

Information Sheet on Ramsar Wetlands (RIS)

2009-2012 version

Available for download from http://www.ramsar.org/ris/key_ris_index.htm.

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 14, 3rd edition). A 4th edition of the Handbook is in preparation and will be available in 2009.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

1. Name and address of the compiler of this form:

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

December 1, 2010

3. Country:

Indonesia

4. Name of the Ramsar site:

The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

Sembilang National Park

5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only):

- a) Designation of a new Ramsar site
- b) Updated information on an existing Ramsar site

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area

The Ramsar site boundary and site area are unchanged:

or

If the site boundary has changed:

- i) the boundary has been delineated more accurately ; or
- ii) the boundary has been extended ; or
- iii) the boundary has been restricted**

and/or

If the site area has changed:

- i) the area has been measured more accurately ; or
- ii) the area has been extended ; or
- iii) the area has been reduced**

**** Important note:** If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

7. Map of site:

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

- i) a hard copy (required for inclusion of site in the Ramsar List): ✓
- ii) an electronic format (e.g. a JPEG or ArcView image) ✓
- iii) a GIS file providing geo-referenced site boundary vectors and attribute tables

b) Describe briefly the type of boundary delineation applied:

e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc

The national park area is a fusion of several conservation areas, i.e. the Terusan Dalam Wildlife Sanctuary (29,250 ha), Sembilang Nature Reserve (113,173 ha), Terusan Dalam Limited Production Forest (45,500 ha), and including 17,827 ha of water body. The existing outside boundary of Sembilang National Park is taken from all the outside boundaries of those conservation areas, creating a closed

polygon (purple clour in the map). The entire boundary of the park is yet to be marked by permanent markers, so there is a part of the boundary (i.e. southwestern part, adjoining Banyuasin District) which have no permanent markers yet (see map).

8. Geographical coordinates (latitude/longitude, in degrees and minutes):

Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

The central point of the park is 1°57'S, 104°36'E

9. General location:

Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

Administratively, the national park is located at Sungsang Sub District, Banyuasin District, South Sumatra Province, Indonesia. The distance between Sultan Mahmud Badaruddin II International Airport and the fisherman harbor at Simpang PU (from which the boat to the national park can be rented) is about 42 km, around 40 minutes by car. The journey can be followed by speed boat to the park for another 30 minutes (nearest border) and around 4 hours to northern-most part of Sembilang National Park.

Sungsang District (369,667.5 hectare) has a population of 45,529 individuals. Banyuasin District (11,832.99 km²) has a population of 757,398 individuals. South Sumatra Province (113,339 km²) has a population of 6,275,945 individuals.

10. Elevation: (in metres: average and/or maximum & minimum)

0-20 meters above sea level

11. Area: (in hectares)

202,896.31 ha

Designated by the Forestry Ministerial Decree Number 95/Kpts-II/2003, dated March 19th, 2003.

12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

Sembilang National Park consists of mangrove forests (45%), mud flats (2%), coastal forest, lowland tropical, forest swamp, and, freshwater and swamp peatland (9%).

Mangroves and mudplains are very important for the Milky Stork and Lesser Adjutant because they provide nesting trees and feeding ground. Mangrove forests grow 35 km inland and is one of the best mangrove belts in the eastern shore of Sumatra. The mangrove trees are big and tall enough for the Milky Stork to nest in, which provide security for the breeding birds from the beginning of breeding season until the chicks are independent. The mudplains provide the perfect feeding ground for the 2 species and also for other dependent species.

The mudplains are created from accumulated content brought down by the Sembilang River.

This conservation area has a close relation and similarity with the adjacent Berbak National Park, (another Ramsar site in Indonesia) also dominated by swamps and peat forests.

Sembilang National Park also has a large alluvial delta which serves as one of the most important habitat for migratory birds on the East Asian-Australasian Flyway/EAAF.

This site also plays an important role in protecting life support systems, preserving local plant and animal species diversity and their ecosystem, and supporting local utilization of natural resources sustainably.

13. Ramsar Criteria:

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1.	2.	3.	4.	5.	6.	7.	8.	9.
✓	✓	✓	✓	✓	✓	✓	✓	

14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Criterion 1:

This area has been designated as a national park because of the presence of a unique estuarine environment which has the largest mangrove formation (35 km wide inland) in the western part of Indonesia.

Swamps, peat forests and mangroves play an important role in balancing the hydrological system in the park. They act as container areas to store fresh water from rainfall. This water is stored and recharges the ground water table, which gradually feeds the seventy small rivers meandering in the park.

Sembilang National Park consists of very important wetland types (such as the largest mangrove formation, freshwater swamp and peat swamp), which support the biggest breeding colony of Milky Stork (*Mycteria cinerea*) in the world and one of the biggest breeding colony of Lesser Adjutant (*Leptoptilos javanicus*) in Indonesia.

Criterion 2:

The Park plays an important role in protecting many threatened species.

English Name	Scientific Name	IUCN Status	CITES Status	CMS	National Status
Mammals					
Sumatran Tiger	<i>Panthera tigris sumatrae</i>	CR	App I	-	P

English Name	Scientific Name	IUCN Status	CITES Status	CMS	National Status
Clouded Leopard	<i>Neofelis nebulosa</i>	VU	App I	-	P
Marbled Cat	<i>Pardofelis marmorata</i>	VU	App I	-	P
Leopard Cat	<i>Felis bengalensis</i> or <i>Prionailurus bengalensis</i> (kerr, 1792)	LC	App I	-	P
Fishing Cat	<i>Felis viverrina</i> or <i>Prionailurus viverrinus</i> (Bennett, 1833)	NT	App I	-	P
Flat-headed Cat	<i>Felis planiceps</i>	VU	App I	-	P
Sun Bear	<i>Helarctos malayanus</i>	VU	App I	-	P
Finless Porpoise	<i>Neophocaena phocaenoides</i>	VU	App I	App II	P
Siamang Gibbon	<i>Symphalangus syndactylus</i>	EN	-	-	P
Silvered Langur	<i>Presbytis cristata</i>	NT	-	-	-
Agile Gibbon	<i>Hylobates agilis</i>	EN	-	-	-
Malayan Tapir	<i>Tapirus indicus</i>	EN	-	-	-
Pig-tailed Macaque	<i>Macaca nemestrina</i>	VU	-	-	-
Malayan Tapir	<i>Tapirus indicus</i>	ED	-	-	-
Eurasian Otter	<i>Lutra lutra</i>	VU	App I	-	P
Hairy-nosed Otter	<i>Lutra sumatrana</i>	DD (VU)	App II	-	P
Smooth Otter	<i>Lutra perspicillata</i>	VU	App II	-	-
Small-clawed Otter	<i>Aonyx cinerea</i>	VU	-	-	-
Large Flying Fox	<i>Pteropus vampyrus</i>	NT	-	-	-
Indian Elephant	<i>Elephas maximus</i>	EN	App I	-	P
Irrawaddy Dolphin	<i>Orcaella brevirostris</i>	VU	App I	App I possibly App II	P
Indo-Pacific Hump-backed Dolphin	<i>Sousa chinensis</i>	NT		App II	P
Birds					

English Name	Scientific Name	IUCN Status	CITES Status	CMS	National Status
Milky Stork	<i>Mycteria cinerea</i>	VU	App I	-	P
Storm's Stork	<i>Ciconia stormi</i>	EN	-	-	-
Lesser Adjutant	<i>Leptoptilos javanicus</i>	VU	App I	-	P
White-winged Duck	<i>Cairina scutulata</i>	EN	App I	-	P
Spotted-billed Pelican	<i>Pelecanus philippensis</i>	NT	-	-	-
Spot-billed Pelican	<i>Pelecanus philippensis</i>	NT	-	-	-
Eurasian Curlew	<i>Numenius arquata</i>	NT			P
Far Eastern Curlew	<i>Numenius madagascariensis</i>	VU	-	-	P
Oriental Darter	<i>Anbinga melanogaster</i>	NT	-	-	-
Black-tailed Godwit	<i>Limosa limosa</i>	NT			
Spotted Greenshank	<i>Tringa guttifer</i>	EN	-	App I possibly II	-
Black-headed Ibis	<i>Threskiornis melanocephalus</i>	NT	-	-	-
Asian Dowitcher	<i>Limnodromus semipalmatus</i>	NT	-	-	-
Great Knot	<i>Calidris tenuirostris</i>	VU	-	-	-
Chinese Egret	<i>Egretta eulophotes</i>	VU	-	-	P
Reptiles					
Malayan Box Turtle	<i>Cuora amboinensis</i>	VU	App II	-	-
Malayan Giant Turtle	<i>Orlitia borneensis</i>	EN		-	-
Asiatic Soft-shell Turtle	<i>Amyda cartilaginea</i>	VU		-	-
Sunda Gharial	<i>Tomistoma schlegelii</i>	EN	App I	-	P
Saltwater Crocodile	<i>Crocodylus porosus</i>	LC	App I	-	-
King Cobra	<i>Ophiophagus hannah</i>	VU	App II	-	-

P= Protected by National Law

Criterion 3:

The park has the most complex shorebird community in the world (Danielsen & Verheught, 1990) and is also an important site for migratory birds of the East Asian-Australasian Flyway/EAAF). There are

at least 213 bird species including many which are threatened (mentioned in criteria 2). This site has one of the largest breeding colony of the Spotted-billed Pelican (*Pelecanus philippensis*) and Lesser Adjutant (*Leptoptilos javanicus*) in Indonesia, and the biggest breeding colony of Milky Stork (*Mycteria cinerea*) in the world.

This park is also important in the Sumatra region because it has the largest mangrove area in East Sumatra. There are 17 species of mangrove (i.e. 43% of all species of mangrove in Indonesia), including *Sonneratia alba*, *Avicennia marina*, *Rhizophora mucronata*, *R. apiculata*, *Bruguiera gymnorhiza*, and *Xylocarpus granatum*, all are important for maintaining biodiversity in the region.

There are at least 53 recorded mammal species (Danielsen & Verheught 1990, PBS data), including at least 5 recorded primate species (examples include, Silvered langur (*Presbytis cristata*), Agile Gibbon (*Hylobates agilis*), and Siamang Gibbon (*Symphalangus syndactylus*)). A minimum of 3 species of Otter (*Lutra lutra*, *L. perspicillata*, *L. sumatrana* and *Aonyx cinerea*), at least 7 species of cats (*Felis marmorata*, *F. viverrina*, *F. bengalensis*, *F. temminckii*, *F. planiceps*, *Neofelis nebulosa*) and more than 140 fish species. There are 38 species of crab, at least 13 species of shrimp from 9 families.

Criterion 4:

The national park is on the path of East Asian-Australasian Flyway/EAAF, and has been recognized as an internationally important stopover site (Wetlands International, 2006). Some of the most important migratory birds species are Terek Sandpiper (*Tringa cinereus*), Common Redshank (*Tringa tetanus*), Black-tailed Godwit (*Limosa limosa*) and Bar-tailed Godwit (*Limosa lapponica*).

The national park supports one of the biggest breeding colony of Milky Stork (*Mycteria cinerea*) and Lesser Adjutant (*Leptoptilos javanicus*).

Criterion 5:

The total number of shore birds that utilise this area is about 0.5-1 million (Danielsen & Verheught, 1990), It has been recorded that during the winter, almost 80,000-100,000 migratory birds use this site to feed and rest (Danielsen & Verheught, 1990).

Criterion 6:

Sembilang National Park supports populations with numbers greater than the 1% threshold.

English Name	Scientific Name	Subspecies/Population (if applicable)	Count (min-max)	1% Threshold *
Milky Stork	<i>Mycteria cinerea</i>	West Indonesia	1000	50
Lesser Adjutant	<i>Leptoptilos javanicus</i>	South and South-East Asia	300	50
Asian Dowitcher	<i>Limnodromus semipalmatus</i>	Central and East Asia (br)	10,000 – 13,000	230

Spotted Greenshank	<i>Tringa guttifer</i>	North East Asia (br)	28	8
Far Eastern Curlew	<i>Numenius madagascariensis</i>	Central and East Asia (br)	2,600	380

*Source: Wetlands International (2006) Waterbird Population Estimates Fourth Edition.

Criterion 8:

The mudplains are rich in organic matter from mangroves, providing the best kind of food for many species of fish, while providing spawning habitat. The mangrove habitat in the national park is the best nursery in Sumatra for many commercial fish, the most abundant fish populations found here include Snapper (*Lutjanus sp.*), Grouper (*Epinephelus tauvina*), Giant Mudfish/Giant Snakehead (*Channa micropeltes*), and Northern Mud Gudgeon (*Ophiocara porocephala*).

15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation): Name the relevant bio-geographic region that includes the Ramsar site, and identify the bio-geographic regionalisation system that has been applied.

a) biogeographic region:

The park is located in Sumatra bio-geographic region: Indo-Malayan Realm

b) bio-geographic regionalisation scheme (include reference citation):

Udvardy, M. D. F. 1975. A classification of the biogeographical provinces of the world. IUCN Occasional Paper No 18.

16. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

The Sembilang National Park mostly consists of estuarine formations. About 70 smaller rivers flow inside the park. This area is dominated by mangrove ecosystems with the formation of Palembang sediment.

During the Pleistocene era, this area was at the Sundanese Plate periphery. During the Holocene era, this site was flooded owing to the higher sea level at that time.

This area is now covered by marine clay and river sediments. It is dominated by alluvial sediments, including marine sediments and organic sediments at the shoreline, and organic deposit, usually in the form of peat formation inland.

The tide varies between 1.6 and 2.8 meters, and sometimes reach 3.5 meters. Most of this conservation area is influenced by the tide. The site has a tropical climate with an average rainfall of about 2,455 mm per year (1989-1998).

The dry season is from May to October, while the wet season with strongest north-west wind occur from November to April. Based on Oldeman Climatic Classification, the national park is in the “C Zone”, meaning it continuously has 5 to 6 wet months, and approximately/more than 3 months of dry season.

The quality of river water is considered to be good. Otters are found in the park, and are thought to be good indicators of water quality.

17. Physical features of the catchment area:

Describe the surface area, general geology and geo-morphological features, general soil types, and climate (including climate type).

Topographic condition of the catchment area, generally, is in the form of hollow level off, or in local language is “lebak lebung”. Generally, the soil consists of Histosol (including *typic haplohemists*, *typic hydraquents*, *typic sulfaquents*, *histic sulfaquent*, *sodic psammaquents*) and Inceptisol (including *sulfic endoaquepts* and *typic sulfaquepts*). The deepest peat formation lies at the border between South Sumatra Province and Jambi Province, in this case, it lies between Sembilang National Park and Berbak National Park.

18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Swamps and peat forests play important roles in balancing the hydrological system in the Park. Peat-swamp forests and mangroves function as catchment and container areas to store fresh water from rainfall. This water is stored and recharges the ground water table, water gradually feeds the 70 small rivers meandering in the Park.

Mangrove greenbelt in Sembilang National Park reduces sedimentation in shallow coastal waters, which are used for water transportation routes. Carbon is being stored in peatland forests in Sembilang National Park.

Mangrove forests reduce salt-water intrusion to inland agricultural areas, e.g. transmigration villages surrounding the National Park. Mangrove forests also function to reduce pesticide pollution (from agricultural land) in fishing grounds. From year to year, mangroves protect Terusan Dalam Sub Villages from hurricane and other natural disasters.

19. Wetland Types

a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar “Classification System for Wetland Type” present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

Marine/coastal: F

Inland: U, W, Xf , Xp

Human-made: 1

b) dominance:

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

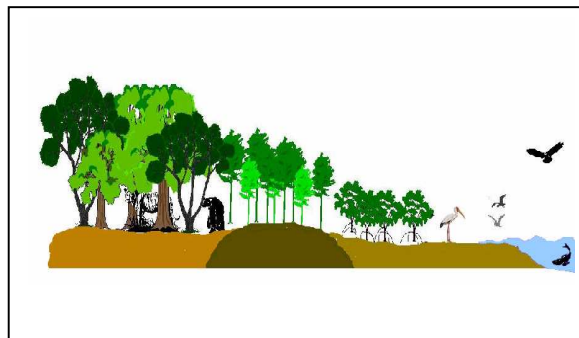
Marine/coastal:F
Inland: Xf, Xp, W, U,
Human-made: 1

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

Main wetland types:

Type of Habitat	Percent
Mangrove	45%
Back Swamp	42%
Swamp and Peat Forest	9%
Marine sediment (delta)	2.5%
Human-made Pond	1.5%
Coastal area	< 1%
Total	100%



Habitat Gradient Scheme

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Plant species in swampy areas, include *Dyera sp.* (Jelutung), *Instia palembanica* (Merbau), *Alstonia pneumatophora* and *Oncosperma tigillarum*, local orchids, such as: *Cymbidium hartinahabium* and *Dendrobium macrophyllum*.

Mangrove forests grow 35 km inland and is one of the best mangrove belts on the eastern shore of Sumatra. The mangrove trees are big and tall enough for the Milky Stork to nest in, which provide security for the breeding birds from the beginning of breeding season until the chicks are independent

Traditionally, local communities utilize leaves of Nipah Palm (*Nypa fruticans*) for roofs.

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g.,

which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

In terms of bird species, the national park focuses on the protection of both resident and migratory bird species. The number of globally threatened Milky Stork (*Mycteria cinerea*) from year to year is drastically decreasing, because of mangrove conversion in Southeast Asia and also by illegal hunting. To give motivation in preserving them, the park uses the species logo/emblem on uniforms. Second species significantly threatened is the Storm's Stork (*Ciconia stormi*), one of most endangered species in the region. The last inventory found Storm Stork's nest with 2 juveniles in March, 1989. The park area is routinely visited by 2 species of dolphins, namely Indo-Pacific Humpbacked dolphin (*Sousa chinensis*) and Finless porpoise (*Neophocaena phocaenoides*). The park has plenty of commercial fish and crustacea species, which contributes to economic growth in the region.

It has been recorded that the park has 142 fish species from 43 families, 38 species of crab, at least 13 species of shrimp from 9 families. E.g: Sembilang (*Plotosus canius*), Kakap (*Lutjanus sp.*), Grouper (*Epinephelus tauvina*), Toman (*Channa micropeltes*), Betutu (*Ophiocara porocephala*), Bawal Putih (*Pampus argenteus*), Brengkes (*Scomberomus sexfasciatus*), Belanak (*Mugil voigiensis*), Lobster (*Thalassina anomala*), Crab (Ucha and *Scylla serrata dussumieri*), White Shrimp (*Penaeus marquensis*), Shrimp Dogol (*Penaeus indicus*), Tiger Shrimp (*Penaeus semisulcatus*), Tiger Prawn (*Penaeus monodon*) and the Small crab (*Portunus spp.*).

23. Social and cultural values:

a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

Human activities within/surrounding the area can be grouped in three main areas: fishers (90 %), farmers (9%) and others (1%).

There are no unique social and cultural values.

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

If Yes, tick the box and describe this importance under one or more of the following categories:

i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:

All year, "lebak lebung" as one of the local mechanism/system of gathering fish/shrimb/scrab, is practised by local fishers, under national park and sub district supervision. The application of this traditional harvesting system helps to protect the mangrove ecosystem, which results in the preservation of the best mangrove belt in the region. The local people do not cut the trees extensively, nor use fish poison or the fish bombs when fishing (use of eco-friendly fishing tools).

24. Land tenure/ownership:

a) within the Ramsar site:

The Government of Indonesia. The status of National Park was declared on March 19, 2003.

b) in the surrounding area:

Central Government: Berbak National Park (Ramsar Site)

Province (Forest Service): Protected forest

Private: Plantation, production forest, transmigration site

25. Current land (including water) use:

a) within the Ramsar site:

Conservation area consists of several zones, which are:

- Core Zone, part of the national park that is in very good condition. Its physical features are still in original state and has not yet been exploited. It is designated to be fully protected. It has an area of 83,884.80 ha
- Wilderness Zone, is another protected zone, put in place to protect the core zone. This zone covers 100,418.41 ha
- Utilization Zone, a part of the national park which is designated for tourism and to provide other environmental services for local communities. Area of 356.45 ha.
- Traditional Zone is 6,237.90 ha, mostly a web of rivers which serves to accommodate local transportation routes.
- Rehabilitation/Restoration Zone is 10,465.11 ha, is specifically designated for rehabilitation/restoration activities. Specific treatment zone is 478.11 ha, which contains local villages that existed before the national park was created.

b) in the surroundings/catchment:

- Human settlements
 - Paddy fields/agriculture farms
 - Aquaculture ponds
 - Palm oil plantations
 - Timber estates
 - Concession forests
 - Protected forests
 - Other economic activities.
-

26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

a) within the Ramsar site:

- Past: Aquaculture, logging
- Present : -
- Potential: Human settlement (limited)

b) in the surrounding area:

- Past: logging (legal and illegal)
- Present: Logging (legal and small scale illegal logging)
- Potential: Development of international harbour and industrial estate.

27. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

National: Strategic Protected Area

The national park is on the path of East Asian-Australasian Flyway/EAAF, and has been recognized as an internationally important stopover site.

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ; Ib ; II ; III ; IV ; V ; VI

c) Does an officially approved management plan exist; and is it being implemented?

By law, Sembilang National Park management must always relate all of its implementation efforts to the Management Plan (20 year span), which is comprised of 4 related Strategic Plans (5 year span) and 20 Annual Work Plan (yearly). At this time, the Sembilang National Park Management Plan (20 year) is being reviewed and subject to official approval in the near future. The management plan is not yet finished. Public consultation for the proposed management plan was held on May 2009. Based on the 2010 Annual Work Plan, the management plan is scheduled to be officially approved in 2010

d) Describe any other current management practices:

- The implementation of Conservation Village Model as part of a buffer zone development strategy.
- Indicative Zonation (prepared through public consultation process) works as a fundamental stage to guide park management.

28. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area.

- Restoration Master Plan
- Ecotourism Development Plan
- Management for Coastal Human Settlement (Conservation Village Model)
- Integrated Patrol System
- Buffer Zone Management
- The Center of Conservation Education

- Mangrove Ecosystem Research Center
-

29. Current scientific research and facilities:

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Recently, there is no research conducted at the park. However, incidental research/survey/exploration is conducted by university students/local NGO/other Governmental Institutions. Currently, it has no permanent research station.

Data recorded from 2007 up to now.

- Regular survey for Milky Stork (*Mycteria cinerea*)
 - Regular survey for migratory bird (by National Park)
 - Isolation, Selection and Characteristic of Selulotic Bacterium from Mangrove Duff in Sembilang National Park (conducted by student from Sriwijaya University)
 - The Impact of Social Economy of National Park for Sembilang Sub Village (conducted by a student from Muhammadiyah University)
 - Coastal Forest Inventory in Sembilang National Park (conducted by a student from Muhammadiyah University (South Sumatra))
 - Importance and Existence Value of Mangroves, for Community in/surrounding the Park and it's Implication for Conservation Efforts (conducted by a student for a Masters Degree from Andalas University (West Sumatra))
 - Exploration of Pandanaceae (conducted by Plant Resources of South East Asia)
 - Assesment of Conservation Village Model (by Gadjah Mada University)
 - Community Potensial Study for Supporting the Development of a Conservation Village Model
-

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

- The national park has no permanent visitor centre, observation hide, nature trails, and facilities for school visits yet.
 - Several leaflets, booklets, posters or other extension materials is being produced and provided for conducting activities in the villages.
 - Students visits.
 - Information of Sembilang National Park has been displayed on national/local TV and National/local newspapers, and is prepared in multimedia formats
 - Other methods of promotion is through Sriwijaya Expo or other Regional Expo.
-

31. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

This national park is still in the process of being developed as a ecotourism destination in Indonesia. There are three preparation stages in terms of ecotourism development: (1) Identification of interest

points of ecotourism; (2) development planning for ecotourism; and (3) coordination with other related institutions at both provincial and district level.

The site is being prepared specifically for eco-tourism. So far, the eco-tourism activities have not been well managed. Most of the visitors visit the park for research, not for recreation.

The management plan is not yet finished. Public consultation for the proposed management plan was held on May 2009. Based on the 2010 Annual Work Plan, the management plan is scheduled to be officially approved in 2010.

32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

Ministry of Forestry, Directorate General of Protection and Nature Conservation, Directorate of Conservation Area and Protected Forest Management; Manggala Wanabhakti Building, Jln Gatot Subroto, Jakarta, INDONESIA.

33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Head of Sembilang National Park : Mr. Tatang

Address: Jln. AMD Kelurahan Talang Jambe, Kecamatan Sukarame, Palembang, South Sumatra 30152,
Phone: 62-711-7839200, E-mail: humas_tnsembilang@yahoo.com

34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

Anonymous. 2003. Forestry Ministerial Decree Number 95/Kpts-II/2003 dated March 19th, 2003

Anonymous. 2008. Sembilang National Park Profile

Danielsen & Verheught. 1990. Berbak-Sembilang Project

Wetlands International. 2006. Waterbird Population Estimates Fourth Edition.

Wyrski, K. 1961. Physical Oceanography of the Southeast Asian Waters. Univ. Calif., NAGA Rept., No. 2, 195 pp.

Please return to: **Ramsar Convention Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland**

Telephone: +41 22 999 0170 • Fax: +41 22 999 0169 • e-mail: ramsar@ramsar.org

Appendix 1. Conservation Status for Fauna at Sembilang NP

Local Name	English Name	Scientific Name	Status
Beruang Madu	Sun Bear	<i>Helarctos malayanus</i>	VU App I P
Sero Ambrang	Small-clawed Otter	<i>Aonyx cinerea</i>	VU App II
Berang-Berang Pantai	Eurasian Otter	<i>Lutra lutra</i>	VU App I P
Berang-Berang Wregul	Smooth Otter	<i>Lutra perspicillata</i>	VU App II
Berang-Berang Sumatera	Hairy-nosed Otter	<i>Lutra sumatrana</i>	ED (VU)
Musang Air	Otter Civet	<i>Cynogale bennettii</i>	EN App II P
Harimau Loreng	Sumatran Tiger	<i>Panthera tigris sumatrae</i>	CR App I P
Macan Dahan	Clouded Leopard	<i>Neofelis nebulosa</i>	VU App I P
Kucing Batu	Marbled Cat	<i>Pardofelis marmorata</i>	VU App I P
Kucing Emas	Asiatic Golden Cat	<i>Pardofelis temminckii</i>	NT P
Kucing Kuwuk	Leopard Cat	<i>Prionailurus bengalensis</i>	LC App I P
Kucing Bakau	Fishing Cat	<i>Prionailurus viverrinus</i>	ED
Kucing Tandang	Flat-headed Cat	<i>Prionailurus planiceps</i>	VU App I P
Gajah Asia	Indian Elephant	<i>Elephas maximus</i>	EN App I P
Tapir Tenuk	Malayan Tapir	<i>Tapirus indicus</i>	ED P
Pelanduk Kancil	Lesser Mouse-Deer	<i>Tragulus javanicus</i>	DD P
Pelanduk Napu	Large Mouse-Deer	<i>Tragulus napu</i>	LC P
Kijang Muncak	Barking Deer	<i>Muntiacus muntjak</i>	LC P
Rusa Sambar	Sambar	<i>Cervus unicolor</i>	VU P
Landak Raya	Short-tailed Porcupine	<i>Hystrix brachyura</i>	LC P
Pesut Mahakam	Irrawaddy Dolphin	<i>Orcaella brevirostris</i>	VU App I (CMS App I, II) P
Lumba-Lumba Bongkok	Indo-Pacific Hump-backed Dolphin	<i>Sousa chinensis</i>	NT (CMS App I) P
Lumba-Lumba Tanpa-Sirip Punggung	Finless Porpoise	<i>Neophocaena phocaenoides</i>	VU App I (CMS II) P

Notes:

IUCN = Kriteria Satwa terancam punah menurut International Union for Conservation of Nature and Natural Resources; **CITES** = Convention on International Trade in Endangered Species of Wild Flora and Fauna; **VU** = Vulnerable, rentan **EN** = Endangered, genting **CR** = Critically Endangered, kritis; **DD** = Data deficient; **App I** = Appendix I **App II** = Appendix II; **P** = dilindungi berdasarkan Peraturan Pemerintah Republik Indonesia No.7 Tahun 1999

Appendix 2.

Source: Berbak-Sembilang Project, Danielsen & Verheught 1990

Ordo/Family	Local name	English Name	Scientific name	Status
INSECTIVORA				
Erinaceidae	Rindil Bulan	Moon Rat	<i>Echinosorex gymnurus</i>	
CHIROPTERA				
Pteropodidae	Kalong Besar	Large Flying Fox	<i>Pteropus vampyrus</i>	NT
Rhinolophidae	Kelelawar Ladam Lapet-kuning	Trefoil Horseshoe Bat	<i>Rhinolophus trifoliatu</i>	LC
PRIMATES				
Cercopithecidae	Monyet Kra	Long-tailed Macaque	<i>Macaca fascicularis</i>	LC
	Monyet Beruk	Pig-tailed Macaque	<i>Macaca nemestrina</i>	VU
	Lutung Kelabu	Silvered Langur	<i>Presbytis cristata</i>	
Hylobatidae	Owa Ungko	Agile Gibbon	<i>Hylobates agilis</i>	ED P
	Owa Siamang	Siamang	<i>Hylobates syndactylus</i>	ED P
CARNIVORA				
Ursidae	Beruang Madu	Sun Bear	<i>Helarctos malayanus</i>	VU App I P
Mustelidae	Babi-Batang Sumatera	Hog Badger	<i>Arctomys collaris</i>	NT P
	Teledu Sigung	Teledu	<i>Mydaus javanensis</i>	LC P
	Pulusan Gunung	Java Weasel/ Indonesian Mountain Weasel	<i>Mustela lutreolina</i>	DD
	Musang Kepala-putih	Malay Weasel	<i>Mustela nudipes</i>	LC
	Musang Leher-kuning	Yellow-throated Marten	<i>Martes flavigula</i>	LC
	Sero Ambrang	Small-clawed Otter	<i>Aonyx cinerea</i>	VU
	Berang-Berang Pantai	Eurasian Otter	<i>Lutra lutra</i>	NT App I P
	Berang-Berang Wregul	Smooth Otter	<i>Lutra perspicillata</i>	VU
	Berang-Berang Sumatera	Hairy-nosed Otter	<i>Lutra sumatrana</i>	ED P
Viverridae	Binturung	Binturong	<i>Arctictis binturong</i>	VU P
	Musang Air	Otter Civet	<i>Cynogale bennettii</i>	EN App II P
	Musang Rase	Small Indian Civet	<i>Viverricula indica</i>	LC
	Musang Akar	Three-striped Palm Civet	<i>Arctogalidia trivirgata</i>	LC
	Linsang Linsang	Bdaned Linsang	<i>Prionodon linsang</i>	LC App II P
	Musang Luwak	Common Palm Civet	<i>Paradoxurus hermaphroditus</i>	LC
	Musang Galing	Masked Palm Civet	<i>Paguma larvata</i>	LC
	Tenggalung Malaya	Malay Civet	<i>Viverra zangalunga</i>	LC
Herpestidae	Garangan Jawa	Javan Mongoose	<i>Herpestes javanicus</i>	LC
Felidae	Harimau Loreng	Sumatran Tiger	<i>Panthera tigris sumatrae</i>	EN App I P
	Macan Dahan	Clouded Leopard	<i>Neofelis nebulosa</i>	VU App I P
	Kucing Batu	Marbled Cat	<i>Pardofelis marmorata</i>	VU App I P
	Kucing Emas	Asiatic Golden Cat	<i>Pardofelis temminckii</i>	NT P
	Kucing Kuwuk	Leopard Cat	<i>Prionailurus bengalensis</i>	LC App I P
	Kucing Bakau	Fishing Cat	<i>Prionailurus viverrinus</i>	ED
	Kucing Tandang	Flat-headed Cat	<i>Prionailurus planiceps</i>	VU App I P

Ordo/Family	Local name	English Name	Scientific name	Status
PERISSODACTYLA				
Tapiridae	Tapir Tenuk	Malayan Tapir	<i>Tapirus indicus</i>	ED P
Rhinocerotidae	Badak Sumatera	Sumatran Rhinoceros	<i>Dicerorhinus sumatrensis</i>	CR P
ARTIODACTYLA				
Suidae	Babi Celeng	Eurasian Wild Pig	<i>Sus scrofa</i>	LC
	Babi Berjenggot	Bearded Pig	<i>Sus barbatus</i>	VU
Tragulidae	Pelanduk Kancil	Lesser Mouse-Deer/Javan Charotain	<i>Tragulus javanicus</i>	P
	Pelanduk Napu	Large Mouse-Deer	<i>Tragulus napu/ Tragulus nigricans</i>	ED P
Cervidae	Kijang Muncak	Barking Deer	<i>Muntiacus muntjak</i>	LC P
	Rusa Sambar	Sambar	<i>Cervus unicolor</i>	VU P
PHOLIDOTA				
Manidae	Trenggiling	Malaysian Pangolin	<i>Manis javanica</i>	ED P
RODENTIA				
Sciuridae	Bajing Kelapa	Plaintain Squirrel	<i>Callosciurus notatus</i>	LC
	Bajing Tiga Warna	Prevost's Squirrel	<i>Callosciurus prevostii</i>	LC
	Bajing Ekor-pendek	Low's Squirrel	<i>Sundasciurus lowii</i>	LC
Muridae	Tikus	Rat	<i>Rattus sp.</i>	
Hystriidae	Landak Raya	Short-tailed Porcupine/Malayan porcupine	<i>Hystrix brachyura</i>	LC P
	Angkis Ekor-panjang	Long-tailed Porcupine	<i>Trichys fasciculata</i>	LC
CETACEA				
Delphinidae	Pesut Mahakam	Irrawaddy Dolphin	<i>Orcaella brevirostris</i>	VU App I (CMS App I, II) P
	Lumba-Lumba Bongkok	Indo-Pacific Hump-backed Dolphin	<i>Sousa chinensis</i>	NT (CMS App I) P
Phocoenidae	Lumba-Lumba Tanpa-Sirip Punggung	Finless Porpoise	<i>Neophocaena phocaenoides</i>	VUApp I (CMS II) P

Note:

Penamaan ilmiah berdasarkan Cranbrook 1987 (lihat Honacki, Kinman dan Koepl 1982), **r** = dilaporkan oleh masyarakat setempat, **o** = teramati (**d** = langsung terlihat/terdengar, **t** = jejak/kotoran/tdana lain) **IUCN**: *International Union for Conservation of Nature dan Natural Resources* (Red List 2000), **LR** = lower risk (*lc* = least concern, *nt* = near threatened), **VU**=vulnerable, **EN**= endangered, **CR** = critical, **DD** = data deficiency, **CITES**: *Convention on International Trade in Endangered Species of Wild Flora dan Fauna*, **App I** = Appendix I, **App II** = Appendix II, **P** = Protected by Indonesia Law

Appendix 3. List of Birds Species

Source of data

1986 = Silvius 1986; 1990 = Danielsen & Verheugt 1990; 1991 = Noor 1991;

1993 = Verheugt et al. 1993; 2000 = Purwoko 2000;

2000-2001 = Data Primer Proyek Berbak-Sembilang

Family	No	Local name	Scientific name	English name	Source of data						Status
					1986	1990	1991	1993	2000	2000-2001	
Pelicanidae	1	Undan Paruh-totol	<i>Pelecanus philippensis</i>	Spot-billed Pelican	o	o	o	o	o		NT
Phalacrocoracidae	2	Pecuk-padi Kecil	<i>Phalacrocorax niger</i>	Little Cormorant		o					
Anhingidae	3	Pecuk-ular Asia	<i>Anbinga melanogaster</i>	Oriental Darter	o	o	o	o	o	o	P, NT
Fregatidae	4	Cikalang	<i>Fregata</i> spp	Frigatebird		o		o			
Ardeidae	5	Cangak Abu	<i>Ardea cinerea</i>	Grey Heron		o	o		o	o	
	6	Cangak Laut	<i>Ardea sumatrana</i>	Great-billed Heron	o	o				o	
	7	Cangak Merah	<i>Ardea purpurea</i>	Purple Heron	o	?		o		o	
	8	Kuntul Karang	<i>Egretta sacra</i>	Reef Egret		o			o	o	P
	9	Kuntul Cina	<i>Egretta eulophotes</i>	Chinese Egret		o					P, VU
	10	Kuntul Besar	<i>Casmerodius albus</i>	Great Egret	o	o	o		o	o	P
	11	Kuntul Perak	<i>Mesophoyx intermedia</i>	Intermediate Egret	o	?			o		P
	12	Kuntul Kecil	<i>Egretta garzetta</i>	Little Egret		o	o		o	o	P
	13	Kowak-malam Abu	<i>Nycticorax nycticorax</i>	Black-crowned Night-heron		o					
	14	Blekok Sawah	<i>Ardeola speciosa</i>	Javan Pond-heron	?	o		o		o	
	15	Kokokan Laut	<i>Butorides striata</i>	Striated Heron			o			o	
	16	Bambangan Kuning	<i>Ixobrychus sinensis</i>	Yellow Bittern						o	
Ciconiidae	17	Bluwok/Bangau Bluwok	<i>Mycteria cinerea</i>	Milky Stork	o	o	o	o	o	o	P, VU, App I
	18	Bangau Storm	<i>Ciconia stormi</i>	Storm's Stork		?		?		o	EN
	19	Bangau Tongtong	<i>Leptoptilos javanicus</i>	Lesser Adjutant	o	o	o	o	o	o	P, VU
Threskiornithidae	20	Ibis Cucuk-besi	<i>Threskiornis melanocephalus</i>	Black-headed Ibis	o	o	o	o	o	o	NT
Anatidae	*	Belibis Batu	<i>Dendrocygna javanica</i>	Lesser Whistling-duck				?			
	21	Mentok Rimba	<i>Cairina scutulata</i>	White-winged Duck	o			?			P, EN, App I
	22	Itik Benjut	<i>Anas gibberifrons</i>	Sunda Teal		o	o			o	P
	23	Itik Alis-putih	<i>Anas querquedula</i>	Garganey		o					
Accipitridae	24	Elang Tiram	<i>Pandion haliaetus</i>	Osprey		o					P, CMS App II
	25	Baza Hitam	<i>Aviceda leuphotes</i>	Black Baza						o	P
	26	Sikep-madu	<i>Pernis ptilorhyncus</i>	Oriental Honey-		o		?			P

Family	No	Local name	Scientific name	English name	Source of data						Status
					1986	1990	1991	1993	2000	2000-2001	
		Asia		buzzard							
	27	Elang Kelelawar	<i>Macheiramphus alcinus</i>	Bat Hawk				?			P
		Elang Tikus	<i>Elanus caeruleus</i>	Black-winged Kite			o	o		o	P
	28	Elang Bondol	<i>Haliaeetus indus</i>	Brahminy Kite	o	o	o	o	o	o	P
	29	Elang-laut Perut-putih	<i>Haliaeetus leucogaster</i>	White-bellied Sea-eagle	o	o	o	o	o	o	P
	30	Elang-ikan Kecil	<i>Ichthyophaga humilis</i>	Lesser Fish-eagle		o					P, NT
	31	Elang-ikan Kepala-abu	<i>Ichthyophaga ichthyaeus</i>	Grey-headed Fish-eagle		o				o	P, NT
	32	Elang-ular Bido	<i>Spilornis cheela</i>	Crested Serpent-eagle		o		o		o	P
	33	Elang-Alap Besra	<i>Accipiter virgatus</i>	Besra		o					P
	34	Elang-alap Jambul	<i>Accipiter trivirgatus</i>	Crested Goshawk		o				cf	P
	35	Elang-alap Cina	<i>Accipiter soloensis</i>	Chinese Goshawk		o				o	P
	36	Rajawali Totol	<i>Aquila clanga</i>	Spotted-eagle		o		o			P, VU (CMS App I, II)
	37	Elang Brontok	<i>Spizaetus cirrhatu</i>	Changeable Hawk-eagle		o		o		o	P, App II
	*	Elang Wallace	<i>Spizaetus nanus</i>	Wallace's Hawk-eagle		?		?			VU P, App II,
Falconidae	38	Alap-alap Capung	<i>Microhierax fringillarius</i>	Black-thighed Falconet		o				o	P, App II
Rallidae	39	Kareo Padi	<i>Amaurornis phoenicurus</i>	White-breasted Waterhen						o	
Charadriidae	40	Cerek Besar	<i>Pluvialis squatarola</i>	Grey Plover	o	o		o		o	
	41	Cerek Kernyut	<i>Pluvialis fulva</i>	Pacific Golden Plover		o			?		
	42	Cerek Tilil	<i>Charadrius alexandrinus</i>	Kentish Plover		o					cf
	43	Cerek-pasir Mongolia	<i>Charadrius mongolus</i>	Lesser Sand Plover	o	o				o	
	44	Cerek-pasir Besar	<i>Charadrius leschenaultii</i>	Greater Sand Plover		o			o		
Scolopacidae	45	Gajahan Pengala	<i>Numenius phaeopus</i>	Whimbrel	o	o				o	P
	46	Gajahan Besar	<i>Numenius arquata</i>	Eurasian Curlew	o	o	o			o	P, NT
	47	Gajahan Timur	<i>Numenius madagascariensis</i>	Far Eastern Curlew	o	o		o	o	o	P, VU
	48	Biru-laut Ekor-blorok	<i>Limosa lapponica</i>	Bar-tailed Godwit	o	o		o	o	o	
	49	Biru-laut	<i>Limosa limosa</i>	Black-tailed Godwit	o	o				o	NT

Family	No	Local name	Scientific name	English name	Source of data						Status	
					1986	1990	1991	1993	2000	2000-2001		
		Ekor-hitam										
	50	Trinil Tutul	<i>Tringa erythropus</i>	Spotted Redshank		o						
	51	Trinil Kaki-merah	<i>Tringa totanus</i>	Common Redshank	o	o	o			o		
	52	Trinil Rawa	<i>Tringa stagnatilis</i>	Marsh Sandpiper	o	o			o			
	53	Trinil Kaki-hijau	<i>Tringa nebularia</i>	Common Greenshank	o	o	o		o	o		
	54	Trinil Nordmann	<i>Tringa guttifer</i>	Spotted Greenshank		o		o				P, EN, App I (CMS App I and II)
	55	Trinil Hijau	<i>Tringa ochropus</i>	Green Sandpiper		o						
	56	Trinil Semak	<i>Tringa glareola</i>	Wood Sandpiper		o						
	57	Trinil Pantai	<i>Actitis hypoleucos</i>	Common Sandpiper		o		o	o	o		
	58	Trinil Bedaran	<i>Xenus cinereus</i>	Terek Sandpiper	o	o			o	o		
	59	Trinil Pembalik-Batu	<i>Arenaria interpres</i>	Ruddy Turnstone		o		o	o	o		
	60	Trinil-lumpur Asia	<i>Limnodromus semipalmatus</i>	Asian Dowitcher	o	o			o	o		P, NT
	61	Kedidi Merah	<i>Calidris canutus</i>	Red Knot	o	o						
	62	Kedidi Besar	<i>Calidris tenuirostris</i>	Great Knot	o	o						VU
	63	Kedidi leher-merah	<i>Calidris ruficollis</i>	Rufous-necked Stint		o	o					
	64	Kedidi Golgol	<i>Calidris ferruginea</i>	Curlew Sandpiper	o	o			o			
	65	Kedidi Putih	<i>Calidris alba</i>	Sanderling		o						
	66	Kedidi Paruh-lebar	<i>Limicola falcinellus</i>	Broad-billed Sandpiper		o						
Recurvirostridae	67	Gagang-bayam Timur	<i>Himantopus leucocephalus</i>	White-headed Stilt		o						
Laridae	68	Dara-laut Kumis	<i>Chlidonias hybrida</i>	Whiskered Tern	o	o	o	o	o	o		
	69	Dara-laut Sayap-putih	<i>Chlidonias leucopterus</i>	White-winged Tern	o	o		o	o	o		
	70	Dara-laut Tiram	<i>Sterna nilotica</i>	Gull-billed Tern		o		o	o	o		
	71	Dara-laut Kaspia	<i>Sterna caspia</i>	Caspian Tern		o		o	o			
	72	Dara-laut Biasa	<i>Sterna hirundo</i>	Common Tern		o		o	o	o		P
	73	Dara-laut Jambon	<i>Sterna dougallii</i>	Roseate Tern		o				o		
	74	Dara-laut Kecil	<i>Sterna albifrons</i>	Little Tern		o	o	o	o	o		P (CMS App II)

Family	No	Local name	Scientific name	English name	Source of data						P Status
					1986	1990	1991	1993	2000	2000-2001	
	75	Dara-laut Jambul	<i>Sterna bergii</i>	Greater Crested Tern	o	o	o	o	o	o	
	76	Dara-laut Benggala	<i>Sterna bengalensis</i>	Lesser Crested Tern		o		o		o	
	77	Camar-angguk Coklat	<i>Anous stolidus</i>	Brown Noddy		o					
Columbidae	78	Punai Lengguak	<i>Treron curvirostra</i>	Thick-billed Green-Pigeon		o					
	79	Punai Bakau	<i>Treron fulvicollis</i>	Cinnamon-headed Green-Pigeon		o					NT
	80	Punai Kecil	<i>Treron olax</i>	Little Green-Pigeon		o					
	81	Punai Gading	<i>Treron vernans</i>	Pink-necked Green-pigeon		o				o	
	82	Punai Besar	<i>Treron capellei</i>	Large Green-pigeon		o					VU
	83	Pergam Hijau	<i>Ducula aenea</i>	Green Imperial-pigeon		o				o	
	84	Pergam Laut	<i>Ducula bicolor</i>	Pied Imperial-pigeon		o					
	85	Tekukur Biasa	<i>Stigmatopelia chinensis</i>	Spotted Dove		o				o	
Psittacidae	86	Betet Ekor-panjang	<i>Psittacula longicauda</i>	Long-tailed Parakeet		o				o	NT, App II
	87	Serindit Melayu	<i>Loriculus galgulus</i>	Blue-crowned Hanging-Parrot		o				o	App II
Cuculidae	88	Wiwik Kelabu	<i>Cacomantis merulinus</i>	Plaintive Cuckoo						o	
	89	Tuwur Asia	<i>Eudynamis scolopaceus</i>	Asian Koel		o				o	
	90	Kadalan Saweh	<i>Phaenicophaeus sumatranus</i>	Chestnut-bellied Malkoha		o				o	NT
	91	Kadalan Selaya	<i>Phaenicophaeus chlorophaeus</i>	Raffles's Malkoha						o	
	92	Kadalan Birah	<i>Phaenicophaeus curvirostris</i>	Chestnut-breasted Malkoha		o				o	
	93	Bubut Besar	<i>Centropus sinensis</i>	Greater Coucal		o				o	
	94	Bubut Alang-alang	<i>Centropus bengalensis</i>	Lesser Coucal		o				o	
Strigiformes	95	Beluk Jampuk	<i>Bubo sumatranus</i>	Barred Eagle-Owl		o					App II
	96	Beluk Ketupa	<i>Ketupa ketupu</i>	Buffy Fish-owl						o	App II
	97	Punggok Coklat	<i>Ninox scutulata</i>	Brown Hawk-Owl						o	App II
Podargidae	98	Paruh-kodok Jawa	<i>Batrachostomus javensis</i>	Javan Frogmouth		?					
Caprimulgidae	99	Taktarau Melayu	<i>Eurostopodus temminckii</i>	Malaysian Eared-Nightjar		o					
	100	Cabak Maling	<i>Caprimulgus macrurus</i>	Large-tailed Nightjar						o	

Family	No	Local name	Scientific name	English name	Source of data						Status	
					1986	1990	1991	1993	2000	2000-2001		
	101	Cabak Kota	<i>Caprimulgus affinis</i>	Savannah Nightjar							o	
Apodidae	102	Walet Sarang-putih	<i>Collocalia fuciphagus</i>	Edible-nest Swiftlet		o					o	
	103	Walet Sarang-hitam	<i>Collocalia maxima</i>	Black-nest Swiftlet		o					cf	
	104	Walet Sapi	<i>Collocalia esculenta</i>	Glossy Swiftlet		o					o	
	105	Kapinis-jarum Gedang	<i>Hirundapus giganteus</i>	Brown-backed Needletail		o						
	106	Kapinis-jarum Kecil	<i>Rhaphidura leucopygialis</i>	Silver-rumped Swift		o						
	107	Kapinis Rumah	<i>Apus nipalensis</i>	House Swift		o					o	
	108	Kapinis Laut	<i>Apus pacificus</i>	Fork-tailed Swift		o		o			o	
	109	Walet-palem Asia	<i>Cypsiurus balasiensis</i>	Asian Palm-swift		o						
Hemiprocnidae	110	Tepekong Rangkang	<i>Hemiproctne comata</i>	Whiskered Treeswift		o		o			o	
	111	Tepekong Jambul	<i>Hemiproctne longipennis</i>	Grey-rumped Treeswift		o					o	
Alcedinidae	112	Raja-udang Erasia	<i>Alcedo atthis</i>	Common Kingfisher		o						P
	113	Raja-udang Meninting	<i>Alcedo meninting</i>	Blue-eared Kingfisher		?	o				o	P
	114	Raja-udang Kalung-biru	<i>Alcedo euryzona</i>	Blue-banded Kingfisher		o						P, VU
	115	Raja-udang Biru	<i>Alcedo coerulescens</i>	Small Blue Kingfisher							o	P
	116	Udang Api	<i>Ceyx erithaca</i>	Black-backed Kingfisher		o					o	P
	117	Pekaka Emas	<i>Pelargopsis capensis</i>	Stork-billed Kingfisher		o		o			o	P
	118	Cekakak Merah	<i>Halcyon coromanda</i>	Ruddy Kingfisher		o		o			o	P
	119	Cekakak Belukar	<i>Halcyon smyrnensis</i>	White-throated Kingfisher							o	P
	120	Cekakak Cina	<i>Halcyon pileata</i>	Black-capped Kingfisher		o						P
	121	Cekakak Sungai	<i>Todiramphus chloris</i>	Collared Kingfisher		o	o				o	P
	122	Cekakak-hutan Melayu	<i>Actenoides concretus</i>	Rufous-Collared Kingfisher		o						P, NT
Meropidae	123	Kirik-kirik Laut	<i>Merops philippinus</i>	Blue-tailed Bee-eater		o	o	o			o	
	124	Kirik-kirik Biru	<i>Merops viridis</i>	Blue-throated Bee-eater		o						
Coraciidae	125	Tiong-lampu	<i>Eurystomus</i>	Common Dollarbird		o	o				o	

Family	No	Local name	Scientific name	English name	Source of data						Status
					1986	1990	1991	1993	2000	2000-2001	
		Biasia	<i>orientalis</i>								
Bucerotidae	126	Enggang Jambul	<i>Aceros comatus</i>	White-crowned Hornbill		o		o			P, NT, App II
	127	Julang Jambul-hitam	<i>Aceros corrugatus</i>	Wrinkled Hornbill		o		o			P, NT, App II
	128	Kangkareng Perut-putih	<i>Anthracoceros albirostris</i>	Oriental Pied Hornbill		o				o	P, App II
	129	Kangkareng Hitam	<i>Anthracoceros malayanus</i>	Black Hornbill		o				o	P, NT, App II
	130	Rangkong Badak	<i>Buceros rhinoceros</i>	Rhinoceros Hornbill		o					P, NT, App II
Capitonidae	131	Takur Tenggeret	<i>Megalaima australis</i>	Blue-eared Barbet						o	
	132	Takur Tutut	<i>Megalaima rafflesii</i>	Red-crowned Barbet						o	NT
	133	Takur Ampis	<i>Calorhamphus fuliginosus</i>	Brown Barbet						o	
Picidae	134	Pelatuk Kijang	<i>Celex brachyurus</i>	Rufous Woodpecker		o					
	135	Pelatuk Merah	<i>Picus meiacens</i>	Banded Woodpecker		o				o	
	136	Pelatuk Besi	<i>Dinopium javanense</i>	Common Flameback		o				o	
	137	Pelatuk Raffles	<i>Dinopium rafflesii</i>	Olive-backed Woodpecker		o				o	NT
	138	Caladi Batu	<i>Meiglyptes tristis</i>	Buff-rumped Woodpecker						o	
	139	Caladi Badok	<i>Meiglyptes tukki</i>	Buff-necked Woodpecker						o	NT
	140	Pelatuk Ayam	<i>Dryocopus javensis</i>	White-bellied Woodpecker		o				o	
	141	Caladi Tilik	<i>Dendrocopos moluccensis</i>	Sunda Woodpecker						o	
	142	Pelatuk Tunggir-emas	<i>Chrysocolaptes lucidus</i>	Greater Flameback		o	?				
Eurylaimidae	143	Sempur-hujan Sungai	<i>Cymbirhynchus macrorhynchos</i>	Black-and-red Broadbill		o				o	
	144	Sempur-hujan Darat	<i>Eurylamus ochromalus</i>	Black-and-yellow Broadbill						o	NT
	145	Sempur-hujan Rimba	<i>Eurylaimus javanicus</i>	Banded Broadbill						o	
Pittidae	146	Paok Bakau	<i>Pitta megarhyncha</i>	Mangrove Pitta		o					NT
Hirundinidae	147	Layang-layang Api	<i>Hirundo rustica</i>	Barn Swallow		o				o	
	148	Layang-layang Batu	<i>Hirundo tabitica</i>	Pacific Swallow		o				o	
Champephagidae	149	Sepah Kecil	<i>Pericrocotus cinnamomeus</i>	Small Minivet		o					
	150	Sepah Tulin	<i>Pericrocotus igneus</i>	Fiery Minivet						o	NT
	151	Sepah Hutan	<i>Pericrocotus</i>	Scarlet Minivet						o	

Family	No	Local name	Scientific name	English name	Source of data						Status
					1986	1990	1991	1993	2000	2000-2001	
			<i>flammeus</i>								
Chloropseidae	152	Cipoh Kacat	<i>Aegithina tibia</i>	Common Iora		o				o	
	153	Cica-daun Besar	<i>Chloropsis sonnerati</i>	Greater Green Leafbird						o	
Pycnonotidae	154	Cucak Kuricang	<i>Pycnonotus atriceps</i>	Black-headed Bulbul		o					
	155	Cucak Kutulang	<i>Pycnonotus aurigaster</i>	Sooty-headed Bulbul						o	
	156	Cucak Rumbaitungging	<i>Pycnonotus entilotus</i>	Puff-backed Bulbul						o	NT
	157	Merbah Cerukcuk	<i>Pycnonotus goiavier</i>	Yellow-vented Bulbul						o	
	158	Merbah Belukar	<i>Pycnonotus plumosus</i>	Olive-winged Bulbul						o	
	159	Merbah Corok-corok	<i>Pycnonotus simplex</i>	Cream-vented Bulbul						o	
	160	Merbah Kacamata	<i>Pycnonotus erythroptalmos</i>	Spectacled Bulbul						o	
	161	Brinji Mata-putih	<i>Tole olivacea</i>	Buff-vented Bulbul		o					NT
Dicruridae	162	Srigunting Gagak	<i>Dicrurus annectans</i>	Crow-billed Drongo		o				o	
	163	Srigunting Keladi	<i>Dicrurus aeneus</i>	Bronzed Drongo		o					
	164	Srigunting Batu	<i>Dicrurus paradisens</i>	Greater Racket-tailed Drongo		o				o	
Oriolidae	165	Kepudang Kuduk-hitam	<i>Oriolus chinensis</i>	Black-naped Oriole		o				o	
	166	Kacembang Gadung	<i>Irena puella</i>	Asian Fairy-bluebird						o	
Corvidae	167	Gagak Hutan	<i>Corvus enca</i>	Slender-billed Crow		o				o	
	168	Gagak Kampung	<i>Corvus macrorhynchos</i>	Large-billed Crow		o				o	
Paridae	169	Gelatik-batu Kelabu	<i>Parus major</i>	Great Tit		o					
Sittidae	170	Mungguk Beledu	<i>Sitta frontalis</i>	Velvet-fronted Nuthatch		o				o	
Timaliidae	171	Pelanduk Dada-putih	<i>Trichastoma rostratum</i>	Whita-chested Babbler		o				o	NT
	172	Pelanduk Merah	<i>Trichastoma bicolor</i>	Ferruginous Babbler		o				o	
	173	Pelanduk Ekor-pendek	<i>Malacocincla malaccensis</i>	Short-tailed Babbler						o	NT
	174	Pelanduk Semak	<i>Malacocincla abbotti</i>	Abbott's Babbler		o				o	

Family	No	Local name	Scientific name	English name	Source of data						Status
					1986	1990	1991	1993	2000	2000-2001	
	175	Asi Besar	<i>Malacopteron magnum</i>	Rufous-crowned Babbler		o				o	NT
	176	Asi Dada-kelabu	<i>Malacopteron albogulare</i>	Grey-breasted Babbler						o	NT
	177	Ciung-air Coreng	<i>Macronous gularis</i>	Pin-striped Tit-babbler		o				o	
	178	Ciung-air Pongpong	<i>Macronous ptilosus</i>	Fluffy-backed Tit-babbler						o	NT
Muscicapidae	179	Kucica Kampung	<i>Copsycus saularis</i>	Oriental Magpie-robin		o				o	
	180	Kucica Hutan	<i>Copsychus malabaricus</i>	White-rumped Shama						o	
Turdidae	181	Anis Siberia	<i>Zosterops sibirica</i>	Siberian Thrush		o					
Acanthizidae	182	Remetuk Laut	<i>Gerygone sulphurea</i>	Golden-bellied Gerygone		o				o	
Sylviidae	183	Cikrak Kutub	<i>Phylloscopus borealis</i>	Arctic Warbler		o					
	184	Cinenen Belukar	<i>Ortobotomus atrogularis</i>	Dark-necked Tailorbird		o					
	185	Cinenen Kelabu	<i>Ortobotomus ruficeps</i>	Ashy Tailorbird		o				o	
	186	Cinenen Merah	<i>Ortobotomus sericeus</i>	Rufous-tailed Tailorbird		o				o	
	187	Cici Padi	<i>Cisticola juncidis</i>	Zitting cisticola						o	
	188	Perenjak Rawa	<i>Prinia flaviventris</i>	Yellow-bellied Prinia						o	
Muscicapidae	189	Sikatan-rimba Dada-kelabu	<i>Rhinomyias umbratilis</i>	Grey-chested Jungle-flycatcher						o	NT
	190	Sikatan Sisi-gelap	<i>Muscicapa sibirica</i>	Dark-sided Flycatcher		o					
	191	Sikatan Melayu	<i>Cyornis turcosus</i>	Malaysian Blue-flycatcher		o					NT
	192	Sikatan Bakau	<i>Cyornis rufigastra</i>	Mangrove Blue-flycatcher		o				o	
	193	Kipasan Belang	<i>Rhipidura javanica</i>	Pied Fantail		o				o	
	194	Kehicap Ranting	<i>Hypothymis azurea</i>	Black-naped Monarch						o	
	195	Seriwang Asia	<i>Terpsiphone paradisi</i>	Asian-paradise-flycatcher		o				o	
Pachycephalidae	196	Kancilan Bakau	<i>Pachycephala grisola</i>	Mangrove Whistler		o				o	
Artamidae	197	Kekep Babi	<i>Artamus leucorhynchus</i>	White-breasted Woodswallow						o	
Laniidae	198	Bentet Coklat	<i>Lanius cristatus</i>	Brown shrike		o					
	199	Bentet Kelabu	<i>Lanius schach</i>	Long-tailed shrike						o	
Sturnidae	200	Perling Kumbang	<i>Aplonis panayensis</i>	Asian Glossy Starling		o					

Family	No	Local name	Scientific name	English name	Source of data						Status
					1986	1990	1991	1993	2000	2000-2001	
	201	Kerak Ungu	<i>Acridotheres tristis</i>	Common Myna						cf	
	202	Tiong Emas	<i>Gracula religiosa</i>	Hill Myna		o				o	App II
Nectariniidae	203	Burung-madu Polos	<i>Anthreptes simplex</i>	Plain Sunbird						o	P
	204	Burung-madu Kelapa	<i>Anthreptes malacensis</i>	Brown-throated Sunbird		o				o	P
	205	Burung-madu Leher-Merah	<i>Anthreptes rhodolaema</i>	Red-throated Sunbird						o	nt, P
	206	Burung-madu Pengantin	<i>Nectarinia sperata</i>	Purple-throated Sunbird		o					P
	207	Burung-madu Bakau	<i>Nectarinia calcostetha</i>	Copper-throated Sunbird		o				o	P
	208	Burung-madu Sriganti	<i>Nectarinia jugularis</i>	Olive-backed Sunbird		o				o	P
	209	Burung-madu Sepah-Raja	<i>Aethopyga siparaja</i>	Crimson Sunbird		o				o	P
	210	Pijantung Kecil	<i>Arachnothera longirostra</i>	Little Spiderhunter						o	P
Dicaeidae	211	Burung Cabai	<i>Dicaeum</i> sp	Flowerpecker						o	
Zosteropidae	212	Kacamata Biasa	<i>Zosterops palpebrosus</i>	Oriental White-eye		o				o	
Ploceidae	213	Burung-gereja Erasia	<i>Passer montanus</i>	Eurasian Tree Sparrow			o			o	

Note:

r = reported by local people, **o** = monitored (**d** = direct watch/listened, **t** = track/feces/other field sign)

IUCN: International Union for Conservation of Nature and Natural Resources (Red List 2000)

Critically Endangered, DD = Data Deficient

CITES: Convention on International Trade in Endangered Species of Wild Flora and Fauna

App I = Appendix I, **App II** = Appendix II

P = protected by Indonesian Law

Appendix 4. List of Reptiles

Source of data: Berbak-Sembilang Project

Ordo/Family	English name	Scientific Name	Status
OPIIIDA			
Boidae	Reticulated Python	<i>Python reticulatus</i>	App II
Xenopeltidae	Sunbeam Snake	<i>Xenopeltis unicolor</i>	
Acrochordidae	Elephant-trunk Snake	<i>Acrochordus javanicus</i>	
Colubridae	Slug Snake	<i>Pareas sp.</i>	
	Mangrove Snake	<i>Boiga dendrophila</i>	
	Dog-faced Water Snake	<i>Cerberus rynchops</i>	
	Crab-eating Water Snake	<i>Fordoria leucobalia</i>	
Elapidae	King Cobra	<i>Ophiophagus hannah</i>	VUApp II
Hydrophiidae	Amphibious Sea Snake	<i>Laticauda colubrina</i>	
LACERTILIA			
Gekkonidae	Tockay	<i>Gekko gekko</i>	
	Forest Gecko	<i>Gekko smithi c.f.</i>	
Varanidae	Water Monitor Lizard	<i>Varanus salvator</i>	
Scincidae	Many-lined Sun Skink	<i>Eutropis multifasciata</i>	
CROCODYLIA			
Crocodylidae	Sunda Gharial	<i>Tomistoma schlegelii</i>	EN App I P
	Saltwater Crocodile	<i>Crocodylus porosus</i>	App I
CHELONIA			
Bataguridae	Malayan Box Turtle	<i>Cuora amboinensis</i>	VU App II
	Malayan Giant Turtle	<i>Orlitia borneensis</i>	EN
Trionychidae	Asiatic Soft-shell Turtle	<i>Amyda cartilaginea</i>	VU

Note:

r = reported by local people, **o** = monitored (**d** = direct watch/listened, **t** = track/feces/other field sign)

IUCN: International Union for Conservation of Nature and Natural Resources (Red List 2000)

LR = lower risk (lc = least concern, nt = near threatened), **VU** = vulnerable, **EN** = endangered, **CR** = critical

DD = data deficiency

CITES: Convention on International Trade in Endangered Species of Wild Flora and Fauna

App I = Appendix I, **App II** = Appendix II

P = protected by Indonesian Law

Appendix 5. List of Fish Species

Source of data: Berbak-Sembilang Project (PBS) dan Sea and Fishery Service(DKP)

Ordo/Family	Local name	Scientific name	PBS	DKP
ANGUILIFORMES				
Muraenesocidae	Pucuk Nipah, Panjang	<i>Congresox</i> sp.	●	
CLUPEIFORMES				
Chirocentridae	Parang-Parang	<i>Chirocentrus dorab</i>		●
Dorosomatidae	Selanget	<i>Dorosoma chacunda</i>		●
Dorosomatidae		<i>Dorosoma nasus</i>		●
Dussumieridae	Japuh	<i>Dussumieria acuta</i>		●
Engraulididae		<i>Clupeoides lile</i>		●
Engraulididae	Teri	<i>Coilia dussumieri</i>		●
Engraulididae	Bulu Ayam	<i>Engraulis grayi</i>		●
Engraulididae		<i>Engraulis mystax</i>		●
Engraulididae	Tembang	<i>Pallona</i> sp.		●
Engraulididae	Tembang	<i>Sardinella perforata</i>		●
Engraulididae	Teri	<i>Setipinna heterolobus</i>		●
Engraulididae	Bulu Ayam	<i>Setipinna melanochir</i>		●
Engraulididae	Bulu Ayam	<i>Setipinna taty</i>		●
Engraulididae	Teri	<i>Stolephorus baganensis</i>		●
Engraulididae	Teri Gelagah	<i>Stolephorus indicus</i>		●
Engraulididae	Teri	<i>Stolephorus insularis</i>		●
Engraulididae	Teri	<i>Stolephorus pseudoheterolobus</i>		●
Engraulididae	Teri	<i>Stolephorus tri</i>		●
CYPRINODONTIFORMES				
Belonidae		<i>Tylosurus strongilurus</i>		●
Hemiramphidae	Lujung, Julung-Julung	<i>Dermogenys</i> sp.	●	
Hemiramphidae	Julung-Julung	<i>Hyporhamphus quoyi</i>		●
CYPRINIFORMES				
Cyprinidae	Beunteur, Wader	<i>Leptobarbus</i> sp.	●	
GONORHYNCHIFORMES				
Chanidae	Bandeng	<i>Chanos</i> sp.	●	
LAMNIFORMES				
Carcharhinidae	Hiu	<i>Carcharbinus</i> sp.	●	
PERCIFORMES				
Anabantidae	Betok	<i>Anabas testudineus</i>	●	
Carangidae	Selar	<i>Caranx</i> sp.	●	
Carangidae	Kuweh, Selar	<i>Chorinemus lysan</i>	●	
Centropomidae	Kakap	<i>Lates calcalifer</i>	●	●
Chdanidae	Beseng	<i>Ambassis gymnocephalus</i>	●	
Chdanidae	Seriding	<i>Ambassis</i> sp., <i>Parambassis</i> sp.	●	
Channidae	Toman	<i>Channa micropeltes</i>	●	
Channidae	Serdanang, Bujuk	<i>Channa pleurophthalmus</i>	●	
Channidae	Gabus	<i>Channa</i> sp.	●	
Drepaneidae	Bampara, Ketang	<i>Drepane punctata</i>	●	●
Eleotrididae	Belosoh	<i>Butis humeralis</i>	●	

Ordo/Family	Local name	Scientific name	PBS	DKP
Eleotrididae	Betutu	<i>Ophiocara porocephala</i>	●	
Formiidae	Bawal Hitam	<i>Formio niger</i>		●
Gerridae	Kapas-Kapas	<i>Gerres abbreviatus</i>		●
Gobioididae	Selonto	<i>Oligolepis acutipennis</i>	●	
Gobioididae	Gelodok	<i>Periophthalmus</i> sp.	●	
Gobioididae	Janjan	<i>Yongeichthys</i> sp.	●	
Haemulidae	Gerot, Geru, Gerok	<i>Pomadasyis argenteus</i>	●	●
Helostomatidae	Sapil, Benawang, Tembakang, Tambakan	<i>Helostoma temminckii</i>	●	
Leiognathidae	Petek	<i>Leiognathus equulus</i>		●
Leiognathidae		<i>Secutor insidiator</i>	●	●
Leiognathidae	Petek, Bambang	<i>Leiognathus splendens</i>	●	●
Leiognathidae		<i>Secutor ruconius</i>		●
Leiognathidae	Petek, Keke	<i>Secutor</i> sp.	●	
Lobotidae	Kaka Batu	<i>Lobotes surinamensis</i>	●	
Lutjanidae	Kakap	<i>Lutjanus</i> sp.	●	
Monodactylidae	Bawal	<i>Monodactylus argenteus</i>	●	
Mugilidae	Belanak	<i>Crenimugil</i> sp., <i>Liza</i> sp.	●	
Mugilidae		<i>Liza carinata-carinata</i>		●
Mugilidae		<i>Liza macrolepis</i>		●
Mugilidae	Belanak	<i>Mugil cephalus</i>		●
Mugilidae		<i>Valamugil</i> sp.		●
Polynemidae	Senangin	<i>Eleutheronema tetradactylum</i>		●
Polynemidae		<i>Polydactylus hexanemus</i>		●
Polynemidae	Kuro	<i>Polydactylus sextarius</i>		●
Polynemidae	Kuro	<i>Polynemus indicus</i>		●
Scaptophaginae	Kitang, Ketang-Ketang	<i>Scaptophagus argus</i>	●	●
Sciaenidae	Gulamah, Jarang Gigi	<i>Johnius belengerii</i>	●	●
Sciaenidae		<i>Nibea soldado</i>		●
Sciaenidae		<i>Otolithes cuvieri</i>		●
Sciaenidae	Gulamah	<i>Panna microdon</i>	●	
Sciaenidae		<i>Penabia pawak</i>		●
Sciaenidae	Gulamah	<i>Pseudosciaena</i> sp.		●
Scombridae	Kembung	<i>Rastrelliger kanakurta</i>		●
Scombridae	Tenggiri	<i>Scomberomorus commersonii</i>		●
Scombridae	Tenggiri Papan	<i>Scomberomorus guttatus</i>		●
Serranidae	Kerapu, Broto	<i>Epinephelus coioides</i>	●	
Serranidae		<i>Epinephelus malabaricus</i>		●
Serranidae	Kerapu	<i>Epinephelus tauvina</i>		●
Siganidae	Beronang	<i>Siganus canaliculatus</i>		●
Sillaginidae		<i>Sillago sibamma</i>		●
Sphyraenidae	Lalu, Alu-Alu	<i>Sphyraena barracuda</i>		●
Stromateidae	Bawal Putih	<i>Pampus argenteus</i>		●
Stromateidae		<i>Stromateus niger</i>		●
Synodontidae	Beloso	<i>Saurida micropectoralis</i>		●
Teraponidae	Blambangan	<i>Lagusia micracantus</i>	●	
Teraponidae	Blambangan, Kleteng	<i>Terapon jarbua</i>		●
Toxotidae	Sumpit	<i>Toxotes jaculatrix</i>	●	

Ordo/Family	Local name	Scientific name	PBS	DKP
Trichiuridae	Layur	<i>Trichiurus baumela</i>		●
Trichiuridae	Layur	<i>Trichiurus savala</i>		●
PLEURONECTIFORMES				
Bothidae	Ikan Sebelah	<i>Bothis sp</i>		●
Cynoglossidae	Lidah	<i>Cynoglossus sp.</i>	●	
Cynoglossidae	Ikan Sebelah	<i>Cynoglossus lingua</i>		●
Psettodidae	Ikan Sebelah	<i>Psettodes erumei</i>	●	
RAJIFORMES				
Dasyatidae	Pari	<i>Dasyatis sephen</i>		●
Dasyatidae	Pari	<i>Himantura sp.</i>	●	
Dasyatidae	Pari	<i>Hypolopus sephen</i>		●
SCORPAENIFORMES				
Platycephalidae	Pakatan	<i>Platycephalus sp.</i>		●
Scorpaenidae	Lepu	<i>Tetraroge sp.</i>	●	
Synanceidae		<i>Synaptura sp.</i>		●
SILURIFORMES				
Ariidae	Utik, Duri	<i>Arius argyropleuron</i>		●
Ariidae		<i>Arius caelatus</i>		●
Ariidae	Utik, Duri	<i>Arius gagoroides</i>	●	
Ariidae	Utik, Duri	<i>Arius leiotetocephalus</i>		●
Ariidae		<i>Arius macronotacanthus</i>		●
Ariidae	Manyung	<i>Arius maculatus</i>		●
Ariidae		<i>Arius oetike</i>		●
Ariidae	Belukang	<i>Arius sagor</i>		●
Ariidae	Lundu, Keting, Songot	<i>Arius sp.</i>	●	
Ariidae		<i>Arius truncates</i>		●
Ariidae	Manyong	<i>Hemiaris stormii</i>	●	
Bagridae	Baung	<i>Macrones gulio</i>		●
Bagridae		<i>Macrones nemurus</i>		●
Clariidae	Lele	<i>Clarias sp.</i>	●	
Pangasiidae	Juara	<i>Pangasius micronemus</i>	●	
Plotosidae	Sembilang	<i>Plotosus canius</i>	●	●
Plotosidae	Petitup	<i>Plotosus lineatus</i>	●	
Siluridae	Lais, Jambal, Tapak	<i>Ompok sp.</i>	●	
SYNBRANCHIFORMES				
Synbranchidae	Belut	<i>Monopterus albus</i>	●	
TETRAODONTIFORMES				
Lagocephalidae	Buntal	<i>Gastrophysus lunaris</i>		●
Lagocephalidae	Buntal	<i>Lagocephalus lunaris</i>		●
Tetraodontidae	Buntal	<i>Tetraodon kretamensis</i>	●	
Tetraodontidae	Buntal	<i>Tetraodon reticularis</i>		●
Triacanthidae	Babi	<i>Triacanthus biaculeatus</i>	●	

Appendix 6. List of Invertebrate Species

Source of data: Berbak-Sembilang Project (PBS)

Fylum	Clas	Ordo	Family	Scientific name	Local name
Arthropoda	Arachnidae	Xiphosura	Limulidae	<i>Tachypleus</i> sp.	Mimi
Arthropoda	Crustacea	Decapoda	Palaemonidae	<i>Macrobrachium rosenbergii</i>	Udang Satang
Arthropoda	Crustacea	Decapoda	Palimuridae	<i>Panulirus</i> sp.	Udang Lobster
Arthropoda	Crustacea	Decapoda	Penaeidae	<i>Penaeus merguensis</i>	Udang Burung
Arthropoda	Crustacea	Decapoda	Penaeidae	<i>Metapenaeus ensis</i>	Udang Api-Api
Arthropoda	Crustacea	Decapoda	Penaeidae	<i>Metapenaeus affinis</i>	Udang Api-Api
Arthropoda	Crustacea	Decapoda	Penaeidae	<i>Parapenaeopsis</i> sp.	Udang Cat
Arthropoda	Crustacea	Decapoda	Squillidae	<i>Oratosquilla</i> sp.	Udang Kipas, Udang Petak
Arthropoda	Crustacea	Decapoda	Portunidae	<i>Portunus pelagicus</i>	Kepiting Rajungan
Arthropoda	Crustacea	Decapoda	Portunidae	<i>Scylla serrata</i>	Kepiting Bakau
Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	<i>Archaster</i> sp.	Bintang Laut
Mollusca	Cephalopoda	Sepioidea	Sepiidae	<i>Sepia</i> sp.	Sotong
Mollusca	Cephalopoda	Nautilida	Nautilidae	<i>Nautilus pompilius</i>	
Mollusca	Gastropoda	Stenoglossa	Muricidae	<i>Murex</i> sp.	Murex
Mollusca	Bivalva	Taxodonta	Arcidae	<i>Anadara</i> sp.	Kerang

Appendix 7. List of Plant Species

Source of data: Berbak-Sembilang Project, Wetland Data Base (Wetlands International)

Family	Scientific Name	Local name	S	K	WI
Acanthaceae	<i>Acanthus ilicifolius</i>	Jeruju putih	●		●
Amaryllidaceae	<i>Crinum asiaticum</i>	Bakung, Bakong, Bawang hutan, Kajang-kajang, Semur			●
Anacardiaceae	<i>Campnosperma</i> sp			●	
	<i>Dracontomelon dao</i>			●	
	<i>Gluta renghas</i>	Rengas, Rengas perahu			●
Annonaceae	<i>Polyalthia</i> sp			●	
Apocynaceae	<i>Alstonia pneumatophora</i>		●	●	
	<i>Cerbera manghas</i>		●	●	
	<i>Cerbera odollam</i>				
	<i>Dyera costulata</i>			●	
Aquilariaceae	<i>Gonystilus bancanus</i>			●	
Araceae	<i>Cryptocoryne ciliata</i>	Keladi air, Keladi payau			●
Arecaceae	<i>Calamus</i> sp			●	
	<i>Cyrtostachys lakka</i>			●	
	<i>Korthalsia</i> sp			●	
	<i>Licuala</i> sp		●	●	
	<i>Nypa fruticans</i>	Nipah	●		●
	<i>Oncosperma tigillarum</i>	Nibung	●	●	
	<i>Salacca conferta</i>			●	
Aspleniaceae	<i>Asplenium</i> sp		●	●	
Asteraceae	<i>Pluchea indica</i>	Beluntas, Lamutasi, Lenabou	●	●	●
Avicenniaceae	<i>Avicennia alba</i>		●		
	<i>Avicennia marina</i>		●		
Blechnaceae	<i>Blechnum indicum</i>		●	●	
	<i>Stenochlaena palustris</i>		●	●	
Bombacaceae	<i>Durio</i> sp			●	
Casuarinaceae	<i>Casuarina equisetifolia</i>		●		
Combretaceae	<i>Terminalia cattapa</i>		●		
Convolvulaceae	<i>Ipomoea pes-caprae</i>		●		

Family	Scientific Name	Local name	S	K	WI
Cyperaceae	<i>Cyperus malaccensis</i>	Bundung, Bunyung, Wlingli laut, Kedot			●
Dilleniaceae	<i>Dillenia excelsa</i>			●	
Dipterocarpaceae	<i>Shorea</i> sp			●	
Euphorbiaceae	<i>Antidesma</i> sp			●	
	<i>Excoecaria agallocha</i>	Kokobuta, Buta-buta, Kayu wuta, Sambuta	●		●
	<i>Macaranga hypoleuca</i>			●	
	<i>Macaranga</i> sp			●	
Fabaceae	<i>Derris heptafolia</i>		●		
	<i>Derris trifoliata</i>	Tuba laut, Tuba abal, Tuwa areuy, Gadel, Toweran			●
	<i>Koombassia malaccensis</i>			●	
	<i>Pithecolobium</i> sp			●	
Flagellariaceae	<i>Hanguana malayana</i>		●	●	
Guttiferaceae	<i>Calophyllum</i> sp			●	
	<i>Garcinia parvifolia</i>			●	
Lecythidaceae	<i>Barringtonia acutangula</i>		●	●	
Lentibulariaceae	<i>Utricularia aurea</i>		●		
Malvaceae	<i>Hibiscus tiliaceus</i>	Baru, Waru laut, Siron, Waru lot, Waru lenga	●		●
	<i>Thespesia populnea</i>	Waru laut, Waru pantai, Baru laut, Kamelamelai	●		●
Melastomaceae	<i>Melastoma</i> sp		●	●	
Meliaceae	<i>Xylocarpus granatum</i>	Buli pute	●		●
Moraceae	<i>Artocarpus elasticus</i>			●	
	<i>Ficus retusa</i>	Beringin, Panggang, Wangga bhara			●
	<i>Ficus</i> sp		●	●	
	<i>Poikilospermum suaveolens</i>		●	●	
Myristicaceae	<i>Knema</i> sp			●	
	<i>Myristica</i> sp			●	
	<i>Ageiceras corniculatum</i>		●		
Nepenthaceae	<i>Nepenthes ampullaria</i>			●	

Family	Scientific Name	Local name	S	K	WI
Nymphaeaceae	<i>Nymphaea</i> sp		●	●	
Pandanaaceae	<i>Pandanus</i> sp		●	●	
	<i>Pandanus tectorius</i>	Pdanan duri			●
Poaceae	<i>Hymenachne amplexicaulis</i>		●	●	
Polypodiaceae	<i>Nephrolepis</i> sp		●	●	
	<i>Platyserium coronarium</i>		●	●	
Pteridaceae	<i>Acrostichum aureum</i>	Piai, Paku laut, Krakas	●		●
Rhizophoraceae	<i>Bruguiera cylindrica</i>		●		
	<i>Bruguiera gymnorhiza</i>	Mangrove mata buaya, Kdaneka, Tumu	●		●
	<i>Ceriops decdanra</i>		●		
	<i>Ceriops tagal</i>		●		
	<i>Kdanelia cdanel</i>	Berus-berus, Pulut-pulut			●
	<i>Rhizophora apiculata</i>	Mangrove minyak, Bako tahi	●		●
	<i>Rhizophora mucronata</i>		●		
Rubiaceae	<i>Anthocephalus cadamba</i>		●	●	
	<i>Ixora</i> sp		●	●	
	<i>Nauclea</i> sp		●	●	
	<i>Scyphiphora hydrophyllacea</i>		●		
Sonneratiaceae	<i>Sonneratia alba</i>		●		
	<i>Sonneratia alba</i>	Pedada, Perepat	●		●
	<i>Sonneratia caseolaris</i>	Padada, Perapat	●		●
	<i>Sonneratia ovata</i>	Bogem, Kedabu	●	●	●
Theaceae	<i>Tetramerista glabra</i>			●	
Verbenaceae	<i>Avicennia alba</i>	Lase-lasem, Api-api putih, Mangi-mangi putih	●		●
	<i>Clerodendrum inerme</i>	Gambir laut, Ketuwer, Kembang bugang			●

Appendix 8. Soil Classification at Sembilang NP (Berbak-Sembilang Project, 2000)

Soil Classification	Landform	Main material	Area	
			Ha	%
Sulfic Endoaquepts	Flooding area	Clay	1.355	0,76
Psammaquepts	Shoreline	Marine sediment (sand and dan lumpur)	1.872	1,05
Sulfic Hydraquepts Typic Sulfaquepts	Tidal zone in the back of shoreline	Marine sediment ((lumpur)	27.121	15,24
Typic Sulfaquepts Histic Sulfaquepts Typic Sulfishemists	Tidal zone along shoreline		102.722	57,71
Terric Sulfishemists	Estuarine tidal zone	Marine sediment (marine clay and organic matter)	9.349	5,25
Typic Sulfaquepts Sulfic Endoaquepts Typic Haplohemists	Back swamp		17.547	9,86
Typic Sulfaquepts	Estuarine drained	marine sediments (marine clay)	2.172	1,22
Typic Haplohemists Typic Sulfishemists	Peat - Oligotrofik. 0.5-2 m	Organic matter	8.637	4,85
Typic Haplosaprists Typic Haplohemists	Peat swamp > 2 m		5.516	3,10
Human made pond			1.711	0,96
Total acre :			178.002	100,00

Appendix 9: Migratory Birds Data collected October 31th, 2008

No	International Name	Indonesia	English	Siput to Jentolo River	Jentolo to Tengkorak River	Tengkora ng to Nibung River
01	<i>Arenaria interpres</i>	Trinil pembalik batu	Ruddy turnstone	-	-	1
02	<i>Tringa cinereus</i>	Trinil bedaran	Terek sandpiper	-	-	1,000
03	<i>Tringa totanus</i>	Trinil kaki-merah	Common redshank	500	750	50
04	<i>Tringa erythropus</i>	Trinil tutul	Spotted redshank	-	-	3
05	<i>Limosa limosa</i>	Biru-laut ekor-hitam	Black-tailed godwit	-	-	14,000
06	<i>Limosa lapponica</i>	Biru-laut ekor-blorok	Bar-tailed godwit	300	-	2,000
07	<i>Limnodromus semipalmatus</i> (NT)	Trinil-lumpur asia	Asian dowitcher	-	1	800
08	<i>Numerius phaeopus</i>	Gajahan pengala	Whimbrel	750	-	-
09	<i>Numerius arquata</i> (NT)	Gajahan besar	Eurasian Curlew	400	-	-
10	<i>N. madagascariensis</i>	Gajahan timur	Far Eastern Curlew	150	-	-
10a	<i>Numerius spp</i>	Gajahan	Curlew	-	-	1,000
11	<i>Calidris ferruginea</i>	Kedidi golgol	Curlew sandpiper	-	5	300
12	<i>Calidris tenuirostris</i>	Kedidi besar	Great knot	-	-	300
13	<i>Calidris canutus</i>	Kedidi merah	Red knot	-	-	100
14	<i>Pluvialis squatarola</i>	Cerek besar	Grey plover	-	-	200
15	<i>Charadrius mongolus</i>	Cerek-pasir Mongolia	Lesser Sand plover	-	-	1,000
16a	<i>Charadrius alexandrinus</i>	Cerek tilil	Kentish plover	-	-	100
16b	<i>Charadrius spp</i>	Cerek	Plover	-	-	500
17	Tidak teridentifikasi	Burung pantai migran	Migrant shorebirds	200	-	3,000
Sub Total				2,300	756	24,354
Total				27,410		

Migratory Birds Data Collected December, 13-14th, 2008

No	Species Name	Indonesia	English	Betet Island	Alanggantang Island	Banyuasin
01	<i>Arenaria interpres</i>	Trinil pembalik batu	Ruddy turnstone	-	-	-
02	<i>Tringa cinereus</i>	Trinil bedaran	Terek sandpiper	10	-	2,000
03	<i>Tringa totanus</i>	Trinil kaki merah	Common redshank	-	650	-
04	<i>Tringa erythropus</i>	Trinil tutul	Spotted redshank	-	-	-
05	<i>Limosa limosa</i>	Biru-laut ekor-hitam	Black-tailed godwit	-	800	5,000
06	<i>Limosa lapponica</i>	Biru-laut ekor-blorok	Bar-tailed godwit	10	100	1,000
07	<i>Limnodromus semipalmatus</i> (NT)	Trinil-lumpur asia	Asian dowitcher	-	-	100
08	<i>Numenius phaeopus</i>	Gajahan pengala	Whimbrel	-	-	200
09	<i>Numenius arquata</i> (NT)	Gajahan besar	Eurasian curlew	-	30	1,000
10	<i>N. madagascariensis</i>	Gajahan timur	Curlew	-	250	1,500
11	<i>Numerius spp</i>	Gajahan	Far Eastern curlew	-	-	-
12	<i>Calidris ferruginea</i>	Kedidi golgol	Curlew sandpiper	-	-	1
13	<i>Calidris tenuirostris</i>	Kedidi besar	Great knot	-	-	-
14	<i>Calidris canutus</i>	Kedidi merah	Red knot	-	-	-
15	<i>Pluvialis squatarola</i>	Cerek besar	Grey plover	-	-	-
16	<i>Charadrius mongolus</i>	Cerek-pasir Mongolia	Lesser Sand plover	15	1,000	500
17	<i>Charadrius leschenaultii</i>	Cerek-pasir besar	Greater sand plover	1	-	-
18	<i>Charadrius alexandrinus</i>	Cerek tilil	Kentish plover	4	-	-
19	<i>Charadrius spp</i>	Cerek	Plover	10	-	-
20	Tidak teridentifikasi	Burung pantai migran	Migrant shorebirds	20	500	2,000
Sub Total				70	3,330	13,301
Total				16.701		