Overlap between Alliance for Zero Extinction Sites and World Heritage Sites

Introduction

This report describes the results of an analysis to assess the overlap between Alliance for Zero Extinction sites and natural and mixed World Heritage Sites.

Alliance for Zero Extinction (AZE) Sites

The Alliance for Zero Extinction was first conceived in 2000, and formally launched with the first identification of sites in 2005. The Alliance has 93 members from 37 countries[a] and is formed predominantly of conservation NGOs. There are 587 sites in total across 89 countries and territories. Aside from the status of AZEs being recognised by the Alliance members, there are four chief means through which the concept has gained international recognition:

1) An MOU [1] signed between the Alliance and the Secretariat of the Convention on Biological Diversity in 2010, which created a framework for cooperation between the Convention and the Alliance which includes a call on governments to include AZEs in National Biodiversity Strategies and Action Plans (NBSAPs).

2) Collaboration between the Global Environment Facility, the World Bank and BirdLife International to map and preserve AZEs [2].

3) Inclusion as a subset of Key Biodiversity Areas (KBAs) [3]. KBAs are one of the most well-known and comprehensive site-scale approaches to identifying biodiversity values and are now the basis for an ongoing IUCN work programme to develop a methodology to identify areas contributing significantly to the global persistence of biodiversity.

4) Use of AZE criteria to define thresholds used within the definition of Critical Habitat [4] in the International Finance Corporation's Performance Standard 6 and being specifically listed in the associated Guidance Note [5].

> *"GN 57: In general, internationally and/or nationally recognized areas of high biodiversity value will likely qualify as critical habitat; examples include the following… The majority of Key Biodiversity Areas (KBAs), which encompass inter alia Ramsar Sites, Important Bird Areas (IBA), Important Plant Areas (IPA) and Alliance for Zero Extinction Sites (AZE)"*

[a] Membership numbers correct as of October 24th, 2013

There is no requirement for AZEs to be legally protected, or even recognised by the national government. Their identification is based purely on the presence of Critically Endangered or Endangered species above a minimum population threshold within a discrete area. The criteria are shown in full in Table 1.

World Heritage Sites (WHS)

The Convention Concerning the Protection of the World Cultural and Natural Heritage, commonly known as the World Heritage Convention was adopted in 1972 [6]. There are 190 States Parties to the Convention. Of the 981 properties inscribed on the World Heritage List, 222 are inscribed because of their Natural or Mixed value (193 Natural, 29 Mixed) across 160 countries [7]. World Heritage Sites (WHS) are recognised by the 190 governments which have signed or otherwise adopted the Convention. The need to protect WHS is also recognised within the requirements of some international financial standards and certification schemes, including the Performance Standards of the International Finance Corporation.

The process through which WHS are identified and inscribed is defined by the Convention and Operational Guidelines:

1. State Party carries out an inventory of natural and cultural heritage, this is submitted as the Tentative List. Sites can only be nominated if they are on the Tentative List.

2. State Party prepares a nomination file, which includes substantial documentation of the site, and maps of boundaries.

3. Advisory bodies (IUCN[a], ICOMOS[b] and ICCROM[c]) review and evaluate the nomination against the criteria (see Table 1).

4. World Heritage Committee decides whether to inscribe a site on the World Heritage List, the Committee is empowered to defer a decision or request additional information.

The process of identification and inscription is inherently political due to the nomination process being led by States Parties and decided by the Committee. While natural values are reviewed and evaluated by IUCN[d], the decision of the Committee is informed by, but does not always follow the recommendations of the advisory bodies. WHS are required to have legal or other effective protection as a condition of inscription.

[a] International Union for Conservation of Nature
[b] The International Council on Monuments and Sites
[c] The International Centre for the Study of the Preservation and Restoration of Cultural Property
[d] UNEP-WCMC provides support to the evaluation process in relation to biodiversity values

Alignment of criteria

The identification of both AZEs and WHS are based on published criteria, shown in Table 1 below.

Table 1: Criteria for identification of AZEs and WHS

AZE Criteria [8]	WHS Criteria (Natural only) [9]
1. **Endangerment.** An AZE site must contain at least one Endangered (EN) or Critically Endangered (CR) species, as listed on the IUCN Red List. 2. **Irreplaceability.** An AZE site should only be designated if it is the sole area where an EN or CR species occurs, contains the overwhelmingly significant known resident population (>95%) of the EN or CR species, or contains the overwhelmingly significant known population (>95%) for one life history segment (e.g. breeding or wintering) of the EN or CR species. 3. **Discreteness.** The area must have a definable boundary within which the character of habitats, biological communities, and/or management issues have more in common with each other than they do with those in adjacent areas.	vii. To contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance; viii. To be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features; ix. To be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals; x. To contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation.

The objectives of the World Heritage Convention and the Alliance for Zero Extinction are very different. As a result, the criteria used to identify the respective sites also differ greatly. The most significant alignment is between criterion x of the World Heritage Convention and the three criteria for identifying AZEs. However, criterion x "includes" habitats necessary for the survival of threatened species, rather than being limited to them. In this way it is unlike the central premise of AZEs – which is to preserve Critically Endangered (CR) and Endangered (EN) species. Furthermore, criterion x would only be triggered for CR and EN species if these were of "Outstanding Universal Value[a]". The implication of which is that some CR and EN species may not be of Outstanding Universal Value, and sites would therefore not be candidates for inscription under the Convention. Criterion x refers to "the most important and significant natural habitats for in-situ conservation" and is applied at the global level, therefore significant overlap between AZEs and WHS should not be expected. AZEs are identified on the basis of species for which global data exist within the IUCN Red List of Threatened Species. AZE assessments would not identify sites for CR or EN species if these data are absent or available only at the regional scale, however such sites might be identified as part of the World Heritage evaluation process.

Finally, it is worthy of note that AZE identification is based purely on scientific criteria and is not subject to political pressures. AZEs are also not reliant on the quality of the habitat in comparison to other areas. The process of identifying AZEs is focused entirely on CR and EN species and the ranges of their remaining populations.

[a] Outstanding Universal Value - cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. As such, the permanent protection of this heritage is of the highest importance to the international community as a whole.[9]

Methodology

Spatial data on the 583 AZEs for which spatial data are available (from the Key Biodiversity Areas Dataset, July 2013 [10]) was overlaid with data on the 222 natural and mixed World Heritage Sites (from the World Database on Protected Areas, November 2013 [11]) in a geographic information system (GIS) to identify the level of overlap. Both datasets were re-projected into Mollweide equal area projection to allow for accurate area calculations. The AZE data used were composed of 572 sites with boundary (polygon) data and 11 sites for which only latitude/longitude point data exist.

Analysis of the overlap between AZE's and all protected areas in the WDPA was also undertaken. Point data for protected areas were buffered to a nominal size to be included in the results. The protected areas data was dissolved to remove the double-counting of overlapping protected areas.

The overlap with World Heritage (natural & mixed) records from the WDPA was then calculated, along with the area and percentage of the AZE which overlapped the WHS. Any size of area overlap was considered sufficient to be included in the results; a minimum threshold was not applied. A further analysis was undertaken in which the AZEs were buffered by 5km and by 20km to determine which AZEs were in proximity to a WHS (and to pick up any sites which might have been inaccurately excluded from the above analysis due to minor spatial inaccuracies in the data).

Limitations

The methodology for this study is based on using the best available global datasets for World Heritage Sites and Alliance for Zero Extinction sites. However, there are a number of limitations to using site data for global-scale analyses, which should be noted in the interpretation of the results and which are discussed below.

Omissions from the AZE dataset. While the AZE datasets represent the most up-to-date information available at the global scale for such analysis, the data are biased towards sites for taxa which have been included in the IUCN Red List. Additional sites are likely to be identified as more species are assessed.

Inaccuracy in locations and boundaries. While both the WDPA and AZE data are quality checked, both may contain inaccuracies resulting from the original provision of inaccurate data. This may include sites for which attributes have been inaccurately reported, where the boundaries have been poorly digitised, or where errors related to the re-projection of data have resulted in boundary shifts.

Use of point and polygon data. The analysis uses both point (i.e. single coordinate) and polygon (i.e. delineated boundary) data. It is not possible to assess overlap using point data due to their inherent lack of an area on which to base the analysis.

Potential for over-reporting. Boundary errors in both datasets may result in small overlaps being calculated for sites which do not physically overlap on the ground.

Results

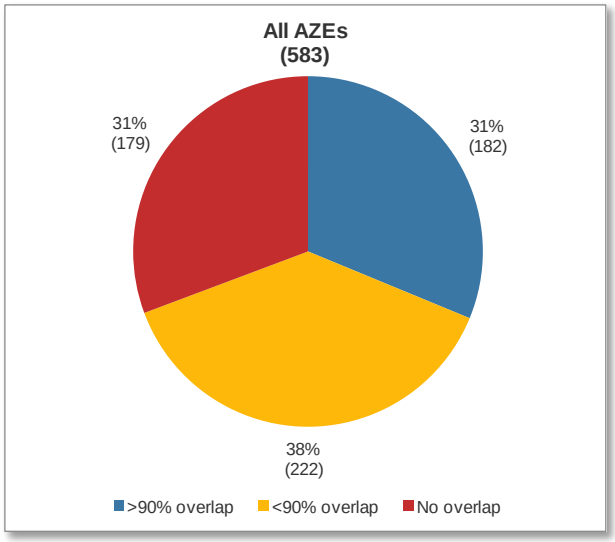
This section describes the results of the analysis, providing an overview to the level of protection afforded to AZEs, followed by the detailed results on overlap and proximity between AZEs and natural and mixed WHS.

Overlap with protected areas of any designation

404 (69%) of the 583 AZEs overlap protected areas (of any designation).

Figure 1 shows the number of AZE sites demonstrating some level of overlap with protected areas.[a]

Figure 1: Overlap of AZEs with all protected areas



62% of the total area falling within AZE designations overlaps protected areas (387,998 km² of a total AZE area coverage of 622,508 km²).

[a] 66 of the AZEs recorded as overlapping protected areas only do so by less than 5% of their area.

Overlap with natural and mixed World Heritage Sites

63 (11%) of the 583 AZEs overlap natural and mixed World Heritage sites.

Figure 2 shows the breakdown, with 33 AZEs (6%) overlapping by more than 90% of their total area.[a] Table 2 also shows the number and percentage of AZEs overlapping WHS and where WHS are found within 5km and 20km buffers of the AZE boundary.

Figure 2: Overlap of AZEs with natural and mixed WHS

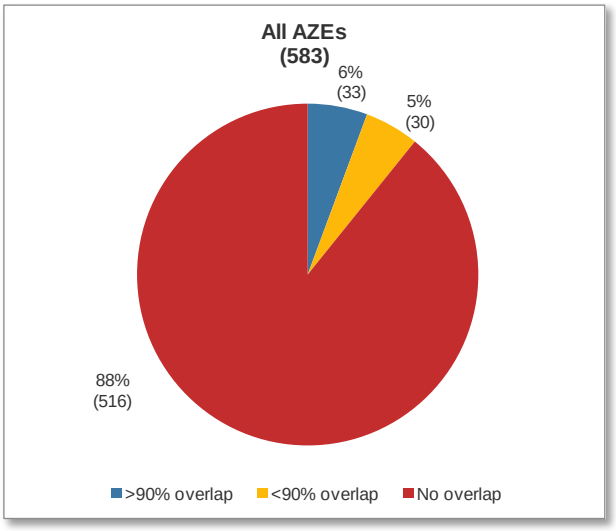


Table 2: Overlap and distance from AZEs to natural and mixed WHS

	Number of AZEs	% of AZEs
>90% of AZE area overlapping with WHS	33	6%
<90% of AZE area overlapping with WHS	30	5%
WHS within 5km of AZE	4	1%
WHS between 5 and 20km of AZE	21	4%
WHS >20km from AZE	495	85%
Total	**583**	**100%**

14% of the total area falling within AZE designations overlaps World Heritage sites (87,140 km² of a total AZE area coverage of 622,508 km²).

Figure 3 is a global map of all AZEs and natural and mixed WHS. The subsequent maps (Figure 4 - Figure 11) show the location of AZEs categorised according to the above overlaps and buffers. Countries with more than one AZE overlapping with, or proximal to, a WHS are listed in Table 3. Information on each overlap is provided in Table 4.

[a] 11 of the AZEs recorded as overlapping WHS only do so by less than 5% of their area.

Figure 3: Global map showing all AZEs and natural and mixed World Heritage Sites

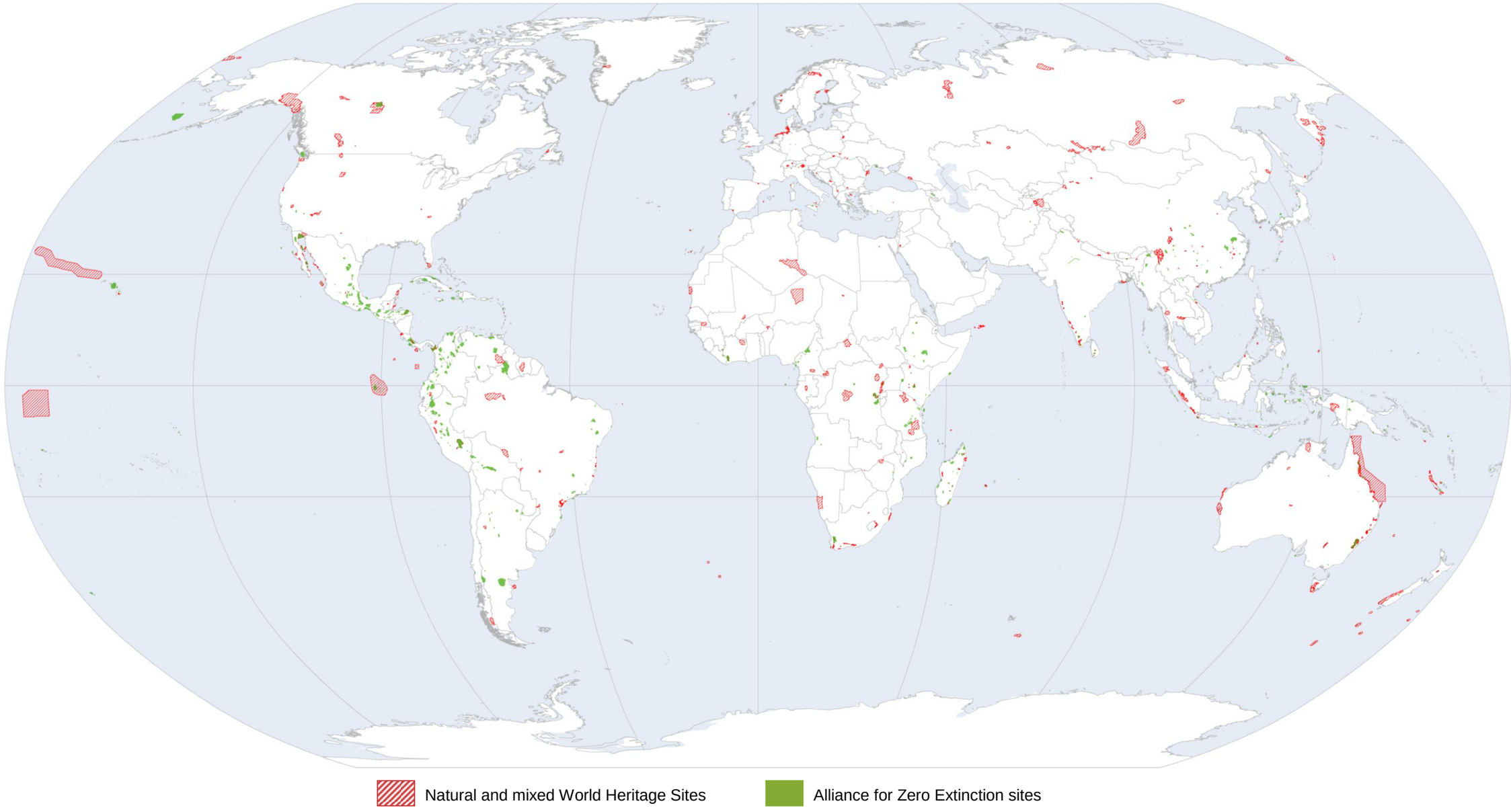


Figure 4 North America

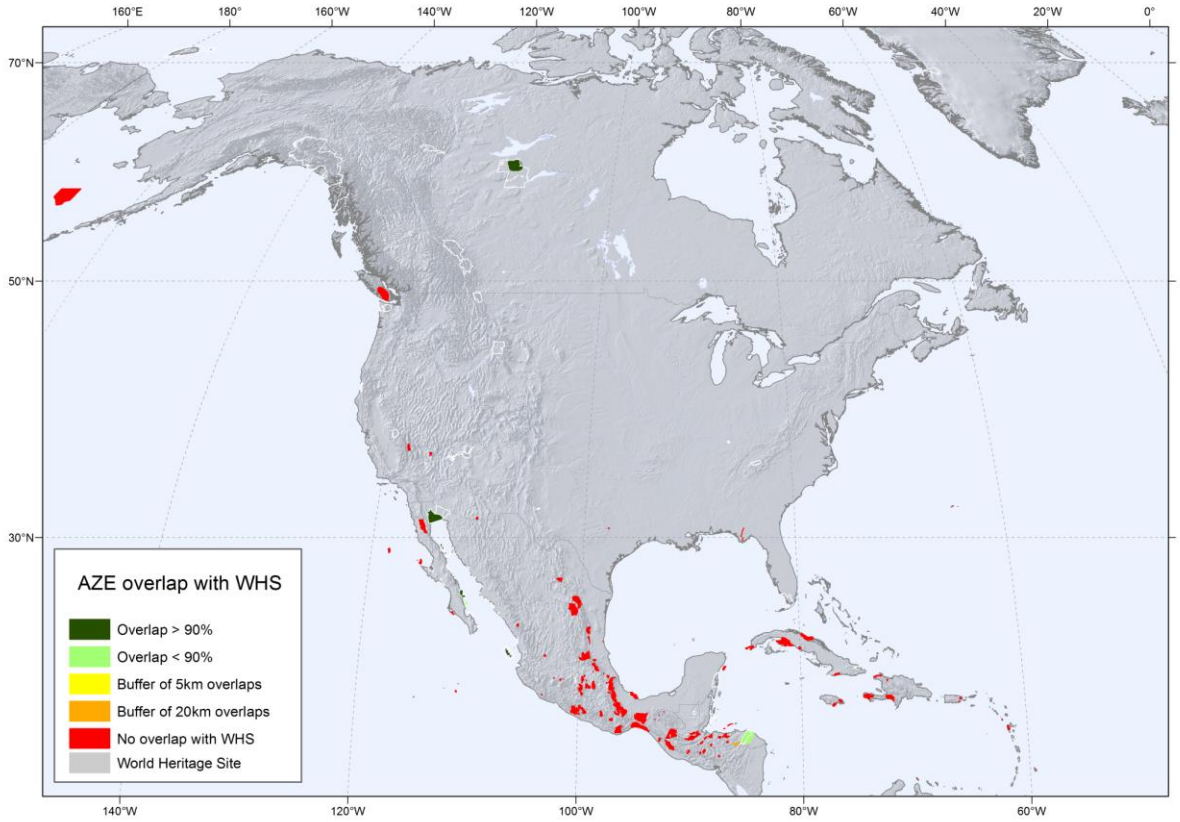


Figure 5 Central America and the Pacific

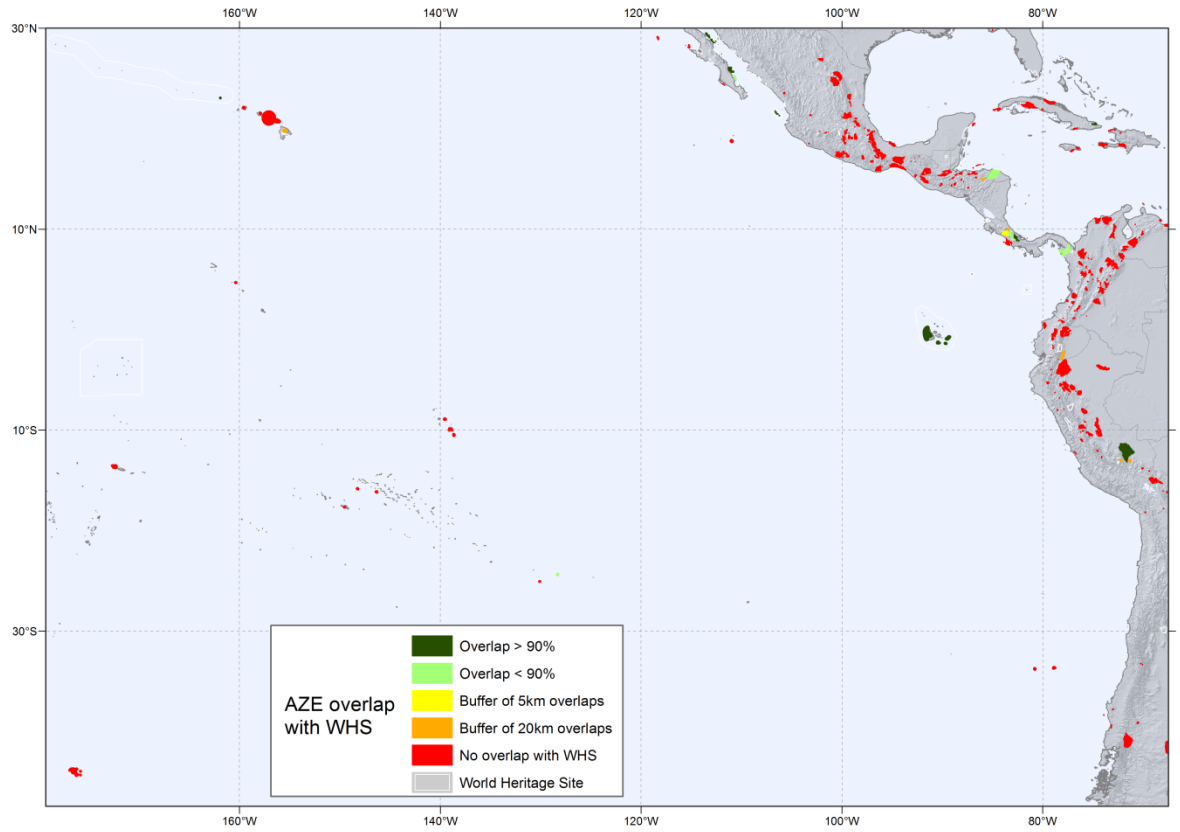


Figure 6 South America

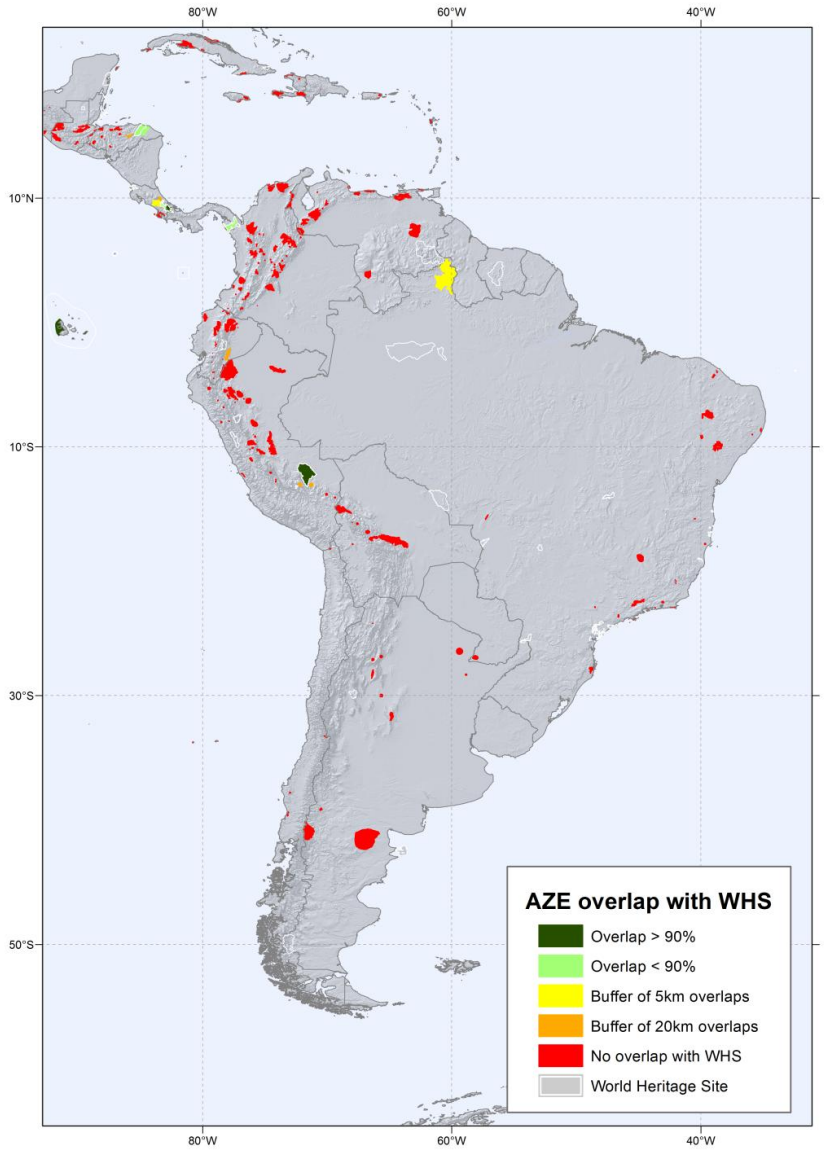


Figure 7 Africa and the Middle East

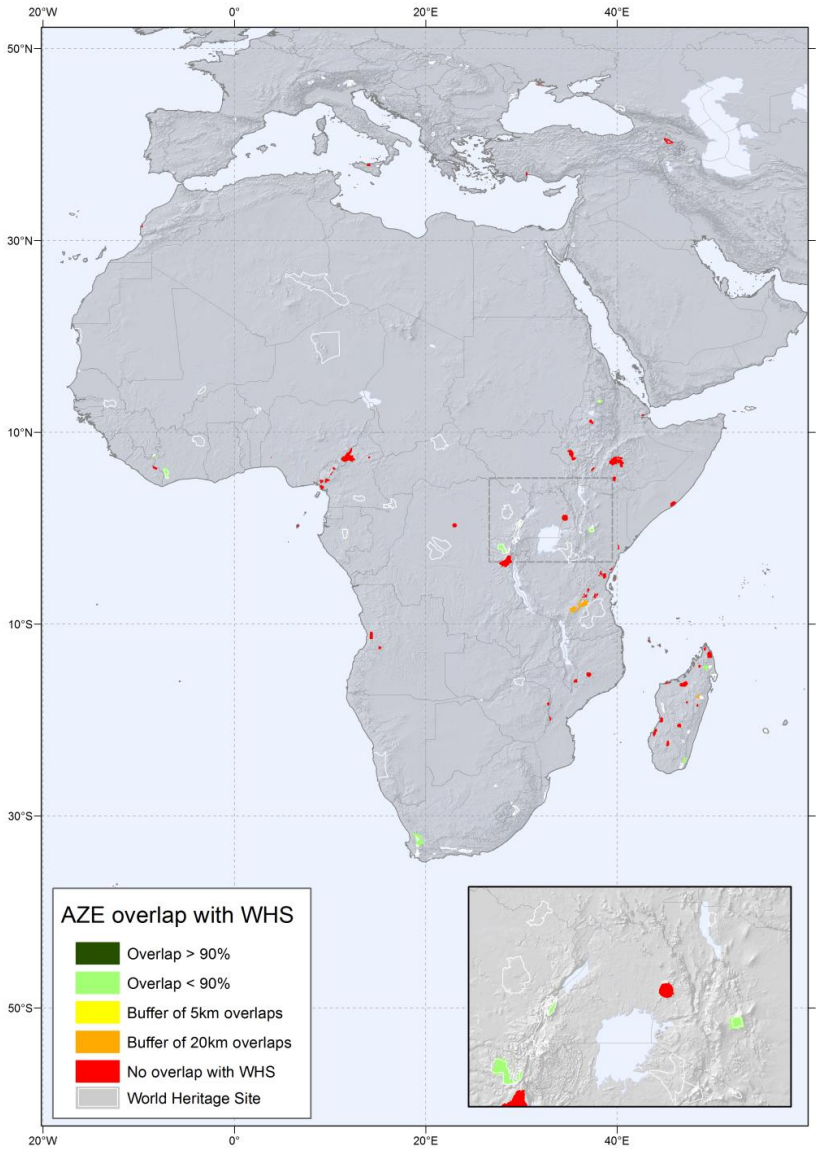


Figure 8 Europe

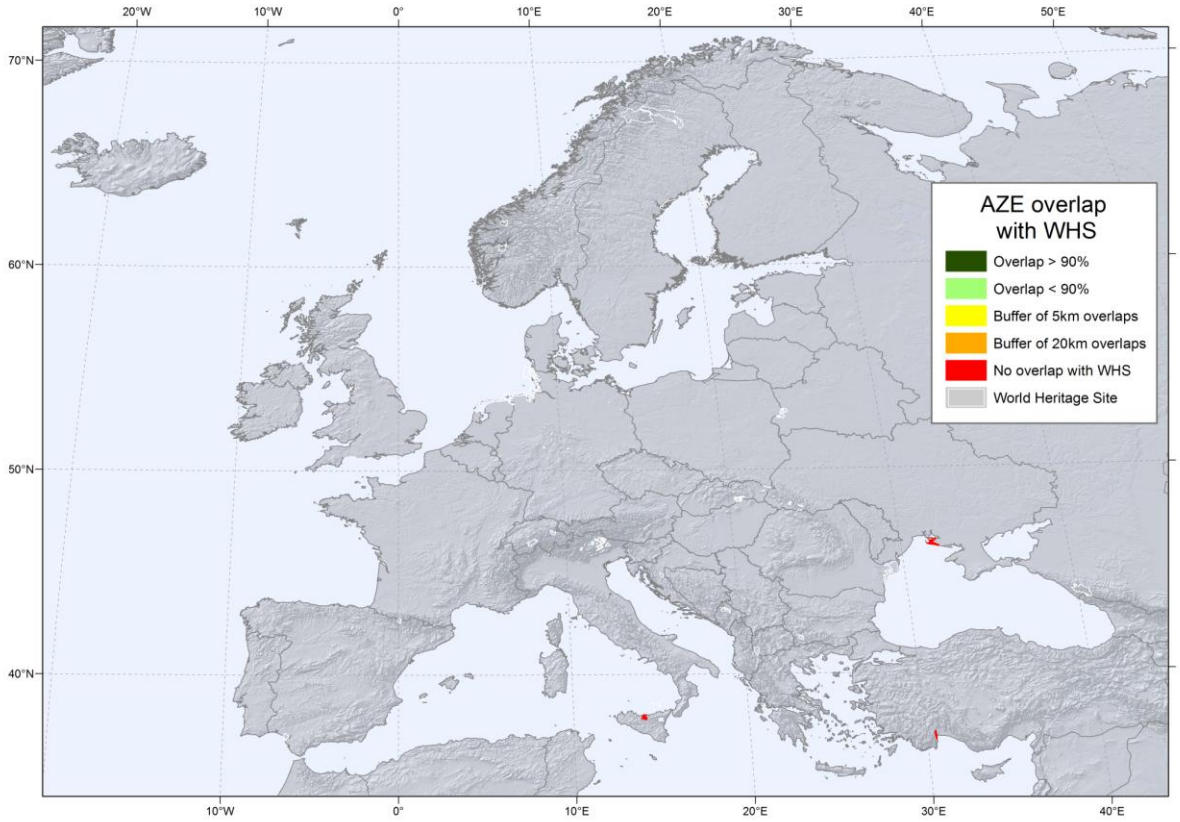


Figure 9 Russia

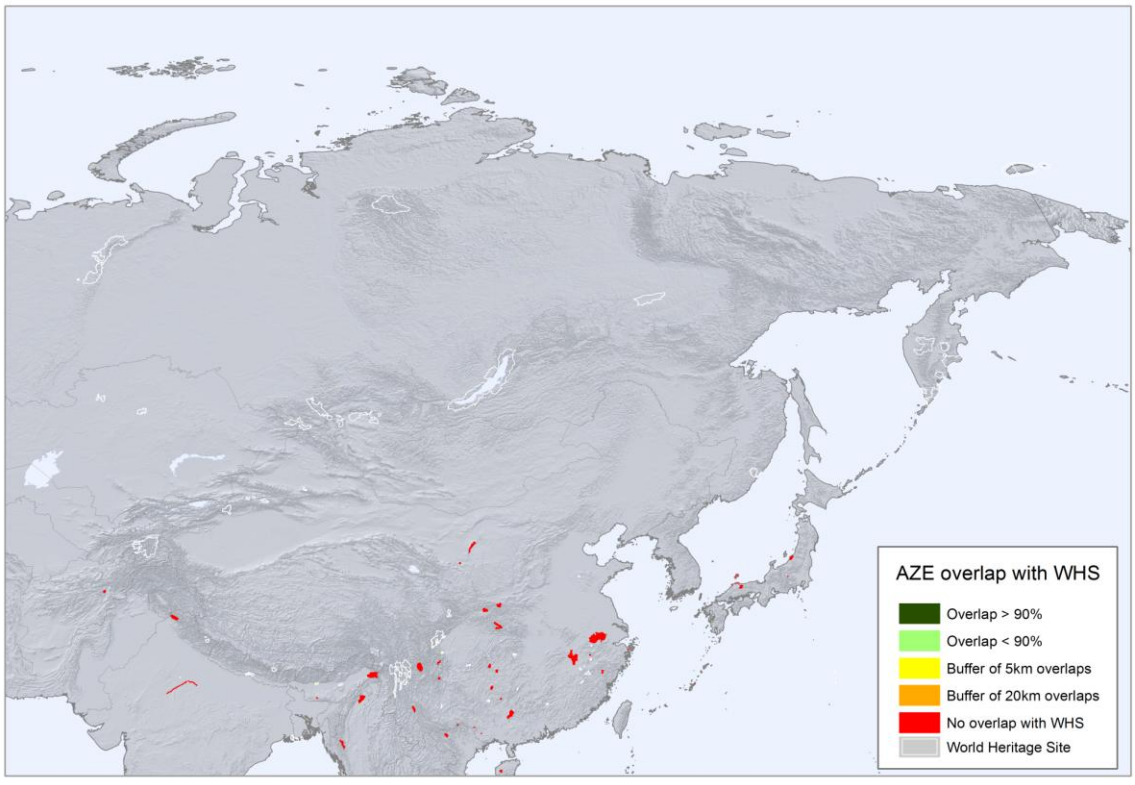


Figure 10 Asia

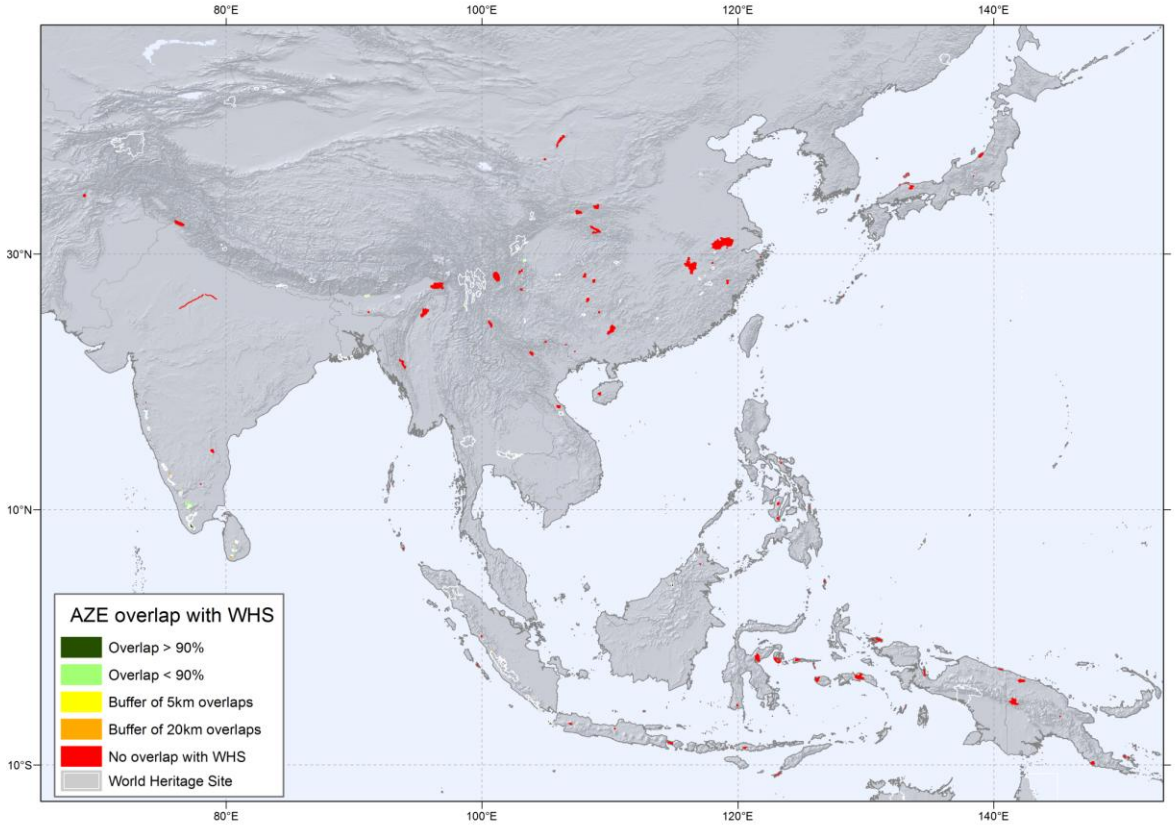


Figure 11 Oceania

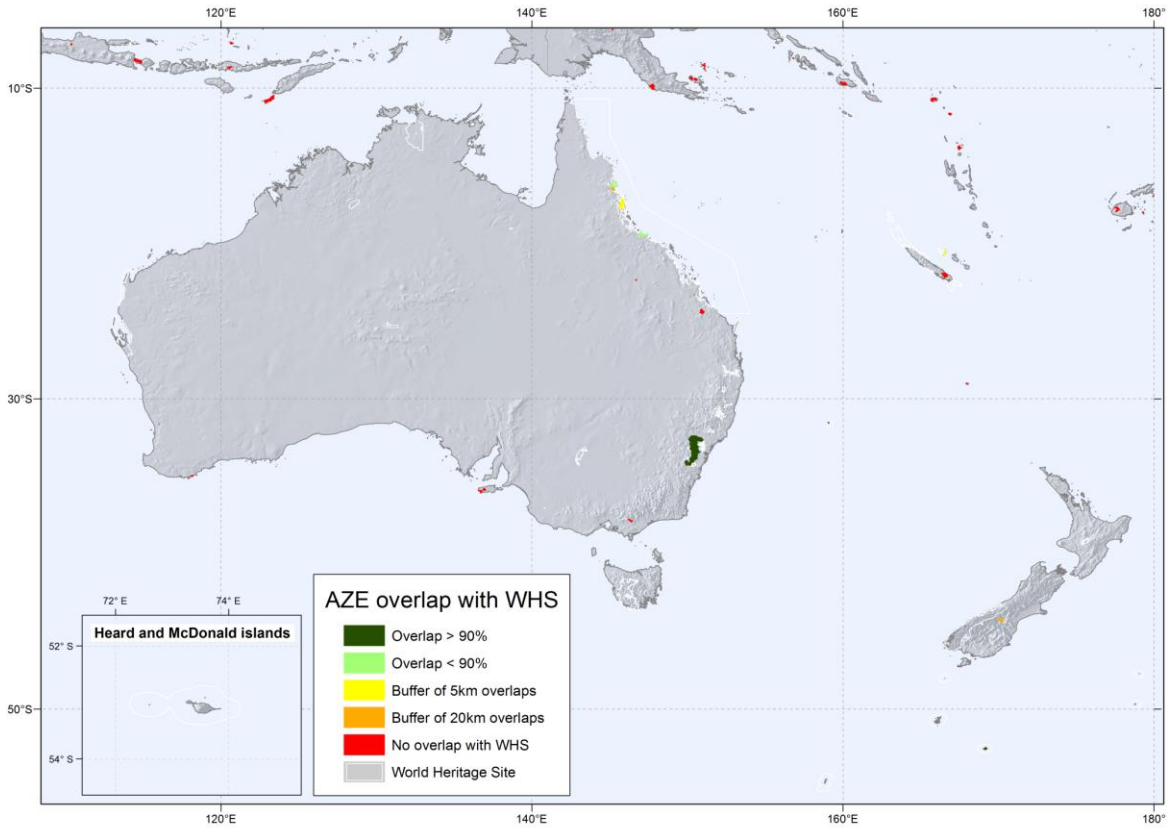


Table 3: Countries with more than one AZE overlapping or within 5 or 20km of a natural or mixed World Heritage Sites

Country/Territory	Number of AZEs overlapping with or in proximity to WHS
Australia	8
Mexico	8
Ecuador	7
Madagascar	6
India	6
Sri Lanka	6
Peru	3
Costa Rica	3
New Caledonia	3
Panama	2
New Zealand	2
St Helena	2
USA	2
Indonesia	2
Réunion	2
Côte dIvoire	2
Honduras	2
South Africa	2
Brazil	2
St Lucia	2

Table 4: Information on all AZEs which either overlap or are within 5km or 20km of natural or mixed World Heritage Sites

Country/ territory	AZE Name	AZE Trigger Species		AZE Area (km^2)	WHS Name	WHS Area (km^2)	Area of AZE overlapping with WHS		Within 5km buffer	Within 20km buffer
		Scientific name	Common name				km^2	%		
Australia	Lord Howe Island Permanent Park Preserve (Lord Howe Island IBA)	*Nyctophilus howensis*	Lord Howe Long-eared Bat	17	Lord Howe Island Group	1,465	17	100%		
Australia	Wooroonooran National Park	*Cophixalus neglectus*	Neglected Frog	1,155	Wet Tropics of Queensland	8,988	1,151	100%		
					Great Barrier Reef	350,426	-	-	✓	
Ecuador	Áreas costeras de Fernandina y del occidente de Isabela	*Spheniscus mendiculus*	Galapagos Penguin	6,200	Galápagos Islands	146,679	6,200	100%		
Ecuador	Isla San Cristóbal	*Mimus melanotis*	San Cristobal Mockingbird	554	Galápagos Islands	146,679	554	100%		
Ecuador	Isla Floreana	*Camarhynchus pauper*	Medium Tree-finch	173	Galápagos Islands	146,679	173	100%		
Ecuador	Isla Española	*Phoebastria irrorata*	Waved Albatross	66	Galápagos Islands	146,679	66	100%		
Ecuador	Champion y Gardner de Floreana	*Mimus trifasciatus*	Floreana Mockingbird	1	Galápagos Islands	146,679	1	100%		
Guinea	Monts Nimba (part of Mount Nimba transboundary AZE)	*Arthroleptis crusculum*	Guinea Screeching Frog	147	Mount Nimba Strict Nature Reserve	194	147	100%		
Madagascar	Andohahela National Park: Parcel I	*Spinomantis microtis*		599	Rainforests of the Atsinanana	4,811	599	100%		
Madagascar	Ranomafana National Park	*Gephyromantis runewsweeki*		407	Rainforests of the Atsinanana	4,811	407	100%		
Madagascar	Andringitra National Park	*Mantidactylus madecassus*		322	Rainforests of the Atsinanana	4,811	322	100%		
Mexico	Alto Golfo de California y Delta del Río Colorado	*Phocoena sinus*	Vaquita	9,249	Islands and Protected Areas of the Gulf of California	22,834	9,239	100%		
					El Pinacate and Gran Desierto de Altar Biosphere Reserve	7,316	<1	<1%		

Country/ territory	AZE Name	AZE Trigger Species		AZE Area (km^2)	WHS Name	WHS Area (km^2)	Area of AZE overlapping with WHS		Within 5km buffer	Within 20km buffer
		Scientific name	Common name				km^2	%		
Mexico	Bahia de Loreto National Park	*Peromyscus caniceps*	Monserrat Island Deermouse	2,068	Islands and Protected Areas of the Gulf of California	22,834	2,068	100%		
Mexico	Isla Ángel de la Guarda y satélites	*Peromyscus guardia*	Angel Island Mouse	937	Islands and Protected Areas of the Gulf of California	22,834	937	100%		
Mexico	Isla San Esteban	*Peromyscus stephani*	San Esteban Deermouse	42	Islands and Protected Areas of the Gulf of California	22,834	42	100%		
Mexico	Islas Marias	*Sylvilagus graysoni*	Tres Marias Cottontail	418	Islands and Protected Areas of the Gulf of California	22,834	418	100%		
New Zealand	Campbell Island (and outliers)	*Anas nesiotis*	Campbell Islands Teal	112	New Zealand Sub-Antarctic Islands	14,722	112	100%		
Peru	Manu	*Bryophryne cophites*		17,052	Manú National Park	17,052	17,051	100%		
St Helena	Gough Island	*Diomedea dabbenena*	Tristan Albatross	67	Gough and Inaccessible Islands	3,918	67	100%		
USA	Nihoa Island	*Acrocephalus familiaris*	Millerbird	1	Papahanaumokuakea	364,793	1	100%		
Australia	Wollemi National Park	*Wollemia nobilis*	Wollemi Pine	5,025	The Greater Blue Mountains Area	10,365	4,997	99%		
Australia	Daintree National Park	*Cophixalus concinnus*	Beautiful Nursery-frog	773	Wet Tropics of Queensland	8,988	759	98%		
					Great Barrier Reef	350,426	1	<1%		
Indonesia	Ujung Kulon National Park	*Rhinoceros sondaicus*	Javan Rhinoceros	451	Ujung Kulon National Park	1,269	443	98%		
Mexico	Archipielago de San Lorenzo	*Peromyscus interparietalis*	San Lorenzo Deermouse	625	Islands and Protected Areas of the Gulf of California	22,834	613	98%		
India	Kalakad-Mundanthurai Tiger Reserve	*Nyctibatrachus vasanthi*		823	Western Ghats	8,165	806	98%		
Mexico	Isla Tortuga	*Peromyscus dickeyi*	Dickey's Deermouse	9	Islands and Protected Areas of the Gulf of California	22,834	9	97%		

Country/ territory	AZE Name	AZE Trigger Species		AZE Area (km^2)	WHS Name	WHS Area (km^2)	Area of AZE overlapping with WHS		Within 5km buffer	Within 20km buffer
		Scientific name	Common name				km^2	%		
Canada	Whooping Crane Nesting Area and Summer Range	*Grus americana*	Whooping Crane	9,329	Wood Buffalo National Park	44,705	9,004	97%		
Uganda	Ruwenzori (Rwenzori) Mountains National Park	*Dasymys montanus*	Montane Shaggy Rat	989	Rwenzori Mountains National Park	1,001	952	96%		
					Virunga National Park	7,823	27	3%		
Malaysia	Gunung Mulu National Park	*Pelophryne api*		555	Gunung Mulu National Park	527	527	95%		
Cuba	Alejandro de Humboldt	*Chondrohierax wilsonii*	Cuban Kite	710	Alejandro de Humboldt National Park	695	668	94%		
Australia	Blue Mountains National Park	*Pherosphaera fitzgeraldii*		2,678	The Greater Blue Mountains Area	10,365	2,475	92%		
Panama	La Amistad International Park (part of La Amistad and Surrounding Areas AZE)	*Oedipina grandis*		2,097	Talamanca Range-La Amistad Reserves / La Amistad National Park	4,073	1,925	92%		
Réunion	Plaine des Chicots - Plaine d'Affouches	*Coracina newtoni*	Reunion Cuckooshrike	48	Pitons, cirques and remparts of Reunion Island	1,065	44	92%		
Panama	Darien-Cerro Sapo National Park (Darién National Park IBA)	*Atelopus certus*		5,717	Darien National Park	5,502	5,092	89%		
					Los Katíos National Park	743	29	1%		
Costa Rica	La Amistad International Park (Costa Rica) (part of La Amistad and Surrounding Areas AZE site)	*Oedipina grandis*		2,141	Talamanca Range-La Amistad Reserves / La Amistad National Park	4,073	1,864	87%		
Congo, The Democratic Republic of the	Kahuzi-Biega National Park	*Dendromus kahuziensis*	Mount Kahuzi African Climbing Mouse	5,656	Kahuzi-Biega National Park	6,611	4,651	82%		
India	Manas National Park	*Porcula salvania*	Pygmy Hog	556	Manas Wildlife Sanctuary	451	437	79%		
Sri Lanka	Morningside and Handapan Ella Plains (Sinharaja IBA)	*Pseudophilautus silvaticus*		121	Sinharaja Forest Reserve	96	91	75%		

Country/ territory	AZE Name	AZE Trigger Species		AZE Area (km^2)	WHS Name	WHS Area (km^2)	Area of AZE overlapping with WHS		Within 5km buffer	Within 20km buffer
		Scientific name	Common name				km^2	%		
Sri Lanka	Peak Wilderness Sanctuary	*Adenomus dasi*		245	Central Highlands of Sri Lanka	537	177	72%		
Côte dIvoire	Taï National Park and Nzo Faunal Reserve	*Amietophrynus taiensis*	Tai Toad	5,091	Taï National Park	3,482	3,482	68%		
Kenya	Mount Kenya	*Grammomys gigas*	Giant Thicket Rat	2,597	Mount Kenya National Park/Natural Forest	1,989	1,765	68%		
Sri Lanka	Knuckles Range (Knuckles IBA)	*Nannophrys marmorata*		175	Central Highlands of Sri Lanka	537	118	68%		
Australia	Mount Lewis Forest Reserve	*Cophixalus monticola*	Mountain-top Nursery-frog	212	Wet Tropics of Queensland	8,988	140	66%		
					Great Barrier Reef	350,426	-	-		✓
Pitcairn Islands	Henderson Island	*Pterodroma atrata*	Henderson Petrel	48	Henderson Island	41	31	65%		
Honduras	Río Plátano	*Craugastor pechorum*		8,022	Río Plátano Biosphere Reserve	5,089	4,902	61%		
Réunion	Grand Bassin - Le Dimitile	*Pseudobulweria aterrima*	Mascarene Petrel	42	Pitons, cirques and remparts of Reunion Island	1,065	25	60%		
China (mainland)	Emei Shan Natural and Historical Heritage Reserve (Emei Shan IBA)	*Batrachuperus londongensis*	Longdong Stream Salamander	292	Mount Emei Scenic Area, including Leshan Giant Buddha Scenic Area	257	173	59%		
South Africa	Table Mountain	*Heleophryne rosei*	Table Mountain Ghost Frog	136	Cape Floral Region Protected Areas	5,601	72	53%		
Sri Lanka	Horton Plains and Agra-Bopats	*Pseudophilautus silus*		105	Central Highlands of Sri Lanka	537	30	29%		
Mexico	Archipiélago San José	*Dipodomys insularis*	San Jose Island Kangaroo Rat	784	Islands and Protected Areas of the Gulf of California	22,834	185	24%		
India	Munnar	*Raorchestes chalazodes*		90	Western Ghats	8,165	15	17%		
Côte dIvoire	Mount Nimba (part of Mount Nimba transboundary AZE)	*Arthroleptis crusculum*	Guinea Screeching Frog	272	Mount Nimba Strict Nature Reserve	194	46	17%		

Country/ territory	AZE Name	AZE Trigger Species		AZE Area (km^2)	WHS Name	WHS Area (km^2)	Area of AZE overlapping with WHS		Within 5km buffer	Within 20km buffer
		Scientific name	Common name				km^2	%		
Myanmar	Fen Shui Ling valley	*Picea farreri*		149	Three Parallel Rivers of Yunnan Protected Areas	21,134	23	15%		
Ethiopia	Simien Mountains National Park	*Capra walie*	Walia Ibex	1,086	Simien National Park	133	132	12%		
South Africa	Cedarberg - Koue Bokkeveld complex	*Widdringtonia cedarbergensis*	Clanwilliam Cedar	7,564	Cape Floral Region Protected Areas	5,601	912	12%		
Portugal	Maciço Montanhoso Oriental	*Pterodroma madeira*	Zino's Petrel	33	Laurisilva of Madeira	151	3	10%		
Australia	Barron River Tributaries (Kuranda)	*Litoria myola*		4	Wet Tropics of Queensland	8,988	<1	3%		
					Great Barrier Reef	350,426	-	-		✓
Australia	Bowling Green Bay National Park	*Cophixalus mcdonaldi*	Mcdonald's Frog	582	Great Barrier Reef	350,426	16	3%		
India	Indira Gandhi Wildlife Sanctuary and National Park	*Indirana phrynoderma*		953	Western Ghats	8,165	14	1%		
Liberia	Nimba mountains (part of Mount Nimba transboundary AZE)	*Arthroleptis crusculum*	Guinea Screeching Frog	133	Mount Nimba Strict Nature Reserve	194	<1	<1%		
India	Nilgiri-Naduvattam (Naduvattam IBA)	*Fejervarya murthii*		57	Western Ghats	8,165	<1	<1%		
Madagascar	Anosy Mountains	*Anodonthyla rouxae*		1,274	Rainforests of the Atsinanana	4,811	<1	<1%		
Madagascar	Anjanharibe-Sud-Marjojey Future Proposed Protected Area	*Brachytarsomys villosa*	Hairy-tailed Tree Rat	1,353	Rainforests of the Atsinanana	4,811	<1	<1%		
Brazil	Rio Tacutu	*Synallaxis kollari*	Hoary-throated Spinetail	29,965	Canaima National Park	29,019	-	-	✓	
Costa Rica	Cordillera de Talamanca Norte	*Oedipina altura*		3,009	Talamanca Range-La Amistad Reserves / La Amistad National Park	4,073	-	-	✓	
Ecuador	Yungilla	*Pristimantis pastazensis*		10	Sangay National Park	2,527	-	-	✓	

Country/ territory	AZE Name	AZE Trigger Species		AZE Area (km^2)	WHS Name	WHS Area (km^2)	Area of AZE overlapping with WHS		Within 5km buffer	Within 20km buffer
		Scientific name	Common name				km^2	%		
New Caledonia	Île d'Ouvéa	*Eunymphicus uvaeensis*	Uvea Parakeet	132	Lagoons of New Caledonia: Reef Diversity and Associated Ecosystems	15,752	-	-	✓	
Brazil	Ilhas Queimada Pequena e Queimada Grande	*Scinax peixotoi*		1	Atlantic Forest Southeast Reserves	4,432	-	-		✓
Costa Rica	Barbilla-Pacuare	*Nototriton major*		627	Talamanca Range-La Amistad Reserves / La Amistad National Park	4,073	-	-		✓
Ecuador	Cordillera de Kutukú	*Atelopus halihelos*		1,869	Sangay National Park	2,527	-	-		✓
Gabon	Mount Iboundji	*Werneria iboundji*		10	Ecosystem and Relict Cultural Landscape of Lopé-Okanda	4,945	-	-		✓
Honduras	Sierra de Agalta-Catacamas and surrounding areas	*Hyalinobatrachium crybetes*		688	Río Plátano Biosphere Reserve	5,089	-	-		✓
India	Forests of Gundia	*Indirana gundia*		66	Western Ghats	8,165	-	-		✓
Indonesia	Lubuk Selasi	*Duttaphrynus sumatranus*		9	Tropical Rainforest Heritage of Sumatra	25,977	-	-		✓
Madagascar	Lake Alaotra	*Hapalemur alaotrensis*	Lake Alaotra Gentle Lemur	512	Rainforests of the Atsinanana	4,811	-	-		✓
New Caledonia	Port Boisé	*Araucaria nemorosa*		10	Lagoons of New Caledonia: Reef Diversity and Associated Ecosystems	15,752	-	-		✓
New Caledonia	Plaine des Lacs	*Retrophyllum minus*	Bois Bouchon	1	Lagoons of New Caledonia: Reef Diversity and Associated Ecosystems	15,752	-	-		✓
New Zealand	Upper Waitaki Valley	*Himantopus novaezelandiae*	Black Stilt	358	Te Wahipounamu – South West New Zealand	25,139	-	-		✓
Peru	Cosñipata Valley	*Pristimantis cosnipatae*		858	Manú National Park	17,052	-	-		✓
Peru	6 km south of Ocobamba	*Bryophryne bustamantei*		829	Historic Sanctuary of Machu Picchu	375	-	-		✓

Country/ territory	AZE Name	AZE Trigger Species		AZE Area (km^2)	WHS Name	WHS Area (km^2)	Area of AZE overlapping with WHS		Within 5km buffer	Within 20km buffer
		Scientific name	Common name				km^2	%		
Seychelles	La Digue island	*Terpsiphone corvina*	Seychelles Paradise-flycatcher	12	Vallée de Mai Nature Reserve	<1	-	-		✓
Sri Lanka	Kanneliya Forest Reserve	*Pseudophilautus nemus*		59	Sinharaja Forest Reserve	96	-	-		✓
Sri Lanka	Gannoruwa Forest Reserve	*Pseudophilautus zorro*		12	Central Highlands of Sri Lanka	537	-	-		✓
St Helena	Nightingale Island group	*Nesospiza wilkinsi*	Wilkins's Bunting	4	Gough and Inaccessible Islands	3,918	-	-		✓
St Lucia	Maria Islands Nature Reserve	*Liophis ornatus*	Ornate Ground Snake	<1	Pitons Management Area	19	-	-		✓
St Lucia	Montane Forests	*Leucopeza semperi*	Semper's Warbler	<1	Pitons Management Area	19	-	-		✓
Tanzania	Udzungwa Mountains (NEW)	*Nectophrynoides poyntoni*		5,449	Selous Game Reserve	47,518	-	-		✓
USA	Mauna Kea, Hawaii (Mauna Kea Mamane-Naio Forest IBA)	*Loxioides bailleui*	Palila	212	Hawaii Volcanoes National Park	848	-	-		✓

Bibliography

1. Secretariat of the CBD, The Alliance for Zero Extinction (2010) Memorandum of Cooperation between the Secretariat of the Convention on Biological Diversity and the Alliance for Zero Extinction.

2. The World Bank, Global Environment Facility, BirdLife International, The Alliance for Zero Extinction (2010) Now or Never: Action to Stop Impending Extinctions is Announced. http://www.thegef.org/gef/node/3757. Accessed 15 Nov 2013

3. Langhammer PF, Bakarr MI, Bennun LA, et al (2007) Identification and gap analysis of Key Biodiversity Areas: targets for comprehensive protected area systems Best Practice Protected Area Guidelines Series No. 15. IUCN World Commission on Protected Areas, Gland, Switzerland

4. IFC (2012) Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. International Finance Corporation, Washington DC, U.S.A

5. IFC (2012) Guidance Note 6 Biodiversity Conservation and Sustainable Management of Living Natural Resources. International Finance Corporation, Washington DC, U.S.A

6. World Heritage Convention (1972) Convention concerning the protection of the world cultural and natural heritage. United Nations Educational, Scientific and Cultural Organisation, Paris, France

7. UNESCO World Heritage Centre (2013) The World Heritage Convention. http://whc.unesco.org/en/convention/. Accessed 7 Aug 2013

8. Ricketts TH, Dinerstein E, Boucher T, et al (2005) Pinpointing and preventing imminent extinctions. Proc Natl Acad Sci U S A 102:18497–18501

9. UNESCO World Heritage Centre (2013) Operational Guidelines for the Implementation of the World Heritage Convention. Paris, France

10. BirdLife International (2013) World Bird and Biodiversity Database. Cambridge, UK

11. IUCN and UNEP-WCMC (2013) The World Database on Protected Areas (WDPA) November Release. Cambridge, UK: UNEP-WCMC

Annex

Disclaimer and Release Statement