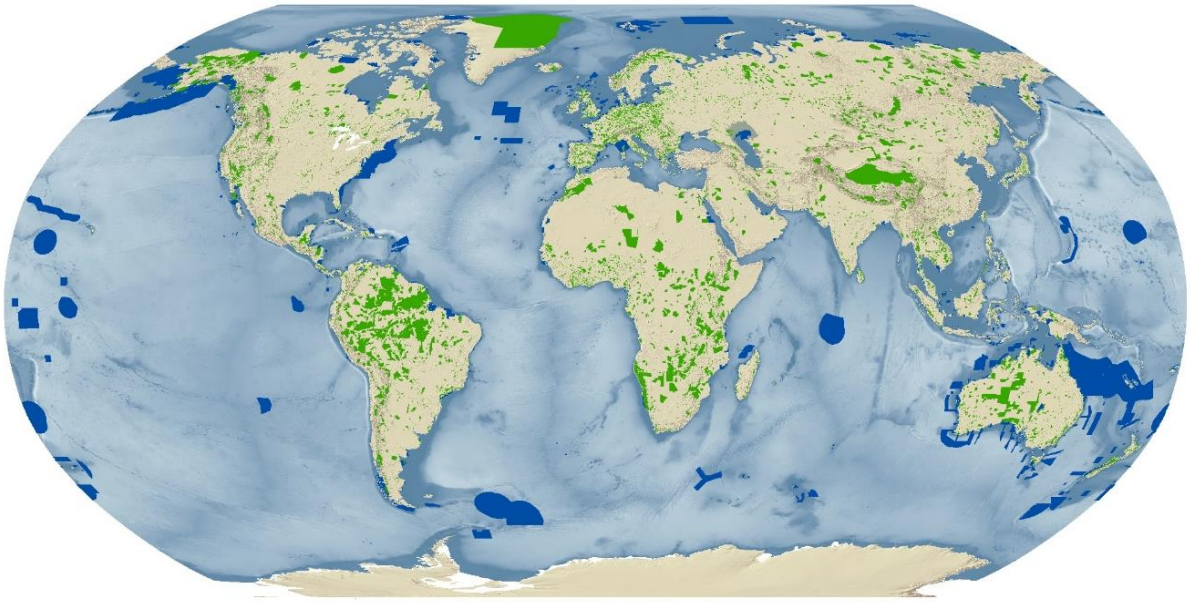
World Database on Protected Areas

User Manual 1.4



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World Database on Protected Areas User Manual 1.4

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Manual at a glance

The World Database on Protected Areas (WDPA) is the only global database of protected areas. It is a joint effort between IUCN and UNEP, managed by UNEP-WCMC, to compile protected area information for all countries in the world from governments and other authoritative organizations which are referred to as data providers. The WDPA underpins Protected Planet at www.protectedplanet.net, where it can be viewed and downloaded and the database is integrated with other relevant information.

This WDPA User Manual provides information and guidance about the data held within the WDPA, including its history, how it is collected, managed and distributed, and how it should be interpreted and used for analyses and research. The Manual has been prepared for WDPA data providers and users. It is structured in 4 sections and includes 6 appendices.

Section 1 is a quick introduction to the WDPA its history and current structure and its relation to IUCN Protected Area Management and Governance standards.

Section 2 describes the WDPA Data Standards which aim is to ensure that the data is supplied in a common format that is globally interoperable and useable.

Section 3 explains how the WDPA is compiled through a quality control process underpinned by the WDPA data standards.

Section 4 addresses the use of the WDPA including how it can be accessed, how it should cited, interpreted and some recommendations on its use.

The WDPA user manual is a dynamic and evolving document. It is recommended that all parties interested in using the WDPA read these guidelines prior to using the WDPA for any analyses that will inform research or decision making. For any queries regarding collation, use, processing of the database, or any feedback regarding this manual please contact protectedareas@unep-wcmc.org.

Shortcuts

What is the WDPA and what sites are included? → **Go to section 1, page 6**

What are the WDPA data standards? → **Go to section 2, page 12**

How is the WDPA compiled and how to submit data? → **Go to section 3, page 17**

How to access and cite the WDPA? → **Go to section 4.1 and 4.3, page 26**

What are the conditions of use? → **Go to section 4.2, page 27**

How do I use the WDPA for analyses? → **Go to section 4.5, page 28**

1. What is the World Database on Protected Areas?

1.1. Background and History

The World Database on Protected Areas (WDPA) is a joint project between the United Nations Environment Programme (UNEP) and the International Union for Conservation of Nature (IUCN). It is compiled and managed by the UNEP World Conservation Monitoring Centre (UNEP-WCMC), in collaboration with governments, non-governmental organisations, academia and industry. The WDPA is the most comprehensive global database of marine and terrestrial protected areas, comprising both spatial data (i.e. boundaries and points) with associated attribute data (i.e. tabular information). It is made available online through Protected Planet (www.protectedplanet.net) where the data is both viewable and downloadable.

The WDPA was established in 1981, but the mandate for the database dates back from 1959 when **the United Nations (UN) Economic and Social Council called for a list of national parks and equivalent reserves in recognition that they '*are valuable for economic and scientific reasons and also as areas for the future preservation of fauna and flora and geologic structures in their natural state*' Resolution 713 (XXVIII).** The first UN List of Protected Areas, as it became known, was subsequently published in 1962.

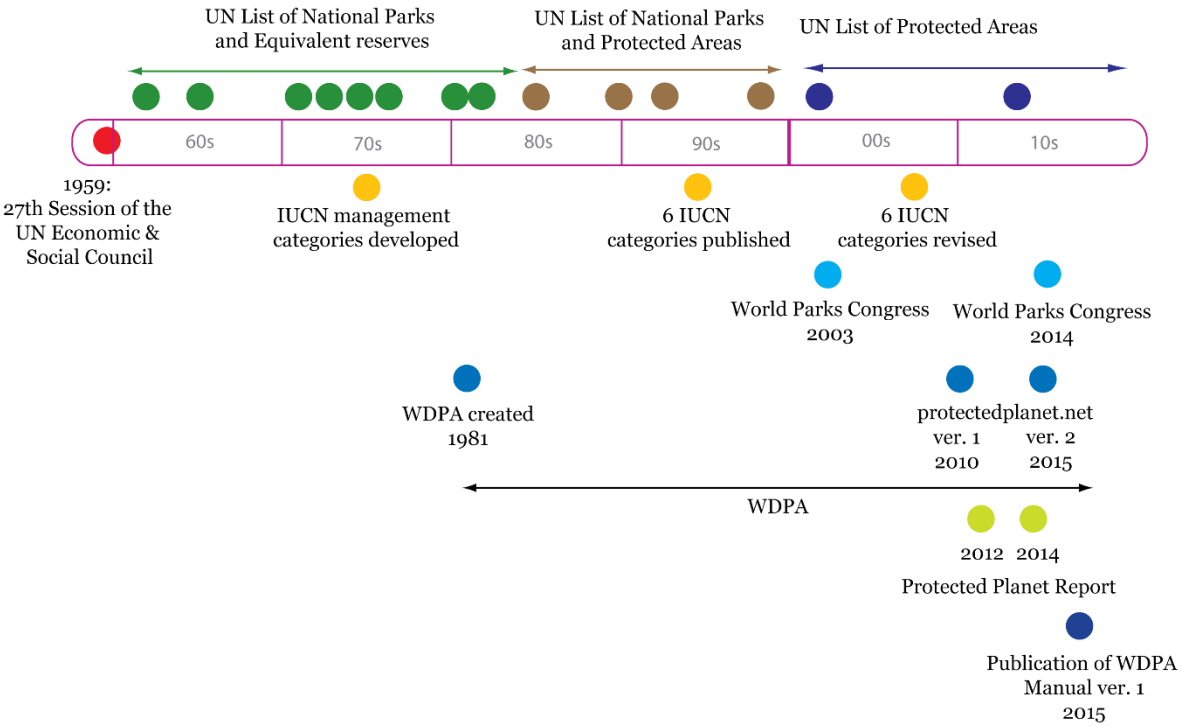

Figure 1.1 History of the World Database on Protected Areas

The WDPA history is also linked to the IUCN Protected Areas Management Categories, first published in 1994 and updated in 2008, which have been recorded since its publication in the UN list and later in the WDPA digital format. The online interface of the WDPA (www.protectedplanet.net) was launched in 2010 and upgraded in 2015. Also in 2015, the WDPA structure and protocols were updated to allow it to better incorporate information on protected areas under the governance of private entities, local communities, and indigenous peoples. In recent years, some key products have been released together with the publications of the latest UN List of Protected Areas (Deguignet et al. 2014). For example the global Protected Planet Reports which were launched in 2012,2014, and 2016 (Bertzky et al., 2014; Juffe-Bignoli et al. 2014a; UNEP-WCMC and IUCN 2016),the first regional Asia Protected Planet Report (Juffe-Bignoli et al. 2014b) and the Protected Planet National Technical Series for the Republic of Korea (UNEP-WCMC and KNPS 2016). In September 2016, Global Databases to Support ICCAS: a Manual for Indigenous Peoples and Local Communities was released (UNEP-WCMC 2016) which provides specific guidance for data collection of indigenous peoples' and community conserved territories and areas (ICCAs).

1.2. The WDPA today

Today, the UN List is incorporated into the WDPA. In addition, over the past decades, the WDPA has evolved to a more comprehensive dataset and is now the only database on the world's protected areas. The WDPA is compiled in collaboration with a wide range of governmental and non-governmental organizations which submit protected area data to UNEP-WCMC. These are referred to in this document as data providers. In order to be included in the database, the data delivered by data providers must comply with specific standards. The WDPA data standards are explained in detail in section 2. Section 3 of this manual describes how the data is collected, verified, and harmonised to be incorporated into the WDPA. The WDPA has also an ample range of users that span from researchers to the private sector including NGOs and international institutions (See section 4).

Our vision is a world where the global community recognises the value of protected areas (PA), and other effective area-based conservation measures (OECMs), and their contribution to achieve conservation and development goals, and is empowered to take positive action to maintain and improve their integrity in the face of global change taking decisions based on the best possible information.

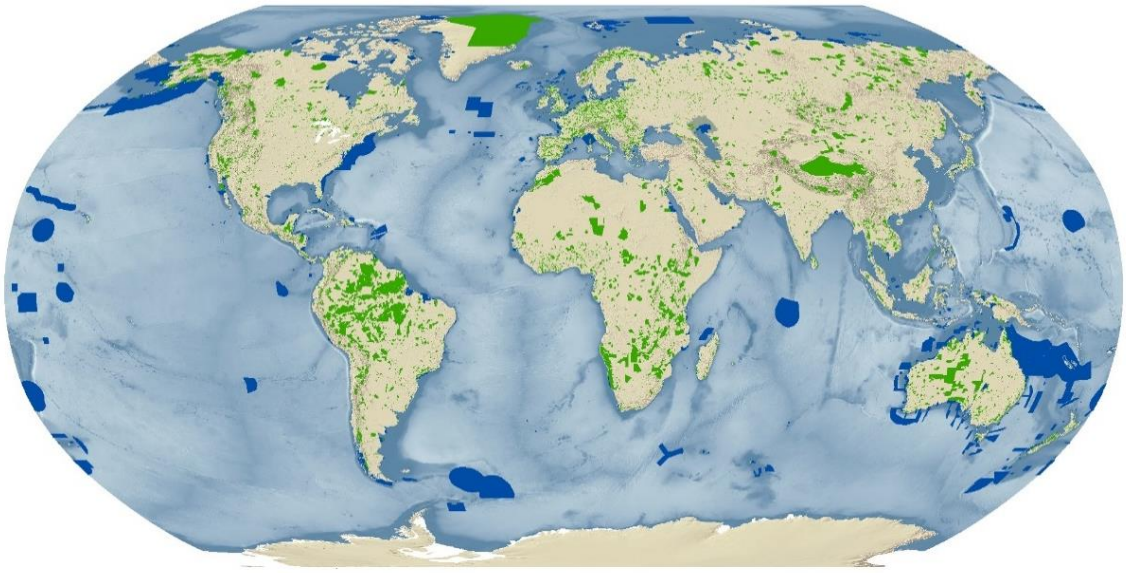

Figure 1.2 The World Database on Protected Areas as of April 2016.

1.3. Sites included in the WDPA

In 2010, the countries of the world agreed on the Convention on Biological Diversity (CBD) Strategic Plan 2010-2020 to halt biodiversity loss and ensure the sustainable use of natural resources (CBD 2010). The plan includes 20 Aichi Biodiversity Targets to be met by 2020 and acknowledges the central role of protected areas in meeting biodiversity conservation goals. Target 11 sets out a series of equally important and necessary elements that a global protected area network should deliver*: By 2020, at least 17 per cent of terrestrial and inland water areas and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascape (CBD, 2010).*

The WDPA accepts data on protected areas according to the IUCN definition of a protected area (see section 1.3.1.). A value of '1' in the PA_DEF field indicates that a record meets this definition. In the future, when the WDPA begins to include OECMs (see section 1.3.2), if these areas are not considered to meet the protected area definition they will be given a value of '0'.

UNEP-WCMC accepts the assurance of governments that all the data they submit to the WDPA team meets the standard definition of protected areas.

1.3.1. Sites that meet the standard definition of protected areas

The WDPA includes a wide range of protected areas, including national protected areas recognised by the government, areas designated under regional and international conventions, privately protected areas and indigenous peoples' and community conserved territories and areas. The

WDPA uses the IUCN and Convention on Biological Diversity (CBD) definitions of protected areas to determine whether a site should be labeled as "protected area" in the WDPA:

IUCN definition:

"*A protected area is a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long term conservation of nature with associated ecosystem services and cultural values*." (Dudley 2008)

CBD definition:

"A geographically defined area, which is designated or regulated and managed to achieve specific conservation objectives" (Article 2 of the Convention on Biological Diversity). This definition is further expanded upon under Article 8 of the dame convention.

There is agreement between the CBD Secretariat and IUCN that both definitions have the same meaning (Lopoukhine and Dias 2012).

1.3.2. Sites that do not meet the standard definition of protected areas

The IUCN and CBD definitions of a protected area may not capture other areas that might have a positive contribution to conservation. The existence of these areas is recognized by the Aichi Biodiversity Target 11 element "…other effective area-based conservation measures". There is as yet no agreed methodology to identify these areas, and there is no global database that compiles records of such sites.

UNEP-WCMC is participating in an IUCN World Commission on Protected Areas task force that aims to define 'other effective area-based conservation measures' (OECMs). Depending on the recommendations of the task force, these areas may eventually be included in the WDPA alongside protected areas.

To inform the work of the task force, UNEP-WCMC is gathering data on potential OECMs on which to conduct analyses. Submissions of potential OECM datasets (i.e. any sites that are not considered to be protected areas, but are still considered part of a conservation system) are appreciated. These datasets should be provided in the format of the WDPA schema where possible. For more information, contact protectedareas@unep-wcmc.org.

1.4. IUCN Standards in the WDPA

The IUCN Protected Area Management Categories help classify protected areas based on their primary management objectives (Dudley 2008), while the IUCN Governance Types classify protected areas according to who holds authority, responsibility and accountability for them (Borrini-Feyerabend et al. 2013). The relationship between management categories and governance types is

shown in Table 1.1. This relationship does not include ownership, which is often independent of governance and management structures.

Table 1.1. The IUCN Protected Area Management Category and Governance Type matrix Source: Borrini-Feyerabend et al. 2013

Governance types / **Protected area categories**	A. Governance by government			B. Shared governance			C. Private governance			D. Governance by indigenous peoples and local communities	
	Federal or national ministry or agency in charge	Sub-national ministry or agency in charge	Government-delegated management (e.g., to an NGO)	Transboundary management	Collaborative management (various forms of pluralist influence)	Joint management (pluralist management board)	Declared and run by individual land-owner	...by non-profit organizations (e.g., NGOs, universities, co-operatives)	...by for-profit organizations (e.g., individual or corporate landowners)	Indigenous peoples' conserved areas and territories – established and run by indigenous peoples	Community conserved areas – declared and run by local communities
I a. Strict Nature Reserve											
Ib. Wilderness Area											
II. National Park											
III. Natural Monument											
IV. Habitat/ Species Management											
V. Protected Landscape/ Seascape											
VI. Managed Resource Protected Area											

The WDPA stores both management categories and governance types as reported by the data provider. In August 2014, about 65% of the number of protected areas in the WDPA have an IUCN Management Category, and 88% had a governance type (Juffe-Bignoli et al. 2014). UNEP-WCMC encourages the adoption of the IUCN standards but does not assign or question the application of the categories by countries.

While the use of the IUCN Protected Area Management Categories system is voluntary, it is widely accepted as a standard and used by many countries. Categorising protected areas under the IUCN Protected Area Management Categories assists in facilitating comparisons between countries for research purposes and reduces the confusion that has arisen from the adoption of many different terms and designations that describe the same kind of protected areas in different parts of the world.

There are still many protected areas for which there is no IUCN Protected Area Management Category assigned. The absence of a management category does not in any way reduce the

importance of a protected area, nor does it imply that the site is not being adequately managed or should be excluded from analyses.

1.5. WDPA Data Structure

The World Database on Protected Areas (WDPA) is stored as a file geodatabase comprising two datasets and one source table (Figure 1.3).

- **Two feature classes:** one with polygons and with points; both with associated spatial and tabular information of protected areas key attributes (See section 2). As of January 2016, the WDPA includes data on 217,955 protected areas of which 91% were polygons and 9% points.
- **One source table:** the WPDA source table describes the source of the data in the WDPA, containing information on the data provider, currency of dataset and other metadata (See section 2).

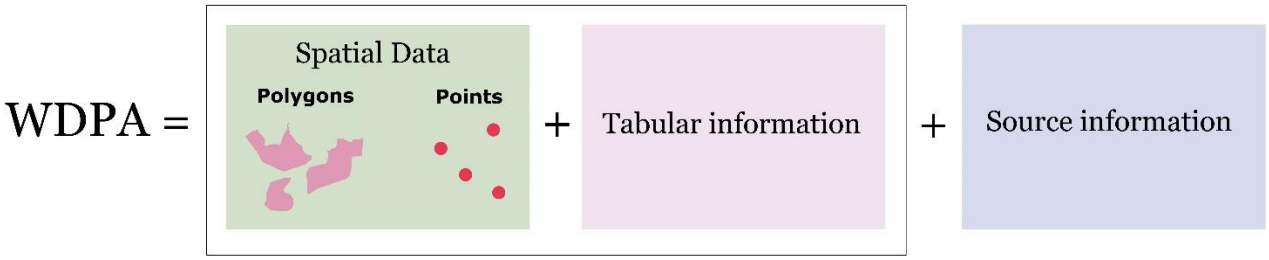

Figure 1.3 Structure of the World Database on Protected Areas

The WDPA ID is the globally unique identifier for each protected area in the WDPA and as such acts as the parent identifier of the database. Thus, it is specific to a protected area in a specified geographical space, and does not change over time unless the designation for that protected area changes or disappears. It is important to note that different designations of protected areas may occupy the same geographical space in which case each of these will have a different WDPA ID. For example, Yellowstone National Park in the United States is a National Park, but it is also a natural World Heritage site. Each designation will have a different WDPA ID. For more information on the WDPA ID see section 2.2 and Appendix 1. In addition, and linked to the WDPA ID, the WDPA PID (Parcel ID) allows the identification of parcels (also known as zones) within a protected area. A detailed description of both attributes is available in Appendix 1.

2. WDPA Data standards

Data in the WDPA must meet the WDPA data standards. These were developed in 2010, regularly updated and subsequently revised in 2015 to ensure consistency in the way the WDPA is compiled checked, managed, and presented. Standards are important to ensure all information is supplied in a common format that is interoperable and useful for a wide variety of reporting and analytical purposes. Box 2.1 summarises the four key requirements that need to be met to comply with the WDPA data standards. This section provides specific details for each of these requirements.

Box 2.1. Four requirements to meet the WDPA data standards

1. All sites must meet the IUCN definition of a protected area
2. Spatial data from Geographic Information Systems (GIS) and an associated list of attributes must be provided
3. Source of information must be provided
4. The WDPA Data Contributor Agreement must be signed

2.1. Spatial data

The WDPA is based on the Geographic Coordinate System: World Geodetic Survey (WGS) 1984. Each protected area in the WDPA is either represented as a polygon boundary, or if unavailable, a point location. This will depend on the nature of the data provided by the source. A maximum of two feature classes should be submitted – one containing all the polygon data and the other all the point data for any protected areas without boundary data. A data submission will only be accepted if a geographic location is provided, preferably as a spatial boundary.

Polygon Data

Polygon data represents the boundary of the protected area as submitted by the data provider. A polygon may be single-part, or multi-part, where there are multiple non-connecting parts associated with the same protected area. A multi-part polygon accounts for only one WDPA ID in the attribute table (see Figure 2.1).

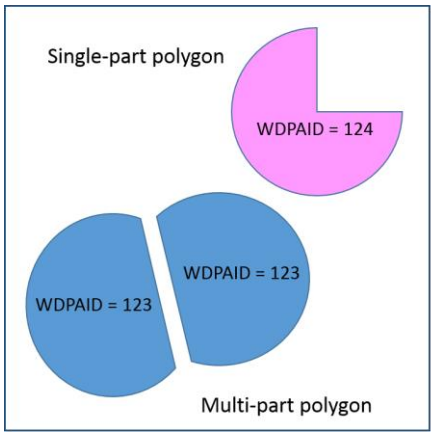

Figure 2.1. Single-part and multi-part polygons

Point Data

Where boundary data is unavailable, the latitude and longitude of the centermost point of the site is requested as a reference point for the protected area instead. Although this is strongly encouraged, data providers are not always able to submit such information. Therefore, it should not be assumed that all points in the WDPA represent a central point of a given site. If the protected area is made up of multiple parts, multi-points associated with the central locations of each part of the protected area may be stored instead (see Figure 2.2).

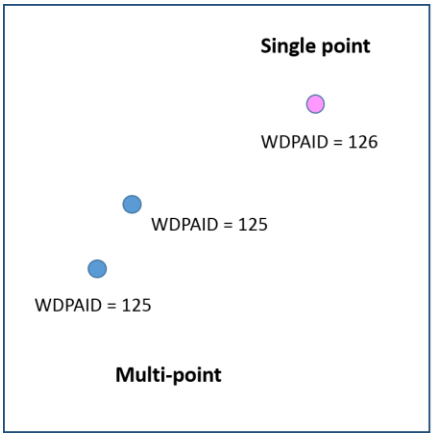

Figure 2.2. Single points and multi-points

2.2. Attribute Data

The WDPA storesup to 29 descriptors, refered to as data attributes, which descibe each record in the WDPA. The WDPA data attributes are the tabular fields associated tothe WDPA point and polygon features. The attributes have been classified as *minimum* and *complete* attributes:

- **A '*minimum*' attribute** represents information that is mandatory for any spatial dataset to be integrated in the WDPA. **A data submission will only be accepted if all minimum attributes are provided.**
- **A '*complete*' attribute** represents any information that is considered a priority for analysis and reporting on protected areas, and therefore are a priority for integrating in the WDPA. The complete fields significantly improve the capacity to conduct thorough analysis on protected areas. **Data providers are encouraged to submit this information in addition to the minimum required attributes.**

The WDPA attribute data are summarised in Table 2.1 and described in detail in Appendix 1.

Table 2.1 Summarised description and allowed values for the WDPA attributes (Version 1.4). For detailed descriptions see Appendix 1 .

No	Requirement	Provided by	Field Name	Type	Length	Accepted values
1	Minimum	UNEP-WCMC	WDPAID	Number (Double)	N/A	Assigned by UNEP-WCMC. Unique identifier for a protected Area.
2	Minimum	UNEP-WCMC	WDPA_PID	Text (String)	52	Assigned by UNEP-WCMC. Unique identifier for parcels or zones within a protected area.
3	Minimum	Data provider	PA_DEF	Text (String)	20	**Allowed values:** 1 (meets IUCN and/or CBD PA definition); 0 (does not meet IUCN and/or CBD PA definition (currently stored outside WDPA)).
4	Minimum	Data provider	NAME	Text (String)	254	Name of the protected area (PA) as provided by the data provider.
5	Minimum	Data provider	ORIG_NAME	Text (String)	254	Name of the protected area in original language.
6	Minimum	Data provider	DESIG	Text (String)	254	Name of designation.
7	Complete	Data provider	DESIG_ENG	Text (String)	254	Designation in English. **Allowed values for international-level designations:** Ramsar Site, Wetland of International Importance; UNESCO-MAB Biosphere Reserve; World Heritage Site. **Allowed values for regional-level designations:** Baltic Sea Protected Area (HELCOM); Specially Protected Area (Cartagena Convention); Marine Protected Area (CCAMLR); Marine Protected Area (OSPAR); Site of Community Importance (Habitats Directive); Special Protection Area (Birds Directive); Specially Protected Areas of Mediterranean Importance (Barcelona Convention). No fixed values for protected areas designated at a national level.
8	Minimum	Data provider	DESIG_TYPE	Text (String)	20	**Allowed values:** National, Regional, International, Not Applicable
9	Complete	Data provider	IUCN_CAT	Text (String)	20	**Allowed values:** Ia, Ib, II, III, IV, V, VI, Not Applicable, Not Assigned, Not Reported
10	Minimum	UNEP-WCMC	INT_CRIT	Text (String)	100	Assigned by UNEP-WCMC. For World Heritage and Ramsar sites only.
11	Minimum	Data provider	MARINE	Text (String)	20	**Allowed values:** 0 (100% Terrestrial PA), 1 (Coastal: marine and terrestrial PA), and 2 (100 % marine PA).
12	Minimum	Data provider	REP_M__AREA	Number (Double)	N/A	Marine area in square kilometers.
13	Minimum	UNEP-WCMC	GIS_M_AREA	Number (Double)	N/A	Assigned by UNEP-WCMC.
14	Minimum	Data provider	REP_AREA	Number (Double)	N/A	Area in square kilometers.
15	Minimum	UNEP-WCMC	GIS_AREA	Number (Double)	N/A	Assigned by UNEP-WCMC.
16	Complete	Data provider	NO_TAKE	Text (String)	50	**Allowed values:** All, Part, None, Not Reported, Not Applicable (if Marine field = 0).

No	Requirement	Provided by	Field Name	Type	Length	Accepted values
17	Complete	Data provider	NO_TK_AREA	Number (Double)	N/A	Area of the no-take area in square kilometers
18	Minimum	Data provider	STATUS	Text (String)	100	**Allowed values:** Proposed, Inscribed, Adopted, Designated, Established.
19	Minimum	Data provider	STATUS_YR	Number (Long Integer)	12	Year of enactment of status (STATUS field).
20	Complete	Data provider	GOV_TYPE	Text (String)	254	**Allowed values:** Federal or national ministry or agency, Sub-national ministry or agency, Government-delegated management, Transboundary governance, Collaborative governance, Joint governance, Individual landowners, Non-profit organisations, For-profit organisations, Indigenous peoples, Local communities, Not Reported.
21	Complete	Data provider	OWN_TYPE	Text (String)	254	**Allowed values:** State, Communal, Individual landowners, For-profit organisations, Non-profit organisations, Joint ownership, Multiple ownership, Contested, Not Reported.
22	Complete	Data provider	MANG_AUTH	Text (String)	254	Individual or group that manages the protected area.
23	Complete	Data provider	MANG_PLAN	Text (String)	254	Link or reference to the protected area's management plan.
24	Minimum	UNEP-WCMC	VERIF	Text (String)	20	Assigned by UNEP-WCMC. Fixed values: State Verified, Expert Verified, Not Reported (for unverified data that was already in the WDPA prior to the inclusion of the 'Verification' field).
25	Minimum	UNEP-WCMC	RESTRICT	Text (String)	20	Not publicly available, for UNEP-WCMC use only.
26	Minimum	UNEP-WCMC	METADATAID	Number (Long Integer)	12	Assigned by UNEP-WCMC. Link to source table.
27	Complete	Data provider	SUB_LOC	Text (String)	100	**Allowed values:** ISO 3166-2 sub-national code where the PA is located.
28	Minimum	Data provider	PARENT_ISO3	Text (String)	20	**Allowed values:** ISO 3166-3 character code of country where the PA is located.
29	Minimum	Data provider	ISO3	Text (String)	20	**Allowed values:** ISO 3166-3 character code of country or territory where the PA is located.

2.3. Source information

Recording accurate source information in the WDPA is important to ensure that ownership of the data is maintained and traceable. Source information includes details on the data provider and currency of the data at the time it was provided. This information is stored in the WDPA Source Table and linked to the WDPA by the 'Metadata ID'. **A data submission will only be accepted if the source information is provided.**

The WDPA Source Table conforms to the minimum geographic information and services standards for metadata as described by the International Organization for Standardization (ISO)[1]. Guidance and definitions on the source information requirements can be found in Appendix 1. The source table also includes information on the party responsible for verifying the data, where relevant. This information is completed by UNEP-WCMC in collaboration with the data verifier.

2.4. Data Contributor Agreement

Data contributors who provide data for inclusion in the WDPA are requested to sign the WDPA Data Contributor Agreement. This ensures that there is a written record of the data provider agreeing for their intellectual property (IP) to be included in the WPDA and the terms for which it is made available. The agreement specifically states how the data provided will be used and that and redistribution or use of the data by third parties will be subject to the WDPA Terms of Use.

The data contributor agreement will be provided by UNEP-WCMC and should be signed before a new dataset is published. A data submission will only be accepted if the WDPA Data Contributor Agreement is signed. A template of the agreement is available on request from protectedareas@unep-wcmc.org.

[1] ISO (2009) Standards Guide – ISO/TC 211 Geographic Information/Geomatics. 2009-06-01. www.isotc211.org/Outreach/ISO_TC_211_Standards_Guide.pdf

3. How is the WDPA compiled?

The WDPA is compiled in collaboration with a wide range of governmental and non-governmental organizations which submit protected area data to UNEP-WCMC. All data included in the WDPA must meet the WDPA data standards. The process of formatting and validating the data to include it in the WDPA can take from a few days to several weeks, after of which the WDPA is made available through Protected Planet: www.protectedplanet.net (Figure 3.1).

This section describes the different data providers, explains the frequency on which the data is requested, and describes the process for submitting and validating the data included in the WDPA.

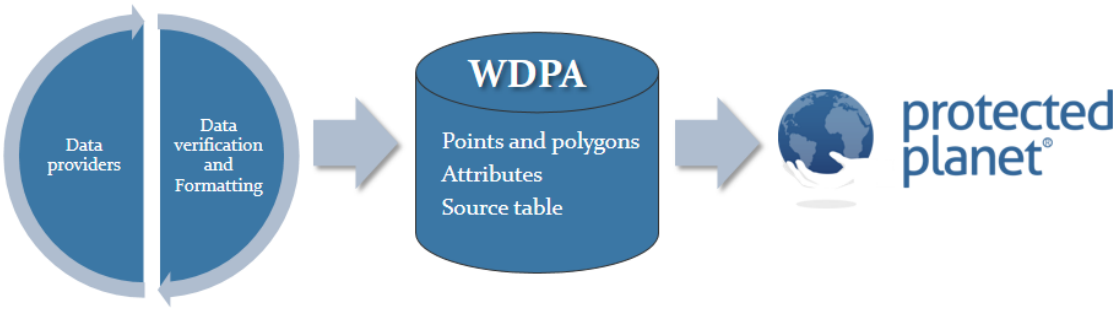

Figure 3.1 The WDPA workflow: UNEP-WCMC works with closely with data providers to verify, improve, and format the protected areas datasets to comply with the WDPA data standards. Data is then integrated into the WDPA and made available online through www.protectedplanet.net.

3.1. Data providers

The WDPA is sourced by over 600 data providers ranging from governments to individuals. All data is provided by the entity with the intellectual property (IP) rights in the data itself and this is not conferred to UNEP-WCMC, IUCN or any third-party user of the WDPA. All IP right holders are protected by the WDPA Terms of Use (section 4.2.). There are currently five main source types for data included in the WDPA:

1. **Governmental**: these include national governments and sub-national agencies that manage statutory protected area data.
2. **International secretariats:** secretariats from international conventions and agreements such as the Ramsar Convention, World Heritage Convention or UNESCO Man and the Biosphere Programme.
3. **Regional entities:** These include organizations that manage data on regional protected area networks such as the European Environment Agency who manage Europe's Natura 2000 database.

4. **NGOs:** these include data providers that manage protected areas designated by the NGO itself, or in collaboration with another governance type, such as a private landowner or government agency, where the NGO also maintains some or all of the intellectual property in the data.
5. **Other entities or individuals:** this category includes the range of data providers that govern or manage protected areas outside of the primary types listed above. This can include individual landowners managing their land in perpetuity for biodiversity conservation as a land trust or other private protected area type. This can also include protected areas data representing sites governed and managed by communities, indigenous groups and institutions outside of a statutory protected area network.

When data is collected from any of these sources UNEP-WCMC asks that the data is supplied using the WDPA data standards. All data included in the WDPA is approved by the data provider prior to any dissemination or use.

3.1.1 Benefits for countries of submitting data

In addition to the creation of the UN List of Protected areas, the WDPA is used to calculate indicators related to several international processes. This includes indicators for the Convention on Biological Diversity, Sustainable Development Goals and IPBES (See Box 4.1). Moreover, there are several ways in which countries can benefit from providing data to the WDPA:

- **Inventory of national data:** At the national level, protected areas might be managed by different institutions and/or governmental agencies, including community groups and private conservancies. Providing data to the WDPA enables countries to have a clearer picture of their protected areas network as a whole, through compiling within one single database multiple datasets. Furthermore, countries can access their protected areas data which can be viewed on a single map through www.protectedplanet.net and downloaded.
- **Capacity building**: Help is provided to countries through capacity building to ensure the accuracy and completeness of their protected areas data and information. Training can be provided by UNEP-WCMC to strengthen skills on protected database management, the basics of GIS, or in any other relevant areas if needed and as requested by the data provider.
- **Contribute to scientific research/Highlight gaps:** Through the use of the WDPA in scientific research, gaps in protected area networks can be identified and highlighted. Using knowledge on the distribution of areas important for biodiversity and ecosystem services and threats to them, alongside spatial information on aspects of the national infrastructure such as roads, cities and planning zones, systematic conservation planning can be undertaken to identify the most suitable places for the establishment of new protected areas in the country, to better achieve other important elements of Aichi Biodiversity Target 11 such as representativity and connectivity.
- **Standardization of the information:** Through providing systematic information to the WDPA, countries are guaranteed to hold a minimum amount of information for all of their

sites designated as protected areas, in a standardized and usable way, and increases the quality of their PA datasets.

- **Regional observatories**: Improve provision of protected area information at the regional level, through the creation of regional observatories, such as the ASEAN centre for biodiversity, the European Environment Agency and the BIOPAMA Regional Observatories in Africa, the Caribbean and the Pacific. This has the additional benefit of building partnerships between countries in a region and building capacity through knowledge transfer.

3.1.2. Frequency of requests to data providers and selection criteria

One of the key aims of the WDPA is to accurately reflect the coverage of protected areas within a country or region. For this reason UNEP-WCMC formally contacts data providers to request updated data.

Although data providers are welcome to provide an update of their protected areas when this becomes available, UNEP-WCMC aims that data for a particular country should be updated every 5 years. The criteria used to select countries for updates are as follows:

- **Countries where the quality of the data is poor:** of particular importance is finding boundary data for protected areas where only point locations are currently known. The quality of data is determined by the currency of the dataset, the completion of minimum attributes and the percentage of polygons versus points (see section 3.3).

- **Countries that are identified as priorities** by UNEP-WCMC and its partners due to low quality data, recent expansion of their protected areas system (e.g. creation of a number of Marine Protected Areas).

- **Countries and protected areas for which a formal agreement exists for UNEP-WCMC to regularly update this data:** formal agreements exist that cover, for example, all of the European Environment Agency countries, Australia, the USA, Canada, South Korea and World Heritage sites.

- **New, highly significant protected areas**: due to their size, biodiversity importance or other factor, are prioritized by UNEP-WCMC for inclusion in the WDPA on a regular basis. For example, new World Heritage sites.

3.1.3. Submitting data to the WDPA

Although anyone can submit data to the WDPA, the governance and/or management authority for the protected area(s) have priority over data submissions of the same protected area(s) from other sources. When the governance authority is not able to provide an update due to lack of capacity, lack of data or other prohibitive circumstance, they may suggest another provider to be contacted for an update. **Only one version of any protected area is stored in the WDPA.**

The process for a data provider to submit new data to the WDPA will vary depending on the type of data provider and whether a relationship with the data provider already exists, but it includes:

1. Review the current WDPA data included in the WDPA Data Submission Pack provided to the prospective data provider; or review the data online at www.protectedplanet.net

2. Prepare a new protected area dataset that complies with the WDPA Data Standards (see section 2). Data providers can use the WDPA Schema and subset of data provided in the Data Submission Pack (see Box 3.1) to complete this step as well as adding any new or updated data to the schema in place of the old data. The schema is provided to make this step easier for the data provider.

3. Send the following compulsory data to **protectedareas@unep-wcmc.org**:

    - **Spatial data and associated WDPA attributes:** either a polygon boundary or the central latitude and longitude point for each protected area.

    - **WDPA Source Table** must be completed to identify who provided the data, and any basic details on the quality and currency of the data at the time it was provided.

    - **WDPA Data Contributor Agreement** must be signed.

Box 3.1 The Data Submission Pack

The Data Submission Pack is usually sent to first time data providers. It includes the following documents:

- Subset of protected areas data already stored in the WDPA.
- WDPA Data Manual.
- Blank WDPA shapefile schema (see Table 2.1).
- WDPA Source Table (see Appendix 1).
- WDPA Terms of Use (See section 4.2).
- WDPA Data Contributor Agreement (see Appendix 2).

Please contact the WDPA team at protectedareas@unep-wcmc.org for further information on data submission and/or to receive a data submission pack.

It is best if a data provider shares a comprehensive GIS dataset, preferably as a file geodatabase, for the protected area network that they represent; e.g. National Parks or the country-wide protected area network. This should include the required spatial and attribute data.

The WDPA team reserves the right to validate all data provided to the WDPA. UNEP-WCMC recommends that data providers other than the governance /management authority consider discussing proposed changes and updates with the governance/management authority for the

protected area(s) and submit the update jointly or have the governance/management authority submit the update directly after changing it in their own authoritative dataset.

3.1.4. Difference between national statistics and statistics reported through the WDPA

Statistics calculated from the WDPA may differ from national statistics. Different reasons for this include:

- **Difference in the methods used for digitizing a protected area:** this includes differences in the scale, references to the administrative boundaries, resolution of the layer, coordinate system or geographic projection; all of which will have a great influence on the accuracy of the data. This might also explain differences in area measurements.
- **Difference in methodologies to calculate protected area coverage:** National statistics and WDPA statistics might differ due to difference in what is considered as protected areas, methods followed to calculate the area, and datasets used to assess protected area coverage.
- **Accuracy of data in the WDPA:** When data provided to the WPDA are not up-to-date, statistics calculated from the WDPA might be under- or mis-representing the real national coverage.
- **Gaps in protected area data:** In cases where information on protected areas from a country are managed by multiple agencies, the information reported through nationally or WDPA generated statistics might be different due to communication gaps between the different parties.
- **Non-government data providers:** in analyses of the WDPA, including data where the VERIF field = 'Expert Verified' may lead to differences with the national government's statistics. When UNEP-WCMC produces statistics on protected areas as reported by governments, these protected areas that are expert verified might be temporarily removed from the dataset. See section 3.2.3 for more information.

3.2. Data verification and formatting of the WPDA

When submission of new data has been completed, the data follows a number of phases aimed to 1) Standardise the information received by data providers to make it compatible with the WDPA data standards; 2) Ensure the data submitted is verified by an authoritative source (in cases of non-government data providers only). Once this is achieved the new data is integrated into the WDPA (Figure 3.2).

Only one version of the same protected area will be stored in the WDPA. This section explains in detail the process from when data is received up to its integration in the WDPA and the decisions made when verifying the data.

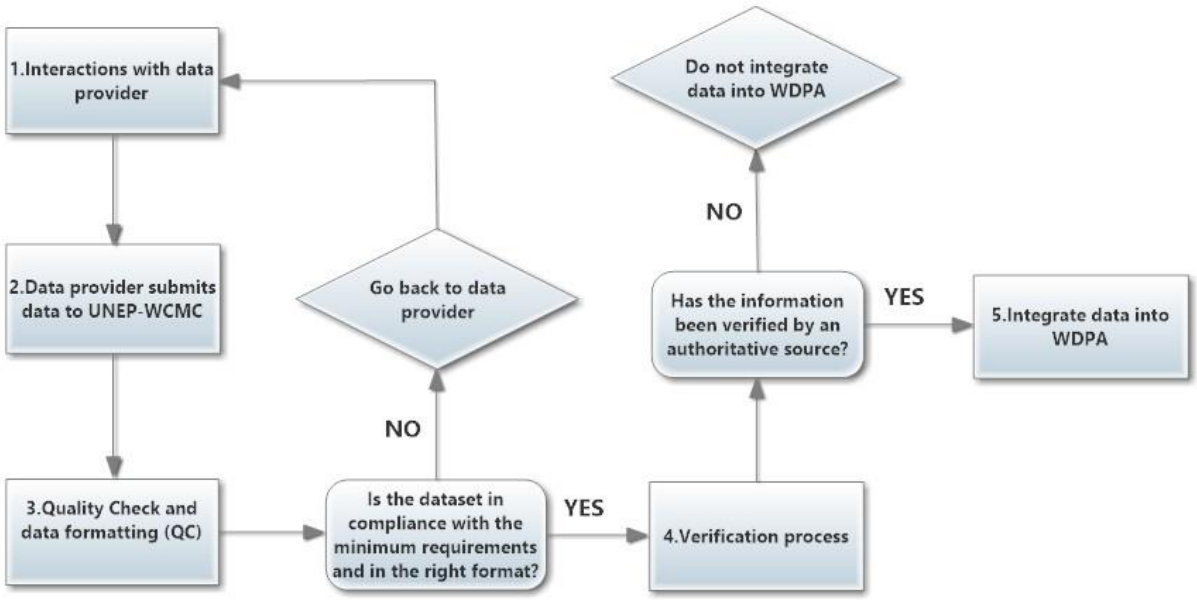

Figure 3.2. Key phases for verification and formatting of spatial and tabular data before being integrated in the WDPA.

3.2.1. Interactions with data provider

This phase involves liaising with the data provider(s) and commencing interactions to obtain updated data on protected areas. This phase can take between a few weeks to months depending on the response of data provider. UNEP-WCMC holds long term relationships with data providers through the data contributor agreements as explained in section 2.4.

3.2.2. Quality checking and data formatting

All incoming data are subject to a series of quality checks and reformatting to ensure the data meets the WDPA data standards (see section 2). This phase can take from a few days to several weeks depending on the quality of the data received. The data first goes through a list of quality checks to ensure that attributes have been completed appropriately, source information has been provided, and spatial data is free of issues (Appendix 3). Subsequently, data is compared to the data already in the WDPA and cross-checked with the data provider until the final dataset is agreed.

The most efficient updates are those in which the format fits the WDPA Schema, and that contains at least the minimum required attributes and the appropriate information for the WDPA Source Table.

Due to the inherent variability of data submitted by a wide range of data providers with different capacity and resources to digitize protected area boundaries, issues with the accuracy of the WDPA data should be expected. For more information about common issues with the data see section 4: Using the WDPA.

3.2.3. Verification process

The WDA will only store one version of a given protected area and all records in the WDPA should be verified by an authoritative source. The WDPA field 'Verification' (VERIF) allows three values: State Verified, Expert Verified, and Not Reported (for unverified data that was already in the WDPA prior to the inclusion of the 'Verification' field). The name and contact details of the verifier will be stored in the WDPA source table. A detailed description of these fields is available in Appendix 1.

The role of data verifiers is to confirm that, to the best of their knowledge, the data provider has submitted correct information. They will also be asked to raise any concerns they have relating to data accuracy and to the process by which the data have been collected (including issues of free, prior and informed consent).

The data verification process is in the early stages of implementation and will be refined and further developed in future updates of the WDPA manual. Basic principles for verification of the WDPA data are summarized in Table 3.1.

Table 3.1 Basic principles for verification of the WDPA data.

Data submitted by governmental sources	The WDPA is underpinned by a United Nations mandate (Appendix 6).Data submitted by governmental sources will be considered as 'State Verified' and will be included in the WDPA after data formatting and quality control.
Data submitted by non-governmental sources	Incoming data from non-government data providers undergoes a verification process before being added to the WDPA. Data can be verified either by state verifiers or by expert verifiers, depending on the wishes of the data provider. The VERIF attribute differentiates between "state verified" and "expert verified" data If neither party can verify the data, it does not enter the WDPA.
Resolution of conflicting data	Where there is conflict between the opinions of the data provider and data verifier (for example, disputes over the correct boundary of a site), this will be discussed with both parties in an attempt to reach a solution. Data providers are made aware of the verification process before submitting data, and are kept informed of its progress. In cases where no resolution can be found, data cannot enter the WDPA.
Frequency of data verification	Expert Verified data will aim to undergo a five-yearly review process. During this process, the data provider is contacted and asked to confirm that the data remains accurate. If the data provider cannot be reached, the data verifier is contacted. If there is a negative response, or if no response is received within five years, then the data is removed from the WDPA.

3.2.4. Integrating Data into the WDPA

Once a dataset has been formatted, verified and conforms to all aspects of the WDPA Data Standard, it is integrated into the WPDA. If the data provided is a complete update for a particular protected area the new dataset will completely replace the existing data in the WDPA. Any protected areas

within the WDPA that are not provided by the new dataset, will be sent to the data provider for approval to remove the outlying sites from the WDPA.

The final dataset that is integrated into the WDPA, and any protected areas that have been removed from the WDPA are sent back to the data provider for final verification. **Data providers are encouraged to retain WDPA IDs in their own datasets so future updates are more efficient.**

3.3. Assessing the quality of the WDPA and public release

A new version of the WDPA is released ever month and made available through the Protected Planet webpage (http://www.protectedplanet.net). The WDPA release will include a report on attribute completeness for each of the attributes in the WDPA and for each of the protected area record in www.protectedplanet.net.

The WDPA is team is always exploring better ways of assessing the quality of the data in the WDPA. Currently, four basic indicators are calculated for every monthly release (Figure 3.3).

Indicator 1: Percentage of records with boundaries in polygon format

This indicator measures the number of records in the WDPA in polygon format in relation to the number of records that are in point format. Points do not accurately represent a protected area. Thus, the least points the dataset stores the better quality the dataset is considered. The aim of the WDPA is to reach a value of 100 for this indicator. [Example below for Brazil]

Indicator 2: Percentage of data attributes reported

Each record in the WDPA has 28 fields for which data attributes are requested. This indicator shows the weighted percentage of data fields which have been reported, based on the minimum and complete attributes. A dataset that has all its fields completed is considered as a complete dataset which allows more comprehensive and in depth analyses on the status of a global, regional, or national protected area network. [Example below for Brazil]

Indicator 3: Percentage of records updated, or confirmed without change, by the data provider in the last 5 years

UNEP-WCMC sets a target to update each record in the WDPA at least every five years. This indicator shows the percentage of records updated in the last 5 years (since January 2010). Accurate and up to date data on protected areas is fundamental to inform decisions and research questions. [Example below for Brazil]

Indicator 4: Percentage of records where the area of the polygon is within 5% of the area reported

The area (km2) reported for a protected area may sometimes differ from the area of the boundary polygon provided, possibly indicating a discrepancy within the information submitted. This indicator shows the percentage of records where the area of the polygon is within a

threshold of 5% of the area reported. The threshold allows for differences due to projections and software used for calculating the GIS area. Ideally reported area and GIS measured area should match but this does not happen for many protected areas. This may be due to a number of reasons. For example, because there is a time lag between the expansion or reduction of a protected area and the update of its legal text. [Example below for Brazil]

Figure 3.3. Quality indicators for countries in the WDPA, calculated on a yearly basis. Whole WDPA indicators are calculated on a monthly basis.

4. Using the WDPA

The WDPA is used by a wide range of groups including scientists, NGOs, private sector and international bodies. In addition, the WDPA is also fundamental for fulfilling several global reporting mechanisms, developing indicators and tracking progress towards protected areas targets (Box 4.1). This is recognised through a number of policy mandates upon which the global community has agreed (see Appendix 6). This section provides guidance on how to access, cite and use the WDPA.

Box 4.1. Use of the WDPA for selected global reporting mechanisms and periodic reports

- **UN List of Protected Areas** is the only global list of protected areas recognised by governments and mandated by the UN. It is produced by UNEP-WCMC in collaboration with governments and IUCN. The latest UN List of protected areas is available online at http://blog.protectedplanet.net/post/102481051829/2014-united-nations-list-of-protected-areas
- **UN Sustainable Development Goals (SDGs):** WDPA statistics are used to report on at least three targets under Goal 14 and 15 of the new SDG goals. More information is available at: https://sustainabledevelopment.un.org/index.php?menu=1300
- **CBD Global Biodiversity Outlook:** A summary of the status of biological diversity and an analysis of the steps being taken by the global community to ensure that biodiversity is conserved and used sustainably is published by the CBD and available at www.cbd.int/gbo/
- **UNEP Global Environment Outlook:** UNEP's flagship publication Global Environment Outlook (GEO) report series keeps the state, trends and outlook of the global environment under review. http://www.unep.org/geo/
- **Protected Planet Reports:** The Protected Planet Report reviews progress towards the achievement of the protected area targets of the Convention on Biological Diversity (CBD) and Sustainable development goals (SDGs). More information at http://wcmc.io/ProtectedPlanetReport_2016
- **Global Reporting Initiative (GRI)** has pioneered and developed a comprehensive Sustainability Reporting Framework for the private sector that is widely used around the world. The GRI recommends use of the WDPA by companies to report on environmental performance indicators G4-EN11, G4-EN12 and G4-EN13. More information at www.globalreporting.org
- **UN Millennium Development Goals (MDGs) Reports:** WDPA statistics were used to report on progress towards the MDG goals, specifically goal 7 which aimed at ensuring environmental sustainability at a global level. More information at www.un.org/millenniumgoals/reports.shtml and http://mdgs.un.org/unsd/mdg

4.1. Accessing the data

The WDPA is made available online through the Protected Planet website (www.protectedplanet.net), where data can be both viewed and downloaded for non-commercial use in different formats which include GIS format. A new version of the WDPA is uploaded to www.protectedplanet.net and made accessible to users on the first week of each calendar month.

4.2. Terms of Use

The use of the WDPA data is subject to strict Terms of Use which are available online at http://www.protectedplanet.net/terms.

The WDPA is free for download or use for non-commercial purposes. The use of the WDPA by or on behalf (e.g. consultants) of for profit companies is restricted to specific Terms of Use. The Terms of use also describe the conditions under which the WDPA should be reproduced by third parties and how the use of the WDPA should be cited and the sources acknowledged.

4.3. Citing the WDPA

In accordance with the WDPA Terms of use, UNEP and IUCN ask that copies of any published analyses that use the WDPA are submitted to UNEP-WCMC (protectedareas@unep-wcmc.org). This allows the WDPA team to track use of the dataset, identify any issues highlighted in analyses and note areas where the WDPA could be improved. The WDPA teams also appreciates being contacted where omission of valid data are noted by users, as they can then prioritise follow up with the protected areas authorities responsible for the omitted sites.

The following citation should always be clearly reproduced in any publication, presentation or analysis involving the WDPA:

IUCN and UNEP-WCMC (year), The World Database on Protected Areas (WDPA) [On-line], [insert month/year of the version downloaded]. Cambridge, UK: UNEP-WCMC. Available at: www.protectedplanet.net.

The WDPA team also produces global statistics that can be accessed at protectedplanet.net. The correct citation for the WDPA online statistics is:

UNEP-WCMC (year), The World Database on Protected Areas (WDPA) statistics. Cambridge, UK: UNEP- WCMC. Accessed on: [insert day/month/year when the webpage was accessed].

For a full metadata sheet on the WDPA see Appendix 5

4.4. Take-Down Policy

UNEP-WCMC operates a 'take-down' policy. This means that if UNEP-WCMC is notified of a potential breach of copyright, or potential violation of any law (including but not limited to laws on copyright, patent, intellectual property, trademark, confidentiality, or data protection), the dataset or relevant portion involved will be removed from the database as quickly as possible pending further

investigation. The take down policy also applies in cases where UNEP-WCMC is notified that a site under the governance of indigenous peoples or local communities has been included in the WDPA without the free, prior and informed consent of the relevant stakeholders and rights holders.

Full details on how this process is managed are available in Appendix 4.

4.5. Using the WDPA for analyses

Using the WDPA for research, developing indicators, and reporting usually requires processing the WDPA in various ways. This increases the risk of making inadequate assumptions or omitting important information in the processing stages. The following section is based on the advice most frequently sought from the WDPA team as well as errors and inconsistencies that have been observed by WDPA users. In this section, we flag some common misconceptions and assumptions made by those using the WDPA for both research purposes and decision making. We also review some of the perceived errors commonly identified by data users, known caveats and limitations associated with the database, and provide some recommendations on how to accurately interpret the data.

It is highly recommended that all parties interested in using the WDPA read these guidelines prior to using the WDPA for any analyses that will inform research or decision making. For any queries regarding use and steps for processing of the database please contact the WDPA team at protectedareas@unep-wcmc.org.

4.5.1. Getting started

What is the purpose of my analysis?

This is a fundamental question for anyone aiming at using the WDPA for analyses. The purpose of the analysis will have an important influence on how the WDPA is processed, which attributes are used and which are not used and therefore what type of information will be included and excluded from the analyses. For example, if the purpose is to extract all protected areas reported from that country the use of the field with the country ISO3 code is recommended. By doing this some transboundary sites might be excluded as these have ISO3 codes separated by ';'. The portion of these sites within national boundaries should also be added to the analysis. Another valid approach is to extract all protected areas that overlap with a base layer of the country of interest. However, taking this approach could result in missing all or part of marine protected areas. Thus, a valid marine layer that includes the marine area within the countries' national jurisdiction should also be used. If the purpose instead is to do a gap analysis for a given species users should be aware that point data (i.e. protected areas with an unknown boundary) can have a big effect on the final results depending on whether you exclude them or use them as buffered points. This problem is also dependent on the proxy used to represent species distribution. Finer proxies are more likely to exacerbate the problem of protected areas that do not have a boundary. Thus, understanding the data needed and

the status and definition of the attributes in the WDPA to be used is fundamental to avoid flaws in any analyses.

Recommendations: A clearly defined aim is fundamental to scoping any analyses as it will have a major influence on how data from the WDPA are processed. The assumptions and caveats that are made during processing should be clearly documented in all reporting.

Database Size

The size of the WDPA, can hinder or slow down analysis if the whole WDPA is used with insufficient computational resources. For example, the March 2015 version of the WDPA had a size of 1.05 Gigabytes with 198,011 polygons and 19,289 points and 845 entries in the source table.

Recommendations: A useful solution is to split the database into smaller portions in order to speed up the analysis to be undertaken or select the attributes to be used and extract them from the original database. This again will depend on the kind of questions users are seeking to answer and the type of analyses required.

Which version of the WDPA to use?

The WDPA is a snapshot of protected areas status at the time of a WDPA release. The global protected area system is constantly changing, with sites or their attributes being added, removed and changed on a constant basis.

Because of the way in which the WDPA is compiled (see section 3), there is usually a lag between a protected area becoming designated or proposed and it appearing in the WDPA. For this reason, it is possible that recently designated or proposed protected areas have not been included in the WDPA yet or that some protected area boundaries are different in the WDPA than in other sources.

Recommendations: It is unlikely that statistics on the number or area of protected areas calculated for an analysis in any one year will remain static. As the WDPA is constantly experiencing modifications and improvements, the most recent version of the WDPA should be used and cited in accordance with the WDPA Terms of Use (see section 4.2).Any analysis using the WDPA should clearly identify the version used and how the data was sourced.

Map Projections

The WDPA is supplied in a geographic co-ordinate system: WGS84. The Mollweide projection is used to calculate the “GIS Area” (GIS_AREA) and “marine GIS area” (GIS_M_AREA) fields in the WDPA attribute table. In carrying out analysis of the WDPA with other datasets, decisions need to be made as to which map projections should be used. The decision will partly depend on the nature of the analysis to be undertaken and partly on what other datasets are also to be used alongside with the WDPA.

Recommendations: As a general rule, global analyses in which areas or percentage of protection are being calculated is best conducted within an equal area projection such as Mollweide. For

analysis of distance (proximity analysis) an equidistant projection may be preferable. Note that any calculations of irregular features (e.g. coastline) will be strongly influenced by the scale at which the data being used was digitised. For any analyses at finer scales than the global scale (e.g. regional or national), the appropriate projections to use will vary on a case-by-case basis and analysts must research the best spatial reference system to use for the area of interest and scale of the study.

Points and polygons

Protected area spatial data is collected in the form of boundary (polygon) wherever it is available, or as a single latitude and longitude coordinate (point) data where boundary data is not available. The central point of each protected area is usually requested but this is not always possible thus users should not assume that all points in the WDPA represent the central point of a given protected area.

Boundary data for an individual protected area may be unavailable for a number of reasons such as lack of capacity to map protected areas or confidentiality issues preventing public dissemination of data. The WDPA team does not digitize boundaries nor make modification to the data received other than verification and formatting agreed with the data provider. The two data types, points and polygons, are held in a single geodatabase as separate feature classes.

Recommendations: It is important that both data types are used in the analysis as far as possible, point datasets accounted for 9% of all the records in the WDPA in January 2016, excluding them from any analysis will likely underestimate the extent of protected areas globally. Using point data in analysis has its challenges which are discussed in section 4.5.2.

Raster or Vector Analysis

The WDPA is a vector database. Any transformation of the WDPA and decisions on whether to use vector or raster analysis techniques will depend on the nature of the data to be overlaid with the WDPA data, the aim of the research and the resources – computational power and time available.

Recommendations: If most or all of the other datasets are in raster format then a raster analysis might be the preferred option. In such cases, care must be taken to consider the cell size used, when converting the WDPA data to raster data. When vector data is converted to raster data it is generalized to each grid cell (which will have a pre-defined size based on the scale and scope of the analyses). Therefore any derived results cannot be compared to doing the same analysis with the WDPA in vector data format.

4.5.2. Known issues

Spatial Accuracy

A map is a two dimensional representation of a three dimensional feature. Thus, spatial data are not exact representations of the Earth. The data in the WDPA comes from a wide range of sources which will use different scales and techniques to generate their data. This results in a great variation in

accuracy and resolution. Although the WDPA team works with data providers to improve the quality of the data submitted issues with spatial accuracy are inevitable and should be expected.

The spatial information on protected areas is created and submitted by data providers. How data providers have digitized the boundaries of a protected area, at what scale, which references they have used to map areas in relation to administrative boundaries, coastline maps and/or landscape features (e.g. rivers or lakes) will have a great influence in the accuracy of the data. Similarly, the resolution of base layers are used to visualize protected areas boundaries and points will also affect the perception of where protected area boundaries lie. Issues may also arise when the coordinate systems, geographic projections, and underlying metadata of two datasets displayed in a GIS interface are different or one of them is unknown.

Recommendations: These issues should be considered by any user visualising the WDPA or using the dataset for spatial analyses, acknowledging that, as with any spatial data, there is a difference between what is represented in the map and the reality in the field. For a fair comparison, an analyst must consider the effect of geographic transformations and projections, and underlying metadata of both the data and the base-map before conducting an overlay interrogation of data or spatial analysis and before making assumptions about spatial and positional accuracy. Some implications of these discrepancies in the protected area coverage analyses are discussed in Visconti et al. (2013).

Overlapping Protected Areas

There are many overlapping protected areas in the WDPA. These can be overlapping areas with different IUCN categories or the overlap of national protected areas with designations under regional or international conventions and agreements. For example, the same geographical space might be a national park under national legislation but also a World Heritage site or a Ramsar site under international agreements. The boundaries for these might not coincide but the overlap might still be considerable and significant. This feature is due to the fact that one geography can be subject to several different legal instruments which each create their own designated areas.

Recommendations: When undertaking spatial analysis with the WDPA for protected area coverage it is important to create a 'flat' layer which contains no overlaps to ensure that there is no double counting of protection. This can be done using a variety of GIS software tools. The parameters of the dissolve function will depend on the purpose of the analyses. During the dissolve process some information will be lost.

Point Data

Wherever possible within the WDPA, point data are being replaced with boundary (polygon) data through engagement with data providers. In some cases points refer to small discrete protected areas such as protected trees, nesting sites, rocks, cave entrances, tufa springs etc. In other cases the points are coordinates representing a larger area where for various reasons a polygon does not exist.

The use of points to conduct protected area spatial analysis is problematic and carries a number of issues. The key issue is that while there may be an associated area attached to the point there is no way of knowing what the shape of that area is and therefore any analytical decision will necessarily bring inaccuracies that need to be accounted and acknowledged for in the methodology and results.

Recommendations: Where a spatial analysis is to be undertaken, any decision to use or not use point data needs to be clearly stated as it will influence the resulting analysis. Exclusion of points from the analysis will likely result in underestimation of the area protected, while inclusion of points through a generalized spatial buffering approach, like the one described here, is more likely to conserve the total area protected, but will introduce uncertainty in the spatial location of the areas protected. If the area of a point feature has not been reported, it may be best to exclude it. In this case, points where 'REP_AREA' equals zero would be removed from the dataset prior to analysis. The remaining points can be buffered by calculating the radius of a circle proportional to the reported area of the site using GIS geoprocessing tools. This is only one option however, and a case-specific approach should be taken. Another option, for example, is to apply a set buffer size to point with no reported area. To ensure accuracy geodesic buffers should be used. A point buffering process enables point data to be converted into polygons that are of the same size as the area reported. The buffered point data can then be combined with the polygon data to allow analysis of a single protected area dataset. However as previously mentioned the exact shape of the protected area is not known so the buffered point is only a representation of the protected area and it may therefore introduce inaccuracies in the results over estimating or underestimating protected area coverage. It should also be noted that after creating a flat layer as described above, the area of some of the buffered points may no longer be conserved because of spatial overlap with other protected features. For more information on the magnitude of these inaccuracies see Visconti et al. (2013). Buffered points to calculate global protected area have been used in a number of high impact publications, notably the 2012 and 2014 Protected Planet Reports (Bertzky et al. 2012, Juffe-Bignoli et al. 2014) and recent scientific publications (e.g. Venter et al. 2014, Butchart et al. 2015).

Marine Protected Areas

The 'Marine' field specifies whether the protected area has a marine component recorded as either '0' (no marine component) '1' (site has marine and terrestrial portions),'2' site is entirely located in the marine environment. These values are assigned by the data provider and verified by the WDPA team. The 'Marine Reported Area' field specifies the area of the marine component of the site as reported by the data provider. This field is the same value as the 'Reported Area' when the protected area is totally in the marine biome.

Because of the issues explained above, the accuracy of marine portions of a given protected area can vary enormously depending on the accuracy of the original digitization of the boundary.

The GIS Marine Area field (GIS_M_AREA) in the WDPA is calculated using the world vector shoreline (http://shoreline.noaa.gov/data/datasheets/wvs.html).

Recommendation: Given the potential for error in the Marine field in the WDPA, the WDPA team recommends using an intersection with a coastline, territorial seas, exclusive economic zone or other marine base layer of an appropriate scale in order to identify the marine area portions of protected areas that fall within the marine area of interest. For peer reviewed methodologies on how to calculate marine protected area coverage see Thomas et al. (2014).For more information on the potential errors due to different resolution of marine biodiversity data and accuracy in protected area boundaries see Visconti et al. (2013).

Country boundaries and disputed territories

To identify the country in which a protected area is located, the PARENT_ISO3 field within the WDPA should be used. Dependent territories can be defined by their own ISO3 codes in the ISO3 field. There are number of territories for which legal status is still contested, not globally recognized, under process of recognition or simply unclear. These are known as disputed territories. There are several layers that can be used to assess protected areas location in countries and territories and depending on the sources the accuracy will be variable.

It is important to note that the boundaries and names shown, and the designations used on maps generated by UNEP-WCMC do not imply any official endorsement by the United Nations or IUCN.

Recommendations: When conducting any spatial analyses where coverage of the land and seas is being assessed, using or not considering administrative boundaries, the base layer used for the analyses should be cited. Results obtained when conducting spatial analyses at a global level may vary depending on which layers are used and which assumptions are made. For example, a global analyses of protected areas under national jurisdiction of each United Nations state member will not include non-UN state members and may also exclude marine areas beyond national jurisdiction or the Antarctica.

Transboundary Sites

Transboundary sites are those that cover multiple countries through transboundary agreements to establish a co-managed protected area. Transboundary protected areas have their ISO3 codes defined with a semi colon ";" in between (e.g. USA;CAN). However this is a relatively recent addition to the WDPA and so there are transboundary sites that are not yet identified in this way.

Recommendations: To ensure that all sites in a country are incorporated in any analyses these transboundary sites should be incorporated in the analyses. It is important to be aware that the area of the site will be the total area of the transboundary site, rather than the area relating to the site in one country. In order to count only the portion of a site which falls within a specific country, a clip or intersection analysis should be done using a political country boundary layer.

4.5.3. Using the WDPA attributes

Attribute Completeness

Within the WDPA information on the attributes of a protected area are given in a set of standard data fields. Gaps in some of the WDPA attributes do exist, even among the minimum required attributes. 'Reported Area' (REP_AREA),'Status Year' (STATUS_YR), Governance Type (GOV_TYPE) and 'IUCN Category' (IUCN_CAT) are examples of fields that can be incomplete in the WDPA. This may happen for a number of reasons which include but are not restricted to: information that has not been given by the data provider due to restrictions related to the dataset, old datasets that have not been updated in a long time due to lack of capacity or unresponsive data providers, or information is simply not known by the data provider.

Recommendations: If there is a need to use a field for selecting out only a subset of information it is important to check how well populated it is and its relevance to the analysis. The detailed description of the WDPA attributes (Appendix 1) should be read carefully to understand what data is acceptable for each attribute and what is required from data providers. Table 2.1 offers a summary of these attributes and accepted values.

Difference between reported area and GIS area

Both the reported areas and areas calculated from GIS for terrestrial and marine protected areas are maintained in the WDPA. These are REP_AREA, REP_M_AREA, GIS_AREA and GIS_M_AREA. The reported area is provided by the data provider. The GIS areas are calculated by the WDPA team in the Mollweide projection.

There can be differences in these fields occurring for a number of valid reasons. Lack of national capacity for adequately mapping the legally intended boundaries of the protected area may be one valid reason. There are many cases in which what was legally established and documented as the area, is not in fact the actual protected area. In other cases, protected area boundaries were not mapped, surveyed or digitised accurately and in the worst cases the discrepancy has been compounded by error originating from one or more of these cases occurring together.

Recommendations: Using the reported area or the GIS area will depend on the purpose of the analyses. Use of reported areas instead of GIS areas may be appropriate when official reported figures at a country level are requested. GIS areas might be appropriate when a simple list of individual protected areas and their area is required. Where calculations for global, regional or national scales, are to track progress towards specific targets the protected area coverage should be calculated by excluding protected area overlaps in the area. See *Overlapping protected areas.*

IUCN Protected Area Management Categories

The WDPA stores the IUCN Protected Area Management Categories (recorded in field IUCN_CAT) for each of the protected areas where these categories are reported. The IUCN category is provided to the WDPA as part of the dataset, and is not assigned by the WDPA Team. There are many sites (both polygons and points) for which an IUCN management category have not been reported, have not been assigned, or are not applicable. These sites are defined as IUCN_CAT = 'Not Reported', 'Not Assigned' or 'Not Applicable'. Detailed descriptions of these fields are available in Appendix 1.

As section 1.4 explains, assigning IUCN management categories to protected areas, although recommended, is not a mandatory requirement for countries. The IUCN management category does not relate to a given designation (e.g. National Park), but to its management objectives, and therefore categories cannot be inferred by the designation listed. Moreover, the fact that IUCN management categories have not been reported may only mean that the country has not conducted a formal process to assign the categories to their protected area network, not that these protected areas are not well managed or don't have management objectives in place. Moreover, the interpretation of IUCN Protected Area Management Categories might be different in each country and therefore comparisons between countries should be taken with caution.

Recommendations: IUCN management categories with a value of 'Not Reported' should be treated as a category in its own right rather than excluding these protected areas completely. The same holds true for international designations of protected areas where the IUCN Category is listed as 'Not Applicable' or "Not Assigned". In any case, the inclusion or exclusion of protected areas with IUCN Category as 'Not Reported', Not Assigned, or 'Not Applicable' should be clearly stated in the analyses.

Status Year

The 'Status Year' (STATUS_YR) field is used to identify the year associated with the current status of a particular protected area. It does not refer to when the site was updated in the WDPA nor to when a geographical space was first protected but to the legal date of creation of the site.

If the Status is 'Proposed', the Status Year is the year the site was proposed. If the Status is 'Designated', the Status Year is the year the site was designated. Some geographies may have been under some form of protection over time and subsequently became degazetted or replaced by a new type of protected area in a later year. Therefore, it is important to note that the Status Year is only associated with the current protected area designation and not the underlying geographic area. For example, if a Game Reserve designated in 1990 changed status to National Park in 2005, the status year for the National Park designation will be 2005 and the earlier Game Reserve will no longer be in the WDPA.

It is also important to note that not all protected areas within the WDPA have a status year defined. This occurs in old data that was submitted prior to the publication of the WDPA data standards or where data providers cannot or do not provide that information.

Recommendations: The Status Year can be used to create graphs showing designation of protected areas over time. It cannot be used to show historical change in protection over a geographic area. When status year is not available users can either exclude these protected areas from analyses or include these protected areas in the baseline which is first year of the temporal analyses (see UNEP-WCMC and IUCN 2016 for an example of the latter). Trends analyses is also possible by assigning a status year for a protected area based on pre-defined assumptions (see Butchart et al. 2015).

The Designation fields

There are three fields associated with the protected areas designation: Designation (DESIG), Designation English (DESIG_ENG), and Designation Type (DESIG_TYPE). These are defined in the attribute descriptions in section 2 and Appendix 1. The Designation and Designation English fields can be used to select particular designations by English name or by the name given in the national language (i.e. National Park or *Parque Nacional*). The DESIG_TYPE field can be used to distinguish between sites designated at a national level (e.g. national parks), under regional agreements (e.g. EU Nature Directives) and under international conventions and agreements (e.g. natural World Heritage sites). Depending on the purpose of the analyses users may want to filter designations or designation types.

The status field: Designated/Proposed/Not Reported/Established

The status field in the WDPA provides information on whether a protected area has been established, designated, or proposed at the time the data was submitted. This field also allows some specific value linked to certain designations, for example "Inscribed" for natural World Heritage sites. These values are described in the attribute descriptions in section 2 and Appendix 1.

Recommendations: Users might want to decide to include designated protected areas only in their analyses. In that case all sites where STATUS = 'Proposed', 'Established', and 'Not Reported' should be removed. It is important to note that the removal of proposed sites may be excluding an important number of protected areas that might be delivering some conservation on the ground. These might still be identified as proposed because of the lag of reporting a change in status to the WDPA or because it takes several years for the legal system of a country to designate a proposed protected area. Similarly. In some specific cases it might be prudent to consider 'Proposed' and/or 'Established' protected areas in particular analyses. If this is done, it should be clearly stated in the methodology.

4.5.4. What the WDPA cannot not be used for

The WDPA provides information about the location, area, designation type, and governance system of protected areas of the world among other associated tabular data. The dataset has proved to be important to inform conservation planning exercises and tracking progress towards biodiversity targets at a global and regional level. However, unless combined with other types of data with ecological, physical, or social information, the WDPA by itself will not provide answers to some other important conservation questions. For example, the WDPA does not provide information on how well managed protected areas are and/or whether biodiversity within a given protected area is being effectively protected. The Global database on Protected Area Management Effectiveness (GD-PAME) stores methodologies and associated indicators designed to assess protected area management effectiveness. The GD-PAME is linked to the World Database on Protected Areas (WDPA) through the WDPA ID. By linking both databases, the area of protected areas assessed under GD-PAME and therefore progress toward meeting global targets for Protected Area Management Effectiveness can be evaluated (See Coad et al. 2013).

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Appendix 1 WDPA attributes and source table description

This Appendix explains in detail each of the attributes used in the WDPA and in the WDPA source table..

WDPA attributes

1. WDPA ID

Field name: WDPA_ID

Level of requirement: Minimum

Provided by: UNEP-WCMC

Accepted Values	Description
Number (Long Integer) *12 characters* *The WDPA ID is generated by UNEP-WCMC.*	The WDPA uses unique identification numbers to accurately track protected areas within the database over time. UNEP-WCMC assigns a WDPA ID to each new protected area at its first listing in the WDPA. The WDPA ID is a unique, persistent, globally unique identifier that is associated with the entity itself, made possible by a decree, gazette or other formal means of establishment. The WDPA ID is not unique to the geography of a protected area but to the designation of the protected area. There can be many overlapping forms of protection for any geographical area, and therefore there can be overlapping protected areas with different WDPA IDs. However there can be no other protected area with the same identifier. The WDPA ID remains unchanged throughout the life time of the protected areas. Once a protected area has been assigned a WDPA ID, it should be provided with that ID in all subsequent updates to the WDPA for that protected area. For more information on WDPA IDs please contact protectedareas@unep-wcmc.org

2. WDPA Parcel ID

Field name: WDPA_PID

Level of requirement: Minimum

Provided by: UNEP-WCMC

Accepted Values	Description
Text (String) *52 characters* *The WDPA_PID is generated by UNEP-WCMC.*	Parcel ID's are used when in a same protected area different zones have been formally defined and delineated. In practice, a protected area will have only one WDPA ID but can have several WDPA Parcel IDs if a number of parcels or zones have been defined spatially and submitted to the WDPA. Please note that the WDPA PID is unique to each record within the WDPA, while the WDPA ID is unique to each protected area.

Accepted Values	Description
	Parcel ID's are used when in the same protected area different zones have been formally defined and delineated by the data provider e.g. different IUCN management categories. The structure of the parcel ID's is as follows: [WDPA_ID], [_], Parcel Letter The parcel letter will follow the English alphabet order. For example, the Mexican site Archipiélago de Revillagigedo which has the WDPA_ID of 101412 has two parcels associated with it: parcel 101412_A and parcel 101412_B.

3. Protected Area Definition

Field name: PA_DEF

Level of requirement: Minimum

Provided by: Data provider

The IUCN Definition attribute indicates whether the site meets the following definition of a protected area.

Accepted Values	Description
1	The site meets the IUCN and/or the CBD definitions of a Protected Area
0	The site does not meet the IUCN and/or CBD definitions, and accompanying principles, of a Protected Area. This value is not yet used (**see section 1.3.2.).**

4. Name

Field name: NAME

Level of requirement: Minimum

Provided by: Data provider

Accepted Values	Description
Text (String) *254 characters* *Legal or Official Names in Latin characters*	The Name of a protected area is the legal name of the sites as provided by the data provider. The Name field is an open string field and any text is allowed, except for 'Unnamed', 'Unknown' or similar equivalents. Names do not have to be translated into English but text must be transliterated into Latin format. Accented characters are accepted.

5. Original name

Field name: ORIG_NAME

Level of requirement: Minimum

Provided by: Data provider

Accepted Values	Description
Text (String) *254 characters* *Legal Names in Original Characters* *Examples:* Great Barrier Reef; 小苏干湖	The name of the protected area in any language supported by UTF 8 encoding. The Original Name field is an open string field and any text is allowed, except for 'Unnamed', 'Unknown' or similar equivalents.

6. Designation

Field name: DESIG

Level of requirement: Minimum

Provided by: Data provider

Accepted Values	Description
Text (String) *254 characters* *Examples:* Parque Nacional; Réserve Spéciale; Nature Reserve	The name of the designation of the protected areas in the native language (provided it is supported by UTF 8 encoding) The designation in some cases may also be part of the established or legal name of the protected area. Only the designation component should be listed here.

7. English Designation

Field name: DESIG_EN

Level of requirement: Complete

Provided by: Data provider

Accepted Values	Description

Text field *Examples:* National Park; Nature Reserve; Community Conserved Area	The name of the designation of the protected area in English. This fields will contain the same values as the "DESIG" field where English is the original language.

8. Designation Type

Field name: DESIG_TYPE

Level of requirement: Minimum

Provided by: Data provider

The designation type is the category or type of protected area as legally/officially designated or proposed. In cases where a protected area has not been legally/officially designated or proposed Not Applicable can be used.

Accepted Values	Description
National *Example: National Park*	Protected areas designated or proposed at the national or sub-national level.
Regional *Example: Natura 2000*	Protected areas designated or proposed at the regional level.
International *Example: UNESCO World Heritage*	Protected areas designated or proposed through international conventions.
Not Applicable	Any protected area that is not legally/officially designated or proposed.

9. IUCN Management Category

Field name: IUCN_CAT

Level of requirement: Complete

Provided by: Data provider

Accepted Values	Description[2]
Ia	*Strict Nature Reserve*
Ib	*Wilderness area*
II	*National Park*
III	*Natural Monument or feature*
IV	*Habitat/species management area*
V	*Protected landscape/seascape*
VI	*Protected area with sustainable use of natural resources*
Not Reported	For protected areas where an IUCN category is unknown and/or the data provider has not provided any related information.
Not Applicable	The IUCN Management Categories are not applicable to a specific designation type. This currently applies to World Heritage Sites and UNESCO MAB Reserves. Not Applicable also applies to a site that does not fit the standard definition of a protected area (PA_DEF field = 0).
Not Assigned	The protected area meets the standard definition of protected areas (PAF_DEF = 1) but the data provider has chosen not to use the IUCN Protected Area Management Categories.

10. International Criteria

Field name: INT_CRIT

Level of requirement: Minimum

Provided by: UNEP-WCMC

Accepted Values	Description
Text (String) *20 characters*	This field is only applied to the UNESCO World Heritage natural sites and Ramsar sites.

11. Marine

Field name: MARINE

Level of requirement: Minimum

[2]For a detailed description and application guidelines see Dudley (2008) and Stolton et al. (2013): http://cmsdata.iucn.org/downloads/iucn_assignment_1.pdf

Provided by: Data provider

This field describes whether a protected area falls totally or partially, within the marine environment. Protected areas classified as marine within the WDPA can be either completely marine – in a sea, ocean or equivalent – or partially marine – on the coast and intertidal/encompassing part of the sea/ocean. Protected areas encompassing brackish or tidal waters may be classified as marine, but freshwaters areas should not be classified as marine. The marine area in kilometers square should always be able to be given if a protected area is classified as being partially or totally within the marine environment. Further information on defining what a marine protected area is found in the IUCN Marine Protected Area Guidelines[3]

Accepted Values	Description
0	The protected area is completely within the terrestrial and/or freshwater environments.
1	The protected area is partially within the marine environment (coastal).
2	The protected area is completely within the marine environment.

12. Reported Marine Area (Km^2)

Field name: REP_M_AREA

Level of requirement: Minimum

Provided by: Data provider

Accepted Values	Description
Number (Double)	The reported marine area details the extent of the protected area in square kilometers provided by data provider if the 'Marine' field is '1' or '2'. This can be as specified in the legal text for the site or if not specified this can be an estimate as reported by the data provider. If Marine is '1' or '2', the reported marine area is the total marine extent of the protected area in square kilometers, as specified in the legal text for the site. REP_M_AREA may be identical to the total Reported Area (REP_AREA) if the protected area is completely within the marine environment (Marine = 2).
0	If there is no reported marine area, the reported Marine Area is listed as'0'.

13. GIS Marine Area (Km^2)

[3]Day J., Dudley N., Hockings M., Holmes G., Laffoley D., Stolton S. & S. Wells, 2012. Guidelines for applying the IUCN Protected Area Management Categories to Marine Protected Areas. Gland, Switzerland: IUCN. 36pp.http://www.iucn.org/about/work/programmes/gpap_home/gpap_capacity2/gpap_bpg/?11131/Guidelines-for-Applying-the-IUCN-Protected-Area-Management-Categories-to-Marine-Protected-Areas

Field name: GIS_M_AREA

Level of requirement: Minimum

Provided by: UNEP-WCMC

Accepted Values	Description
Number (Double)	Protected area marine extent in square kilometers calculated by UNEP-WCMC. For mixed marine and terrestrial sites, UNEP-WCMC can only calculate the GIS_M_AREA of the marine portion of the protected area. As with GIS_AREA, the Mollweide projection is used for calculating area. This field is not calculated for point data. Note: it is not possible to calculate an area for point features.
0	If there is no marine GIS area either because it is a terrestrial site or because it is a point the GIS marine area is listed as '0'

14. Reported Area (Km^2)

Field name: REP_AREA

Level of requirement: Minimum

Provided by: Data provider

Accepted Values	Description
Number (Long Integer) *12 characters*	The Reported Area is the total protected area extent, including both marine (if applicable) and terrestrial areas, in square kilometers provided by data provider as specified in the legal text for the site. It should always be greater than or equal to the Reported Marine Area field. The total area should also be as close as possible, and ideally match, the GIS calculated area (GIS_AREA) of the polygon provided.
0	If there is no reported area this field is listed as '0'.

15. GIS Area (Km^2)

Field name: GIS_AREA

Level of requirement: Minimum

Provided by: UNEP-WCMC

Accepted Values	Description
Number (Double)	Protected area total extent, including both marine (if applicable) and terrestrial areas, in square kilometers calculated by UNEP-WCMC projecting the protected area polygon in the standard Mollweide projection and using GIS software tools. This field in not calculated for point data. Note: it is not possible to calculate an area for point features.

16. No Take

Field name: NO_TAKE

Level of requirement: Complete

Provided by: Data provider

No take means that the taking of living or dead natural resources, inclusive of all methods of fishing, extraction, dumping, dredging and construction, is strictly prohibited in all or part of a marine protected area.[4] This is only applicable to protected areas where the field marine = 1 or 2. The objective of a protected area which is no-take is the preservation of the biodiversity and other natural resources and to act as a strictly protected area. No-take zones are also commonly designated within multiple-use marine protected areas.

If Marine is:	Accepted Values	Description
1/2	All	For marine protected areas, No Take is listed as to whether all, part or none of the protected area is no take.
	Part	
	None	
	Not Reported	For marine protected areas where it is not known whether there is no take, 'Not Reported' is listed.
0	Not Applicable	For non-marine protected areas 'Not Applicable' is listed.

17. No Take Area (Km^2)

Field name: NO_TK_AREA

Level of requirement: Complete

[4] UK MPA Centre (2007) What is a No Take Zone? UK Marine Protected Areas Centre: Plymouth, UK: http://www.ukmpas.org/faq.html#whatisaNTZ

Provided by: Data provider

The no take area is the total extent of the area in square kilometers where the taking of living or dead natural resources is prohibited, as reported to UNEP-WCMC by the data provider.

Accepted Values	Description
Number (Double)	The No Take Area is the area of the protected area in square kilometers that is within the marine environment and is no take. It is less than or equal to the Marine Reported Area field.
0	If there is not a No Take Area, the No Take Area field is listed as'0'.

18. Status

Field name: STATUS

Level of requirement: Minimum

Provided by: Data provider

All protected areas in the WDPA are either listed as 'Designated', 'Proposed' or 'Established'. Protected areas that have been degazetted are not included within the WDPA. Degazetted areas are those protected areas that are no longer legally protected or recognised, and hence the protected area no longer exists administratively. The status year is the year that the current status of the protected came into force, i.e. the year that it was proposed as a protected area, or the year it was designated as a protected area.

Accepted Values	Description
Proposed	Is in a process to gain recognition or dedication through legal or other effective means. It should be noted that a site may be managed as a protected area while proposed, as the national legal processes of designation may take a long time.
Inscribed	Only applicable for protected areas designated under the World Heritage Convention.
Adopted	Only applicable to protected areas designated as Specially Protected Area of Marine Importance under the Barcelona Convention.
Designated	Is recognized or dedicated through legal means. Implies specific binding commitment to conservation in the long term.
Established	Recognized or dedicated through other effective means. Implies commitment to conservation outcomes in the long term, but not necessarily with legal recognition.

19. Status Year

Field name: STATUS_YR

Level of requirement: Minimum

Provided by: Data provider

Accepted Values	Description
Number (Long Integer) *12 characters*	The year in which the protected area was proposed (if Status is listed as 'Proposed'), designated (if Status is listed as 'Designated') or established (if Status is listed as 'Established'). The year cannot be in the future – it is always a year in the past or the current year.
0	If the status year has not been provided this field will be listed as '0'.

20. Governance Type

Field name: GOV_TYPE

Level of requirement: Complete

Provided by: Data provider

Governance is a description of the decision-making structure of a protected area and should describe where the decision-making power of delegating management authority rests. The information provided on governance conforms to the IUCN Governance types described in the IUCN Governance of Protected Areas guidelines[5]. IUCN distinguishes four broad protected area governance types, each with several sub-types (see table below) making a total of 11 types that can be reported to the WDPA.

Accepted Values (Governance subtype)	Description	Governance Type
Federal or national ministry or agency	National Agency in charge.	Governance by Government
Sub-national ministry or agency	Regional, provincial, or municipal agency in charge	
Government-delegated management	Management delegated to another organization (e.g. to Non-governmental Organizations)	
Transboundary governance	Formal arrangements between one or more sovereign States or Territories.	Shared Governance
Collaborative governance	When governance is through various ways in which diverse actors and institutions work together.	
Joint governance	For example, pluralist board or other multi-party governing body.	

[5]Borrini-Feyerabend et al. (2013). Governance of Protected Areas: From understanding to action. Best Practice Protected Area Guidelines Series No. 20, Gland, Switzerland: IUCN.

Individual landowners	Land under the governance of one legal person.	Private Governance
Non-profit organisations	For example, Non-governmental Organizations or Universities.	
For-profit organisations	For example, corporate landowners.	
Indigenous peoples	Areas under the governance of indigenous peoples	Governance by Indigenous Peoples and Local Communities
Local communities	Areas under the governance of local communities	
Not Reported	When Governance Type is not known or not given	

21. Ownership Type

Field name: OWN_TYPE

Level of requirement: Complete

Provided by: Data provider

Ownership type is often independent of governance and management structures.
It is the individual, organization or group that holds legal or customary ownership or tenure of the land under management.

Accepted Values	Description
State	Owned by the state
Communal	Under communal ownership
Individual landowners	Owned/leased by individual landowners
For-profit organisations	Owned/leased by for-profit organisations
Non-profit organisations	Owned/leased by non-profit organisations
Joint ownership	Under joint ownership
Multiple ownership	Under multiple ownership
Contested	Ownership is contested
Not Reported	When ownership type is not known or given by the data provider

22. Management Authority

Field name: MANG_AUTH

Level of requirement: Complete

Provided by: Data provider

The management authority is the agency, organization, individual or group that manages the protected area. It is distinct from the governance type, which relates to who is responsible for deciding the activities of the management authority. This means that the governance type and management authority may not match. Both fields may also be different to the ownership type.

Accepted Values	Description
Text (String) *245 characters*	The Management Authority is an open string field and any text is allowed, except for 'Unnamed', 'Unknown' or similar equivalents – if unknown then 'Not Reported' should be listed instead.
Not Reported	If the Management Authority is not known or not given then this is listed as 'Not Reported'.

23. Management Plan

Field name: MANG_PLAN

Level of requirement: Complete

Provided by: Data provider

Accepted Values	Description
Text (String) *245 characters* *Examples:* www.adias-uae.com/publications/Hawar-MP.pdf http://www.phoenixislands.org/pdf/2010-2014_FINAL_PIPA_Management_Plan.pdf	If a site has a management plan or equivalent conservation planning mechanism in place, and this information is available online it should be provided to the WDPA.
Not Reported	If the Management Plan is not known or not given then this is listed as 'Not Reported'.

24. Verification

Field name: VERIF

Level of requirement: Minimum

Provided by: UNEP-WCMC

Accepted Values	Description
State Verified	The site has been verified by the country's national government
Expert Verified	The site has been verified by an expert non-government source
Not Reported	Only applies to sites submitted to the WDPA before the introduction of this attribute in March 2015. "Not Reported" indicates that the site has not been through a verification process.

25. Metadata ID

Field name: METADATAID

Level of requirement: Minimum

Provided by: UNEP-WCMC

Accepted Values	Description
Number (Long Integer) *12 characters*	The metadata ID is the number that links the WDPA attribute table with the WDPA Source table.

26. Sub-national location

Field name: SUB_LOC

Level of requirement: Complete

Provided by: Data provider

Accepted Values	Description
ISO 3166-2 sub-national code *Examples:* AD-07; GB-CAM, GB-SFK	The Sub-National Location field is stored as an ISO 3166-2 sub-national code. A list of ISO 3166-2 codes is accessible here. If the protected area is in more than one state, province, region etc., multiple ISO-3166-2 codes can be listed separated by a comma and space.
Not Reported	If the Sub-National Location is not given or not known then this is listed as 'Not Reported'.

27. Parent ISO3 code

Field name: PARENT_ISO3

Level of requirement: Minimum

Provided by: Data provider

Accepted Values	Description
ISO 3166-1 alpha-3 code *Examples:* FRA, CHN, ARG	The ParentISO3 code is the country that a protected area jurisdictionally resides within, as given by its ISO 3166-1 alpha-3 code. The ISO-3 character country code is defined by the International Organisation for Standardization (ISO). For more information on country codes see: https://www.iso.org/obp/ui

28. ISO3 Code

Field name: ISO3

Level of requirement: Minimum

Provided by: Data provider

Accepted Values	Description
ISO 3166-1 alpha-3 code *Examples:* The island of Martinique has a Parent ID code of FRA and an ISO3 code of MTQ.	The ISO3 field is used to define areas under the Parent ISO3 code and includes countries, territories or other administrative units of geographical interest that a protected area jurisdictionally resides within, as given by its ISO 3166-1 alpha-3 code. The ISO-3 character country code is defined by the International Organisation for Standardization (ISO). For example the ISO 3166 code for French Guiana ISO3 is GUF, the Parent ISO3 code for GUF is FRA (France) as the French Guiana is an overseas department of France.

If the protected area is by designation a trans-boundary site (i.e., it is a collaborative designation by more than one country) the site record will contain the ISO3 codes for each of the portions of the protected area that lies within each country separated by ";" (e.g. "FRA;ESP" for a transboundary site that spans between France and Spain).

WDPA Source Table

No.	Requirement	Field Name	Full Name	Type	Length	Description
1	Assigned by UNEP-WCMC	METADATAID	Metadata ID	Number (double)	N/A	An ID assigned by UNEP-WCMC that is used to link each protected area record in the WDPA main attribute table to the relevant source information in the WDPA Source Table.
2	Minimum	DATA_TITLE	Data Set Title	Text (string)	254	The title of the dataset being provided as an update to the WDPA e.g. Protected Areas of Ireland.
3	Minimum	RESP_PARTY	Responsible Party	Text (string)	254	The organisation, consultancy, national government, private company or other entity that claims ownership/authorship of the data or that is providing the data on behalf of the ownership/authorship entity'. Not Reported' is used when this data was not available.
4	Minimum	RESP_EMAIL	Responsible Party Contact E-mail(s)	Text (string)	254	Contact e-mail address of the organisation listed as the responsible party which maintains the ownership/authorship of the data. ''Not Reported' is used when this data was not available.
5	Minimum	VERIFIER	Verifying Party	Text (string)	254	The organisation or national government that has verified the data and/or data provider. For information submitted prior to the introduction of this attribute in March 2015 this field is assigned a value of "None".
6	Minimum	V_EMAIL	Verifying Party Contact Email(s)	Text (string)	254	Contact e-mails of person(s) and organisation(s) responsible for verifying the data and/or data provider. For information submitted prior to the introduction of this attribute in March 2015 this field is assigned a value of "None".
7	Minimum	YEAR	Year	Text (string)	50	The reference date, as a four digit year, indicating the year when the dataset was first submitted to the WDPA. 'Not Reported' is used when this data was not available.
8	Minimum	UPDATE_YR	Update Year	Text (string)	50	The reference date, listed as a four digit year, indicating when the dataset was last updated in the WDPA.
9	Minimum	LANGUAGE	Dataset Language	Text (string)	254	Language(s) used within the dataset. 'Not Reported' is used when this data was not available.

10	Minimum	CHAR_SET	Dataset Character Set	Text (string)	254	Full name of the character coding standard used in the dataset. 'Not Reported' is used when this data was not available.
11	Minimum	REF_SYSTEM	Coordinate System	Text (string)	254	Name and parameters of the coordinate system of the original dataset including where applicable, datum, ellipsoid or projection. 'Not Reported' is used when this data was not available.
12	Optional	SCALE	Scale	Text (string)	254	The scale of the dataset used when the data was originally created (digitized, surveyed, etc.). The denominator of the representative fraction on a source map, for example on a scale of 1:150000 the denominator given should be 150000. 'Not Reported' is used when this data was not available.
13	Optional	LINEAGE	Lineage	Text (string)	254	Information about the creation, events, changes or transformations in the life of a dataset including the process used to create and maintain the dataset and associated dates. 'Not Reported' is used when this data was not available.
14	Optional	CITATION	Citation	Text (string)	254	Recommended text to be used referencing for the dataset on www.protectedplanet.net. 'Not Reported' is used when this data was not available.
15	Optional	DISCLAIMER	Disclaimer	Text (string)	254	Warnings/exceptions to use of the data, displayed on www.protectedplanet.net. Use 'Not Reported' is used when this data was not available.

Appendix 2 WDPA data contributor agreements

These documents are templates. The most up to date data contributor agreement (DCA) template is available from protectedareas@unep-wcmc.org.

Data Contributor Agreement for Governments

[Insert Name of Organisation

Address

Telephone Number

Email Address]

1. On behalf of *[insert organisation/agency name]*, I/we the undersigned are providing the following dataset to UNEP-WCMC for integration into the World Database on Protected Areas (WDPA): *[insert name of dataset]*. The dataset includes spatial boundaries and attributes relating to *[insert name of country/region/etc.]*.

Brief description of the data (including the format of the data, number of polygons and points, and any other relevant information):

_____
_____
_____
_____

The WDPA is an aggregated dataset of the best available data from many sources. It is a joint project of UNEP (the United Nations Environment Programme) and IUCN (The International Union for the Conservation of Nature), managed by UNEP World Conservation Monitoring Centre (UNEP-WCMC). It is used for multiple conservation purposes, as well as providing support to the Convention on Biological Diversity and the United Nations relating to environmental sustainability.

Unless otherwise stated, this dataset is being provided 'free of restrictions'[1]. We, the undersigned, agree and understand that by providing data for inclusion in the WDPA it will be viewable and downloadable in accordance with the WDPA Terms and Conditions through websites operated by UNEP-WCMC and IUCN, utilised for analyses, and re-distributed to third parties for use on other platforms.

2. UNEP-WCMC will recognize and respect the intellectual property rights of the data provider and its partners and will maintain proper attribution and source information of the data as provided to UNEP-WCMC.

The designations of geographical entities in any dataset do not imply the expression of any view or opinion whatsoever on the part of UNEP-WCMC or the data provider concerning the legal status of any country, territory, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

_____

[1] UNEP-WCMC is happy to accept data with restrictions. This includes data that is available for onward release but not for use by or on behalf of a commercial entity, and data that is made available only to UNEP-WCMC, UNEP and IUCN, and is not for onward release. If you wish to place restrictions on data, or require further information, please contact protectedareas@unep-wcmc.org

I/we hereby give permission to UNEP-WCMC for the integration of these data into the WDPA.

Signature ……

Title ……

Date ……

Data Contributor Agreement for Non-government Entities

[Insert Name of Organisation

Address

Telephone Number

Email Address]

1. On behalf of *[insert organisation/agency name]*, I/we the undersigned are providing the following dataset to UNEP-WCMC for integration into the World Database on Protected Areas (WDPA) and/or ICCA (indigenous peoples' and community conserved territories and areas) Registry: *[insert name of dataset]*. The dataset includes spatial boundaries and attributes relating to *[insert name of country/region/etc.]*.

Brief description of the data (including the format of the data, number of polygons and points, and any other relevant information. Please also indicate whether data is being provided for the WDPA, ICCA Registry, or both):

_____
_____
_____
_____

The WDPA is an aggregated dataset of the best available data from many sources. It is a joint project of UNEP (the United Nations Environment Programme) and IUCN (The International Union for the Conservation of Nature), managed by UNEP World Conservation Monitoring Centre (UNEP-WCMC). It is used for multiple conservation purposes, as well as providing support to the Convention on Biological Diversity and the United Nations relating to environmental sustainability. The database is supplemented by the ICCA Registry, which stores additional information on indigenous peoples' and community conserved territories and areas.

Unless otherwise stated**,** this dataset is being provided 'free of restrictions'[6]. We, the undersigned, agree and understand that by providing data for inclusion in the WDPA it will be viewable and downloadable in accordance with the WDPA Terms and Conditions through websites operated by UNEP-WCMC and IUCN, utilised for analyses, and re-distributed to third parties for use on other platforms.

2. I/We confirm that I/we have the rights, permissions and authority to release this dataset to UNEP-WCMC.

[6] UNEP-WCMC is happy to accept data with restrictions. This includes data that is available for onward release but not for use by or on behalf of a commercial entity, and data that is made available only to UNEP-WCMC, UNEP and IUCN, and is not for onward release. If you wish to place restrictions on data, or require further information, please contact protectedareas@unep-wcmc.org

The data provider has the permission of relevant stakeholders and rights-holders to share the dataset with UNEP-WCMC. Where relevant, the data provider shares the dataset with UNEP-WCMC with the free, prior and informed consent of communities and/or indigenous peoples involved in the management, governance or ownership of the sites described in the dataset. The data provider has made all reasonable efforts to ensure the accuracy of the dataset.

If the dataset is found to have been provided without the permission of the relevant stakeholders and rights-holders, it will be removed from the WDPA and/or ICCA Registry with immediate effect.

3. The designations of geographical entities in any dataset do not imply the expression of any view or opinion whatsoever on the part of UNEP-WCMC or the data provider concerning the legal status of any country, territory, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

UNEP-WCMC will recognize and respect the intellectual property rights of the data provider and its partners and will maintain proper attribution and source information of the data as provided to UNEP-WCMC.

UNEP-WCMC reserves the right to seek verification of the dataset from its partners, and to remove or withhold from the WDPA and/or ICCA Registry any data that cannot be verified.

I/we hereby give permission to UNEP-WCMC for the integration of these data into the WDPA and/or ICCA Registry.

Signature ……

Title ……..

Date ……..

Appendix 3 Basic quality checks on the WDPA

The WDPA team will perform a series of basic quality checks on the dataset received by data providers. Communication between the data provider and WDPA team will continue until the dataset complies with the WDPA data standards described in section 2 of this manual and the release has been agreed by both parties.

DATASET DESCRIPTION:		
GENERAL QUALITY CHECKS		**RESULTS**
Check dataset and repair geometry.		
Transform dataset to WGS84.		
Check all sites are within the country for which the protected areas dataset was sent including terrestrial and marine protected areas.		
Check if there are sites within overseas territories.		
Make sure data provider confirms which sites meet the IUCN definition of protected areas. Those that do not can be used for analyses but not included in the WDPA.		
Check if zones or parcels within the protected area have been submitted.		
Check for protected areas to be merged.		
Check if WDPA IDs and WDPA PIDs are provided.		
Reconcile with previous WDPA IDs and WDPA PIDs.		
Match data set to WDPA schema.		
Check sites to be removed from WDPA.		
Calculate GIS areas.		
Ensure dataset complies with WDPA data standards: Check all attributes are complete including all fixed values are correctly spelled. Do basic quality checks for all minimum and complete attributes (see below).		
Send final formatted dataset to data provider to get their final approval.		
Send dataset to staff in charge of merging all countries data into the WDPA and performing final quality check before release.		
QUALITY CHECKS FOR ATTRIBUTES		**RESULTS**
WDPA PID	Check there are no points and polygons using the same WDPA PID.	
Country codes: ISO3, PARENT ISO3 and Sub-national location	Check ISO3 and PARENT ISO3 codes are correct and the protected area's location is consistent with the codes.	
Name: Name and Original Name	Check 'Name' is complete.	
	Check for duplicate names.	
	Check codes/numbers not listed.	
	Check name is spelt out in full.	
	Check characters are not corrupted.	
QUALITY CHECKS FOR ATTRIBUTES		**RESULTS**
Designation: designation and English designation	Check completeness.	
	Check it is not plural.	
	Check characters are not corrupted.	
Marine	Check a fixed value is assigned. If not, assign fixed value.	

DATASET DESCRIPTION:		
	Check if the value assigned is consistent with the data provided and geographic location	
Reported Marine Area	Check area is in square kilometers.	
	Check not larger than Reported Area.	
Reported Area	Check area is in square kilometers.	
	Compare to GIS area	
Status	Check a fixed value is assigned. If not, assign fixed value.	
Status Year	Check completeness.	
	Check displayed as year not date.	
Designation Type	Check a fixed value is assigned. If not, assign fixed value.	
Protected Area Definition	Check a fixed value is assigned. If not, assign fixed value.	
International Criteria	Check a fixed value is assigned. If not, assign fixed value.	
Sub-national location	Check a fixed value is assigned. If not, assign fixed value.	
Governance Type	Check a fixed value is assigned. If not, assign fixed value.	
IUCN Management Category	Check a fixed value is assigned. If not, assign fixed value.	
Ownership type	Check a fixed value is assigned. If not, assign fixed value.	
Management authority	Check completeness.	
Management plan	Check either link or reference is provided.	
No Take	Check a fixed value is assigned. If not, assign fixed value.	
No Take Area	Check value is consistent with 'No take'.	
	Check area is in square kilometers.	
Designation (English)	Check characters are not corrupted.	

Appendix 4 Take-down policy

UNEP-WCMC operates a 'take-down' policy, such that if UNEP-WCMC is notified of a potential breach of copyright, or other reasonable notice of a possible violation of any law (including but not limited to laws on copyright, patent, intellectual property, trademark, confidentiality, data protection, obscenity, defamation and libel), the dataset or relevant portion involved will be removed from the repository as quickly as possible pending further investigation.

Where the grounds for complaint are considered plausible, the dataset or relevant portion will be withdrawn from the repository. A decision on whether the material may be made available again may take some time if it is necessary for UNEP-WCMC to seek legal advice to resolve the complaint.

How to Notify UNEP-WCMC of a Take-Down Request:

If you have discovered material in the WDPA which is considered unlawful e.g. breaches copyright, (either yours or that of a third party) or any other law, including but not limited to those relating to patent, trademark, confidentiality, data protection, obscenity, defamation, libel or incitement to terrorism, please contact protectedareas@unep-wcmc.org providing the following information:

- Your contact details.
- The details of the dataset or relevant portion of said dataset.
- The nature of your complaint or concern.
- An assertion that your complaint is made in good faith and is accurate.
- If you are complaining about breach of your own copyright or intellectual property, please state, under penalty of perjury, that you are the rights owner or are authorized to act for the rights owner.

The following Procedure will then be invoked:

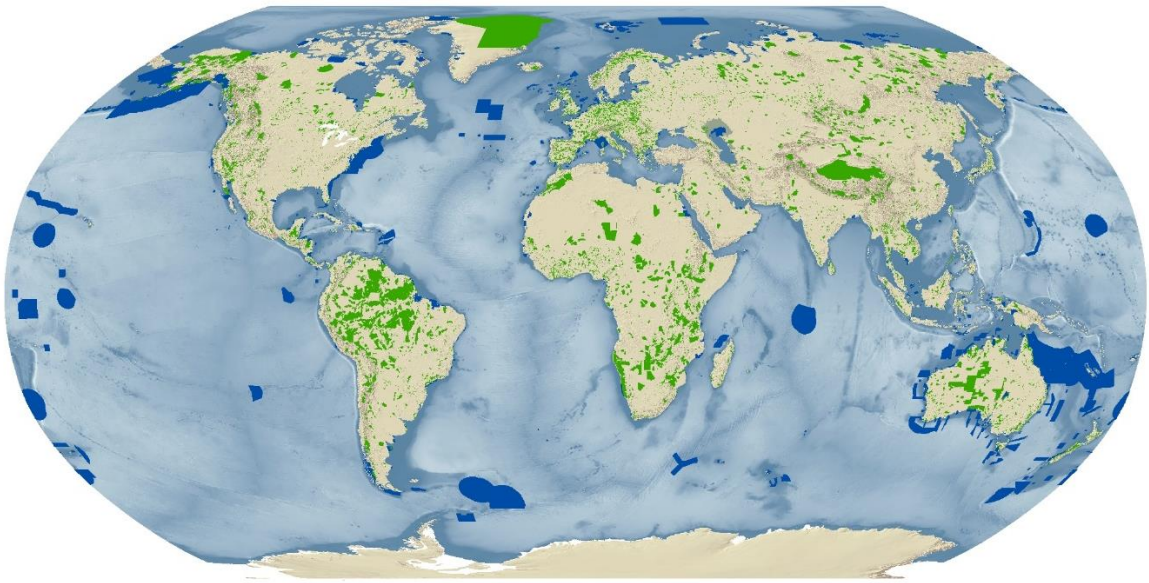
1. UNEP-WCMC will acknowledge receipt of your complaint by email or letter and will make an initial assessment of the validity and plausibility of the complaint, possibly taking legal advice.
2. In the first instance take-down requests will be reviewed by UNEP-WCMC. If the initial assessment is found to be potentially valid and requiring further consideration or legal advice, the material will be temporarily removed from the WDPA website or associated web portal pending an agreed solution.
3. Where relevant the contributor will be notified that the material is subject to a complaint, under what allegations, and will be encouraged to assuage the complaints concerned.

Outcomes

On completion of the take-down procedure outlined above, one of three outcomes will result:

- If the complaint is not validated, the dataset or relevant portions will not be changed and the dataset will be reinstated in the WDPA and through associated web portals
- If the complaint is valid and an agreed upon solution results in changes/updates to the material in question, the material will be reinstated in the WDPA after the necessary changes/updates have been made.
- If the complaint is valid and an agreed upon solution cannot be reached the material will be permanently removed from the WDPA website and associated web portals.

Appendix 5 WDPA metadata



Description:	The World Database on Protected Areas (WDPA) is a joint project between the United Nations Environment Programme (UNEP) and the International Union for Conservation of Nature (IUCN), managed by UNEP World Conservation Monitoring Centre (UNEP-WCMC). The dataset described here shows the global distribution of terrestrial and marine protected areas The dataset contains protected areas designated at the national level and under regional and international conventions and agreements. International designations include those under the Ramsar Convention, the World Heritage Convention (United Nations Educational, Scientific and Cultural Organization, UNESCO), and sites under the UNESCO's Man and the Biosphere Programme (MAB). Regional agreements include sites under the Natura 2000 network (European), as well as Marine Protected Areas designated under regional conventions such as the Convention for the Protection of the marine Environment of the North-East Atlantic (OSPAR) and many others. It also contains data on protected areas established by other means.
Citation(s):	IUCN and UNEP-WCMC (year), The World Database on Protected Areas (WDPA) [On-line], [insert month/year of the version downloaded], Cambridge, UK: UNEP-WCMC. Available at: www.protectedplanet.net. **Other Cited References** UNEP-WCMC (2016). World Database on Protected Areas User Manual 1.4. UNEP-WCMC: Cambridge, UK Thomas H.L., et al. (2014). Evaluating official marine protected area coverage for Aichi Target 11: appraising the data and methods that define our progress. Aquatic Conservation: Marine and Freshwater Ecosystems 24 (suppl. 2)

	UNEP-WCMC (2014) Global statistics from the World Database on Protected Areas (WDPA), August 2014. Cambridge (UK): UNEP World Conservation Monitoring Centre Deguignet et al. (2014). United Nations List of Protected Areas. Cambridge (UK): UNEP World Conservation Monitoring Centre
Temporal range:	The database was created for the first time in 1981, the WDPA stores data from all protected areas in the world since their year of establishment. This currently ranges from 1819 to 2014.
Geographical range:	Global, marine and terrestrial.
Supplementary information (e.g., attribute table):	A WDPA Manual (UNEP-WCMC 2016) is provided with the dataset which includes a data dictionary and guide to interpreting the WDPA attributes. The WDPA can be viewed at, and downloaded from, Protected Planet (www.protectedplanet.net) A factsheet providing background information relevant to protected areas can be found at http://biodiversitya-z.org/content/protected-areas. Thomas et al. (2014) describe the methodology used to calculate surface area statistics for marine protected areas. Global statistics for protected areas and the methodology used to calculate surface area statistics for terrestrial protected areas is available at https://www.protectedplanet.net/c/world-database-on-protected-areas and UNEP-WCMC (2016).
Purpose of creation:	The WDPA has been in existence since 1981, and is the most comprehensive global database on terrestrial and marine protected areas, comprising both spatial data (i.e. boundaries) and attribute data (i.e. descriptive information). The mandate of the database dates from 1959 when the United Nations (UN) Economic and Social Council called for a list of national parks and equivalent reserves in recognition that they '*are valuable for economic and scientific reasons and also as areas for the future preservation of fauna and flora and geologic structures in their natural state*' Resolution 713 (XXVIII). The first UN List of Protected Areas, as it became known, was subsequently published in 1962. The database is also used to generate indicators to track progress towards the Convention on Biological Diversity Aichi Targets and the UN Millennium Development Goals.
Creation methodology:	Data for protected area records in the WDPA have been obtained from over 600 sources. Along with information on the data verifier, these sources are listed in the source table ("WDPA_Source_Table") that is included in the file geodatabase with each monthly release. Data for protected areas designated under international agreements and conventions have been sourced from the relevant convention secretariats. Data for national-level protected areas have been sourced from national authorities wherever possible. Information may also be supplemented by data from other agencies, organisations or individuals. All data in the WDPA has been verified either by the national authorities or by non-government expert partners. For detailed information on the WDPA attributes and verification processes the WDPA manual (UNEP-WCMC 2016) should be consulted.

Lineage (versioning):	Note that the map shown in the metadata sheet is using the April 2016 release. ProtectedPlanet.net displays the latest version of the dataset.		
Category:	Protected Areas		
Keywords:	Protected Areas, Areas of Biodiversity Importance.		
Similar datasets:	None		
Quality, limitation(s), fitness for use:	The WDPA dataset is not necessarily a complete representation of all the protected areas which have been designated in country; the quality of the WDPA depends on the accessibility of accurate, comprehensive, up-to-date protected areas information from data holders. Thus, mismatches between on the ground protected areas and protected areas in the WDPA may be due to a number of reasons that include but are not restricted to: new data being quality checked to fit the WDPA standards, data not submitted to the WDPA yet, new protected area boundaries not being accurately digitised or simply not yet being digitised. In many areas, several (up to eight) designations overlap; it is hence necessary to dissolve the dataset before any surface area calculation are carried out. Details on the common issues and quality limitations of the WDPA are described in detail in the WDPA Manual (UNEP-WCMC 2016).		
Maintenance frequency:	Data are updated on a monthly basis.		
Main access/use constraint:	UNEP-WCMC WDPA Data License. No commercial use, no sub-licensing or redistribution on WDPA data. WDPA Materials in whole or in part may be published, including on-line, providing (a) the WDPA Data are not downloadable and (b) the proper attribution is clearly visible. For full details see: http://www.protectedplanet.net/terms. Commercial entities should contact business-support@unep-wcmc.org.		
Other access/use constraints:	None		
Contact organisation:	UNEP World Conservation Monitoring Centre		
Organisation type:	Custodian	**Acronym:**	UNEP-WCMC
Name	Brian MacSharry	**Position:**	Protected areas information coordinator
City:	Cambridge	**Country:**	United Kingdom

E-mail	protectedareas@unep-wcmc.org		
Web site:	www.unep-wcmc.org		
Main format:	File geodatabase (point, polygon; .fgdb)	**Other format(s):**	Keyhole Markup Language (.kmz); tabular – comma-separated values (.csv)
Distribution format:	File geodatabase (.fgdb), KML (.kmz), shapefile (.shp),tabular (.csv)	**Dataset size (uncompressed):**	1.05 Gb (file geodatabase)
Webpage and/or download:	http://www.protectedplanet.net/		
Other webpage:	Not applicable		
Web map service:	http://ec2-54-204-216-109.compute-1.amazonaws.com:6080/arcgis/rest/services/wdpa/wdpa/MapServer		
Resolution, scale:	Not applicable	**Reference system:**	WGS 1984
West bounding:	-180	**East bounding:**	180
South bounding:	-90	**North bounding:**	90
Factsheet:	Yes	**Metadata standard:**	UNEP-WCMC Specific

Appendix 6 List of selected policy references to the WDPA

The WDPA is mentioned in many policy decisions as well as in IUCN Congresses' recommendations and resolutions. Below is a selected number of these references.

United Nations Economic and Social Council

713 (XXVII). Establishment by the Secretary-General of the United Nations of a list of national parks and equivalent reserves.

The Economic and Social Council,

Noting that national parks and equivalent reserves have been established in most countries which are Members of the United Nations or members of the specialized agencies, and that they contribute to the inspiration, culture and welfare of mankind,

Believing that these national parks are valuable for economic and scientific reasons and also as areas for the future preservation of fauna and flora and geologic structures in their natural state,

1. *Requests* the Secretary-General to establish, in co-operation with United Nations Educational, Scientific and Cultural Organization, the Food and Agriculture Organization of the United Nations, and other interested specialized agencies, a list of national parks and equivalent reserves, with a brief description of each, for consideration by the Council at its twenty-ninth session, together with his recommendations for maintaining and developing the list on a current basis and for its distribution;

2. *Invites* State Members of the United Nations or members of the specialized agencies to transmit to the Secretary-General a description of the areas they desire to have internationally registered as national parks or equivalent reserves;

3. *Furthermore invites* the International Union for Conservation of Nature and Natural Resources and other interested non-governmental organizations in consultative status with the Council to assist the Secretary-General, upon his request, in the preparation of the proposed list.

1063rd plenary meeting, 22 April 1959.

Decision 22/1/III of the UNEP Governing Council in February 2003 to update and renew the 1959 The Economic and Social Council (ECOSOC) resolution.

Specifically, the Council:

"[Agreed] that the United Nations Economic and Social Council resolution of1959, subsequently endorsed by the General Assembly in 1962, needs to be renewed and updated."

Convention on Biological Diversity (CBD), selected decisions relevant to the WDPA

CBD COP VII/28, 2004 "Invites the World Conservation Monitoring Centre of the United Nations Environment Programme, working with international organizations, to further develop the World

Database on Protected Areas in order to assist the monitoring towards the overall objective of the decision on protected areas, and urges Parties, other Governments and relevant organizations to provide up-to-date information for the database." [This is further elaborated in the annexed Programme of Work on Protected Areas].

COP VIII/24, 2006 "Notes the importance of the World Database on Protected Areas as a tool to assist the monitoring of progress towards achieving the targets of the Programme of Work on Protected Areas, and invites the World Conservation Monitoring Centre of the United Nations Environment Programme, the World Commission on Protected Areas of the International Union for Conservation of Nature, and their collaborators to further develop access to the database and information management including tools for data sharing and exchange."

COP IX/18, 2008 "Encourages Parties to develop national or regional data networks in order to facilitate the exchange of, and access to information..., including providing information to the WDPA"

COP X/31, 2010 "Encourages Parties to share and update relevant information on their protected areas system with the World Database on Protected Areas"

COP X/31, 2010 "The COP... invites Parties, taking into account the target for goal 1.4 of the programme of work, which calls for all protected areas to have effective management in existence by 2012 using participatory and science-based site planning processes with full and effective participation of stakeholders, and noting that to assess the effectiveness of the management, specific indicators may also be needed to: (a)Continue to expand and institutionalize management effectiveness assessments to work towards assessing 60 per cent of the total area of protected areas by 2015 using various national and regional tools and report the results into the global database on management effectiveness maintained by the World Conservation Monitoring Centre of the United Nations Environment Programme (UNEP WCMC)"

COP XI/24, 2012 "Invites the UNEP World Conservation Monitoring Centre and its partners, including the World Commission on Protected Areas of the International Union for Conservation of Nature (IUCN), to continue to report progress towards achieving Aichi Biodiversity Target 11 and related targets through the Protected Planet Report".

IUCN World Conservation Congresses (WCC)

(3rd, Bangkok, Thailand, 2004)

- Resolutions
  - **3.012** Governance of natural resources for conservation and sustainable development [6d] "Requests the IUCN WCPA...to offer suggestions to UNEP-WCMC for more complete reporting of governance types in WDPA and UN List.
  - **3.049** Community Conserved Areas [1] Recognizes and affirms the conservation significance of CCAs....[3] Requests the WCPA to: (b) guide relevant bodies in the revisions to, or updating of, the WDPA, UN List, State of the World's PAs and any other databases....

(4th, Barcelona, Spain 2008)

- Resolutions
  - ***4.045*** *Accelerating progress to establish marine protected areas and creating marine protected area networks [9] "Requests the Director General to; (b) establish, in consultation with WCPA and working with the World Database on Protected Areas*

and others, a regular and transparent process for tracking and reporting commitments and progress toward creating MPAs and MPA networks, as well as significant remaining gaps in MPA coverage; and…"

(5th, Jeju, South Korea 2012)

- **WCC-2012-Res-035-EN** Facilitating conservation through the establishment of protected areas as a basis for achieving Target 11 of the Strategic Plan for Biodiversity 2011–2020. "*Recognizing IUCN's responsibility to maintain the World Database on Protected Areas through its partnership with the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC), and IUCN's leadership role in setting conservation standards for determining sites of global biodiversity conservation significance to guide national gap analysis, protected area management categories, governance types and management effectiveness assessments;...*"
- **WCC-2012-Res-036-EN** Biodiversity, protected areas and Key Biodiversity Areas. *"Recognizing IUCN's leadership role in guiding such responses through the establishment of conservation standards and maintenance of data systems that allow publication by the global conservation community of data meeting these standards, and specifically the roles of:..." [b] "…the IUCN World Commission on Protected Areas (WCPA) in facilitating documentation of protected area management objectives through the Guidelines for applying protected area management categories and publication of data, in partnership with the United Nations Environment Programme World Conservation Monitoring Centre (UNEPWCMC), through the World Database on Protected Areas, and further to Decision IX/18 of the Conference of the Parties (COP) of the Convention on Biological Diversity (CBD);..."*

IUCN World Parks Congresses (WPC)

(5th, Durban, South Africa, 2003)

- Recommendations
  - **V.4:** Building Comprehensive and Effective PA Systems. "*The WDPA is a vital tool for measuring the efforts of governments and civil society to build comprehensive PA networks*."
    - **[7.]** "*Request the consortium of institutions responsible for maintaining and managing the WDPA to continually enhanced the quality and make it publicly available and accessible*;"
    - **[8]** *Urges the Parties to CBD to request all governments to provide annual updates of information to the WDPA*;"
  - **V.17:** Recognising and Supporting a Diversity of Governance Types for Protected Areas
    - **[5]** "*Encourage UNEP-WCMC to expand its data collection and dissemination programme to recognise all governance types, particularly...CCA's and private protected areas*;"
  - **V.18:** Management Effectiveness...Recommends that IUCN Members...[_g.] *"Inclusion of management effectiveness tracking in global databases of protected areas;"*
  - **V.19:** IUCN PA Management Categories [13] "*Recommends that UNEP-WCMC reviews the format used in the UN List of PAs to depict clearly all PA Categories...*

(6th, Sydney, Australia, 2014)

- **The Promise of Sydney: Innovative approaches for change.** A strategy of innovative approaches and recommendation to reach conservation goals in the next decade. Available at: http://worldparkscongress.org/about/promise_of_sydney_innovative_approaches.html
    - **"***The Congress noted important solutions to assist in the analysis and application of information, such as the UNEP-World Conservation Monitoring Centre and IUCN WCPA's Protected Planet collaboration, and other initiatives*".
    - "*UNEP-WCMC and IUCN's World Database on Protected Areas reports 15.4% of the terrestrial realm and 8.4% of coastal and marine waters are currently protected."*
    - [6] *"Countries fully report, taking into account all governance types, on their protected area systems (location, extent, management categories, management effectiveness, governance) into the UN List of Protected Areas through the UNEP World Conservation Monitoring Centre and IUCN WCPA".*