Islands	Australia	Natural	673,400.00
50. Dong Phrayayen - Khao Yai Forest Complex	Thailand	Natural	615,500.00
51. Talamanca Range-La Amistad Reserves / La Amistad National Park	Costa Rica	Natural	612,600.00
52. Kahuzi-Biega National Park	Democratic Republic of the Congo	Natural, World Heritage in Danger List	600,000.00
53. Darién National Park	Panama	Natural	597,000.00
54. Everglades National Park	United States	Natural	592,920.00
55. Thungyai - Huai Kha Khaeng Wildlife Sanctuaries	Thailand	Natural	577,464.00
56. Cape Floral Region Protected Areas	South Africa	Natural	553,000.00
57. Macquarie Island	Australia	Natural	540,000.00
58. Sian Ka'an	Mexico	Natural	528,000.00
59. Dja Faunal Reserve	Cameroon	Natural	526,000.00
60. Río Plátano Biosphere Reserve	Honduras	Natural	525,000.00
61. Grand Canyon National Park	United States	Natural	493,007.00
62. Garamba National Park	Democratic Republic of the Congo	Natural, World Heritage in Danger List	492,000.00
63. Nahanni National Park	Canada	Natural	476,560.00
64. Los Glaciares	Argentina	Natural	445,900.00
65. Coiba National Park and its Special Zone of Marine Protection	Panama	Cultural, Natural	430,825.00
66. Waterton Glacier International Peace Park	United States	Natural	405,089.00
67. Ilulissat Icefjord	Greenland	Natural	402,400.00
68. Cliffs of Bandiagara (Land of the Dogons)	Mali	Cultural, Natural	400,000.00
69. Inaccessible Island	St. Helena	Natural	397,000.00
70. Whale Sanctuary of El Vizcaino	Mexico	Natural	370,950.00
71. Central Eastern Rainforest Reserves (Australia)	Australia	Natural	370,000.00
72. Olympic National Park	United States	Natural	369,660.00
73. Península Valdés	Argentina	Natural	360,000.00
74. Huascarán National Park	Peru	Natural	340,000.00
75. High Coast	Sweden	Natural	336,900.00
76. Taï National Park	Côte d'Ivoire	Natural	330,000.00
77. Uvs Nuur Basin	Russian Federation	Natural	315,308.00
78. Yosemite National Park	United States	Natural	308,283.00
79. Western Caucasus	Russian Federation	Natural	301,068.00
80. Ischigualasto - Talampaya Natural Parks	Argentina	Natural	275,300.00
81. Rio Abiseo National Park	Peru	Cultural, Natural	274,520.00
82. Rainforests of the Atsinanana	Madagascar	Natural	272,485.20
83. Sangay National Park	Ecuador	Natural	271,925.00
84. UKhahlamba / Drakensberg Park	South Africa	Cultural, Natural	242,813.00
85. Willandra Lakes Region	Australia	Cultural, Natural	240,000.00
86. Purnululu National Park	Australia	Natural	239,723.00
87. Greater St Lucia Wetland Park	South Africa	Natural	239,566.00
88. 'W' National Park	Niger	Natural	220,000.00
89. Komodo National Park	Indonesia	Natural	219,322.00
90. Great Smoky Mountains National Park	United States	Natural	209,000.00
91. Talamanca Range-La Amistad Reserves / La Amistad National Park	Panama	Natural	207,000.00

Name of World Heritage Site	Country	Type of Site	Total Area (ha) in WDPA
92. Cerrado Protected Areas: Chapada dos Veadeiros and Emas National Parks	Brazil	Natural	197,382.00
93. Pantanal Conservation Complex	Brazil	Natural	187,818.00
94. Gros Morne National Park	Canada	Natural	180,500.00
95. Iguacu National Park	Brazil	Natural	170,000.00
96. Fraser Island	Australia	Natural	166,283.00
97. Lake Turkana National Parks	Kenya	Natural	161,485.00
98. Tsingy de Bemaraha Strict Nature Reserve	Madagascar	Natural	152,000.00
99. Ha Long Bay	Viet Nam	Natural	150,000.00
100. Mount Kenya National Park/Natural Forest	Kenya	Natural	143,497.00
101. Area de Conservación Guanacaste	Costa Rica	Natural	142,000.00
102. Brazilian Atlantic Islands: Fernando de Noronha and Atol das Rocas Reserves	Brazil	Natural	140,713.00
103. The Sundarbans	Bangladesh	Natural	139,700.00
104. Sundarbans National Park	India	Natural	133,010.00
105. Uluru-Kata Tjuta National Park	Australia	Cultural, Natural	132,566.00
106. Ujung Kulon National Park	Indonesia	Natural	123,051.00
107. West Norwegian Fjords - Geirangerfjord and Nærøyfjord	Norway	Natural	122,712.00
108. Sagarmatha National Park	Nepal	Natural	114,800.00
109. Discovery Coast Atlantic Forest Reserves	Brazil	Natural	111,930.00
110. Mount Wuyi	China	Cultural, Natural	99,975.00
111. Cocos Island National Park	Costa Rica	Natural	99,700.00
112. Rwenzori Mountains National Park	Uganda	Natural	99,600.00
113. Belize Barrier Reef Reserve System	Belize	Natural	96,300.00
114. Royal Chitwan National Park	Nepal	Natural	93,200.00
115. Hawaii Volcanoes National Park	United States	Natural	92,934.00
116. Tongariro National Park	New Zealand	Cultural, Natural	79,596.00
117. Kinabalu Park	Malaysia	Natural	75,370.00
118. Kilimanjaro National Park	Tanzania, United Republic of	Natural	75,353.00
119. Los Katios National Park	Colombia	Natural	72,000.00
120. Jiuzhaigou Valley Scenic and Historic Interest Area	China	Natural	72,000.00
121. Nanda Devi and Valley of Flowers National Parks	India	Natural	71,210.00
122. Alejandro de Humboldt National Park	Cuba	Natural	71,140.00
123. Huanglong Scenic and Historic Interest Area	China	Natural	70,000.00
124. Tikal National Park	Guatemala	Cultural, Natural	57,600.00
125. Shiretoko	Japan	Natural	56,100.00
126. Iguazu National Park	Argentina	Natural	55,000.00
127. Doñana National Park	Spain	Natural	54,251.70
128. Jungfrau-Aletsch-Bietschhorn	Switzerland	Natural	53,888.00
129. Gunung Mulu National Park	Malaysia	Natural	52,864.00
130. Waterton Glacier International Peace Park	Canada	Natural	52,525.00
131. Manas Wildlife Sanctuary	India	Natural, World Heritage in Danger List	50,000.00
132. Redwood National Park	United States	Natural	44,610.00
133. Kaziranga National Park	India	Natural	42,996.00
134. Pirin National Park	Bulgaria	Natural	40,067.00
135. Ohrid Region with its Cultural and Historical Aspect and its Natural Environment	Macedonia	Cultural, Natural	38,000.00
136. East Rennell	Solomon Islands	Natural	37,000.00
137. Aldabra Atoll	Seychelles	Natural	35,000.00
138. Tubbataha Reef Marine Park	Philippines	Natural	33,200.00

Name of World Heritage Site	Country	Type of Site	Total Area (ha) in WDPA
139. Desembarco del Granma National Park	Cuba	Natural	32,660.00
140. Historic Sanctuary of Machupicchu	Peru	Cultural, Natural	32,592.00
141. Bwindi Impenetrable National Park	Uganda	Natural	32,092.00
142. Durmitor National Park	Montenegro, Republic of	Natural	32,000.00
143. Vredefort Dome - Core Area	South Africa	Natural	30,108.00
144. Plitvice Lakes National Park	Croatia	Natural	29,482.00
145. Wulingyuan Scenic and Historic Interest Area	China	Natural	26,400.00
146. Wadi Al-Hitan (Whale Valley)	Egypt	Natural	25,900.00
147. Mount Taishan	China	Cultural, Natural	25,000.00
148. St. Kilda	United Kingdom	Cultural, Natural	24,201.40
149. Mammoth Cave National Park	United States	Natural	21,191.00
150. Puerto-Princesa Subterranean River National Park	Philippines	Natural	20,202.00
151. Pyrénées - Mont Perdu	Spain	Cultural, Natural	20,134.00
152. Carlsbad Caverns National Park	United States	Natural	18,926.00
153. Shirakami-Sanchi	Japan	Natural	16,971.00
154. Djoudj National Bird Sanctuary	Senegal	Natural	16,000.00
155. Mount Huangshan	China	Cultural, Natural	15,400.00
156. Mount Emei Scenic Area, including Leshan Giant Buddha Scenic Area	China	Cultural, Natural	15,400.00
157. Laurisilva of Madeira	Portugal	Natural	15,000.00
158. Simien National Park	Ethiopia	Natural, World Heritage in Danger List	13,600.00
159. Mount Nimba Strict Nature Reserve	Guinea	Natural, World Heritage in Danger List	13,000.00
160. Ichkeul National Park	Tunisia	Natural	12,600.00
161. Cape Girolata, Cape Porto, Scandola Nature Reserve and the Piana Calanches in Corsica	France	Natural	12,000.00
162. Sinharaja Forest Reserve	Sri Lanka	Natural	11,331.00
163. Pyrénées - Mont Perdu	France	Cultural, Natural	11,055.00
164. Yakushima	Japan	Natural	10,747.00
165. Australian Fossil Mammal Sites - Riversleigh	Australia	Natural	10,000.00
166. Göreme National Park and the Rock Sites of Cappadocia	Turkey	Cultural, Natural	9,576.00
167. Lake Malawi National Park	Malawi	Natural	9,400.00
168. Ibiza, biodiversity and culture	Spain	Cultural, Natural	8,564.00
169. Dinosaur Provincial Park	Canada	Natural	7,493.00
170. Morne Trois Pitons National Park	Dominica	Natural	6,857.00
171. Belovezhskaya Pushcha / Bialowieza Forest	Poland	Natural	5,502.00
172. Mount Nimba Strict Nature Reserve	Côte d'Ivoire	Natural, World Heritage in Danger List	5,000.00
173. Belovezhskaya Pushcha / Bialowieza Forest	Belarus	Natural	5,000.00
174. Garajonay National Park	Spain	Natural	3,984.00
175. Mosi-oa-Tunya/Victoria Falls	Zambia	Natural	3,779.00
176. Henderson Island	Pitcairn	Natural	3,700.00
177. Mosi-oa-Tunya/Victoria Falls	Zimbabwe	Natural	3,081.00
178. Pitons Management Area	Saint Lucia	Natural	2,909.00
179. Keoladeo National Park	India	Natural	2,873.00
180. Dorset and East Devon Coast	United Kingdom	Natural	2,550.00
181. Monte San Giorgio	Switzerland	Natural	2,238.00
182. Lord Howe Island Group	Australia	Natural	1,176.00
183. Srebarna Nature Reserve	Bulgaria	Natural	902.00
184. Skocjan Caves	Slovenia	Natural	413.00
185. Meteora	Greece	Cultural, Natural	375.00
186. Mount Athos	Greece	Cultural, Natural	336.00
187. Australian Fossil Mammal Sites - Naracoorte	Australia	Natural	300.00

Name of World Heritage Site	Country	Type of Site	Total Area (ha) in WDPAs
188. Miguasha Park	Canada	Natural	87.00
189. Giant's Causeway and Causeway Coast	United Kingdom	Natural	70.00
190. Messel Pit Fossil Site	Germany, Federal Republic of	Natural	70.00
191. Vallée de Mai Nature Reserve	Seychelles	Natural	19.00

World Heritage Studies

1. *Outstanding Universal Value: Standards for Natural Heritage: A Compendium on Standards for Inscriptions of Natural Properties on the World Heritage List*, IUCN World Heritage Studies N° 1, Tim Badman, Bastian Bomhard, Annelie Fincke, Josephine Langley, Pedro Rosabal and David Sheppard, 2008.
2. *World Heritage Caves and Karst, A Thematic Study: Global Review of Karst World Heritage Properties: present situation, future prospects and management, requirements*, IUCN World Heritage Studies N°2, Paul Williams, June 2008.
3. *World Heritage and Protected Areas: an initial analysis of the contribution of the World Heritage Convention to the global network of protected areas presented to the 32nd session of the World Heritage Committee, Québec City, Canada, in July 2008*, IUCN World Heritage Studies N° 3, Tim Badman and Bastian Bomhard, 2008.
4. *Natural World Heritage Nominations: A resource manual for practitioners*, IUCN World Heritage Studies N° 4, Tim Badman, Paul Dingwall and Bastian Bomhard, 2008.
5. *Management Planning for Natural World Heritage Properties: A resource manual for practitioners*, Interim version, IUCN World Heritage Studies N° 5, IUCN Programme on Protected Areas, 2008.
6. *Serial Natural World Heritage Properties: an initial analysis of the serial natural World Heritage Properties on the World Heritage List*, IUCN World Heritage Studies N° 6, Barbara Engels, Phillip Koch and Tim Badman, 2009.
7. *World Heritage in Danger: A compendium of key decisions on the conservation of natural World Heritage Properties via the list of World Heritage in Danger*, IUCN World Heritage Studies N° 7, Tim Badman, Bastian Bomhard, Annelie Fincke, Josephine Langley, Pedro Rosabal and David Sheppard, 2009.
8. *World Heritage Volcanoes: a thematic study: a global review of volcanic World Heritage properties: present situation, future prospects and management requirements*, IUCN World Heritage Studies N° 8, Chris Wood, 2009.