

Designation date: 15/03/2013 Ramsar Site no. 2124

Information Sheet on Ramsar Wetlands (RIS) – 2009-2014 version

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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 17, 4th edition).
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.

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

February 18, 2013

3. Country:

Philippines

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.

Las Piñas-Parañaque Critical Habitat and Ecotourism Area (LPPCHEA)

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** or
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 LPPCHEA is in Metro Manila and bounded by the Pasay City on the northeast; Bacoor, Cavite on the southwest; and Manila Bay on the west. It is composed of two (2) inter-connected islands which fall under the jurisdictions of two cities. The Freedom Island and a small portion of the Long Island are under the jurisdiction of Parañaque City. While most of the southward Long Island belongs to Las Piñas City.

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.

Central Point: 14° 28' 34.92" N and 120° 58' 50.54" E

Limits of the site: 120° 58' 12" to 120° 59' 20" E and 14° 28' 30" to 14° 30' 15" N

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.

The site is a reclaimed area located at approximately 9 kilometres (in a straight line) off the southern portion of Manila, the capital city of the Philippines. It is bounded by the Pasay City on the northeast; by Bacoor, Cavite on the southwest; and by Manila Bay on the west. Per Presidential Proclamation 1412, LPPCHEA covers an expanse of 175 hectares and consists of two (2) inter-connected islands.

The Long Island is at the southwest portion and most part of it falls under the political jurisdiction of Las Piñas City while the Freedom Island which is situated northwest belongs to the administrative control of Parañaque City. Also within the site lies the Parañaque Drainage Basin and its tributaries are Tripa de Galliena and Maricaban Creek on the north-western side; Don Galo River on the western side and Las Piñas river on the south-eastern side.

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

Elevation values from 0 to 7 meters above sea level.

11. Area: (in hectares)

175 hectares.

Presidential Proclamation 1412 was issued on 22 April 2007 establishing the Las Piñas-Parañaque Critical Habitat and Ecotourism Area (LPPCHEA) covering an area of about 175 hectares. The said area was declared a critical habitat pursuant to Republic Act 9147 and Executive Order No. 578 s. 2006 which provide for the establishment of critical habitats critical for the survival of threatened, restricted-range and congregatory species, among others.

LPPCHEA encompasses two (2) land masses: Long Island, which is about 32 has. is at the southwest portion of the LPPCHEA in Las Piñas City, while Freedom Island about 30 has. is at the northeast part and under the political jurisdiction of Parañaque City.

LPPCHEA landmass also includes about 9.4 hectares of shoreline along the Metro Manila mainland alongside the Manila-Cavite Coastal Road, most of which are covered with a dense population of mangroves. The mudflat covers an area of about 114 hectares with its adjacent waters measuring 10 hectares within the LPPCHEA boundary.

12. General overview of the site:

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

The LPPCHEA is a coastal wetland and a bird sanctuary situated within the metropolis of Metro Manila. It is the first established critical habitat in the Philippines and is just about 0.097% of the 1,800 km² total surface area of the Manila Bay Region. The site hosts at least 5,000 individuals of both migratory and resident species of birds. It was proclaimed as a critical habitat in April 2007 pursuant to Presidential Proclamation 1412, mainly to protect threatened local and migratory wildbirds. About 47 migratory wildbird species visit LPPCHEA including the vulnerable Chinese Egret (*Egretta eulophotes*), the Pied Avocet (*Recurvirostra avosetta*) and Siberian Rubythroat (*Luscinia calliope*).

In 2004 – 2011 Asian Waterbird Census, 45 species of wildbirds were identified in the area, 15 species of which are resident wildbirds. The most important of these resident birds is the Philippine Duck (*Anas luzonica*) which is classified as “Vulnerable” in the IUCN Red Data Book. The highest count of the species was attained in 2010 wherein 5003 individuals of this bird were recorded. About 1% of the population of Black-winged Stilt (*Himantopus himantopus*) which uses the East-Asian Australasian Flyway is also regularly seen in the area. As per the latest survey by the Wild Bird Club of the Philippines (WBCP), there is a total of 82 bird species found in the area (Annex II).

Fishes and macro-invertebrates abound this area. Macro-benthos includes polychaetes represented by mudworms (*Nereis sp.*), crustaceans, and mollusks. Mollusks, the most abundant micro-invertebrates in the area, include 23 species of bivalves and 14 species of gastropods.

Within the site is a dense population of mangroves which serves as a breeding and nesting ground for these birds. A total of eight (8) mangrove species and associated species are identified in the area. The DENR has recently re-introduced a species of Nilad (*Scyphiphora hydrophyllacea*), a mangrove species endemic to the Philippines, and from which the name of “*Maynila*” came from. Adjacent to the mangrove are mudflats of about one hundred and fourteen (114) hectares.

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 2 – To date, records of the Department of Environment and Natural Resources (DENR) and the Wildbird Club of the Philippines (WBCP) as well as that from the AWC show the presence of the Philippine duck (*Anas luzonica*) and the Chinese Egret (*Egretta eulophotes*), which are both IUCN listed as vulnerable species.

Common Name	Scientific Name	IUCN Status	CMS Appendix	CITES Appendix	National Status
Chinese Egret	<i>Egretta eulophotes</i>	VU	I	-	
Philippine Duck	<i>Anas luzonica</i>	VU	-	-	

The Philippine duck (*Anas luzonica*) is a resident bird in LPPCHEA. During the 2008 Asian Waterbird Census (AWC), 78 individuals were counted in the site, the highest count attained since 2004. While in a birdwatching activity on December 8, 2012 in line with the 8th Philippine Bird Festival, about 55 individuals were seen. And though there has not been any record or study as to how many pairs and what time of the year their mating season is, juvenile Philippine Ducks (*Anas luzonica*) have been spotted by DENR personnel stationed in LPPCHEA. We can therefore surmise that this species is breeding in the area.

The Chinese Egret (*Egretta eulophotes*), though known as a migratory species, has also been regularly recorded in small numbers all year round. Although the records of the AWCs does not show a substantial number (only 1 in 2009 & 2011), individuals have been recorded by Wild Bird Club members and other birdwatchers outside of the AWC period in the area. Moreover, stationed personnel from DENR have sightings of at least 4 Chinese Egret (*Egretta eulophotes*) all year round.

Criterion 4 – The area serves as a feeding, breeding and nesting ground for birds using the East Asian-Australasian Flyway. Sightings of nests, eggs and juveniles of the Philippine Duck (*Anas luzonica*), Common Moorhen (*Gallinula chloropus*) and Black-Crowned Night Heron (*Nycticorax nycticorax*) in the area are mere evidence that these bird species breed in LPPCHEA. Further, over 47 species of migratory birds used the intertidal mudflats, fishponds and salt pans along the site during winters and migration seasons. In 2004 AWC count, LPPCHEA ranked #9 nationwide in terms of number of individuals and ranked #2 in terms of number of species (Aguinaldo, Undated). The area supports more than 5,000 individual birds representing more than 80 species.

Criterion 6 – AWC Record from 2007 – 2011 shows the presence in LPPCHEA of at least 1% or 1,000 out of the 100,000 estimated global population of Black-Winged Stilts (*Himantopus himantopus*) using the East Asian-Australasian Flyway. Trending of other bird species population from 2004-2011 as per AWC records are shown in Annex III.

Year	Black Winged Stilt recorded	1% Threshold according to WPE 5 th Edition
2007	1049	1000
2008	1168	
2009	1281	
2010	4131	
2011	1537	

15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

INDOMALAYAN Realm, Philippines Biogeographic Province

b) biogeographic regionalisation scheme (include reference citation):

Udvardy, M.D.F. (1975). A classification of the biogeographic p.21
Provinces of the world. IUCN Occasional Paper no. 18. Morges, Switzerland: IUCN.

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.

Geology & Geomorphology	Man-made Islands formed from reclamation projects of the government in the early 70s.
Soil Type & Chemistry Range	loam with dominant composition of sand soil type, organic matter laden, pH: neutral to alkaline (5.5 – 8.5), phosphate rich, medium to high concentration of zinc, copper and iron
Origin	Artificial, reclamation area
Salinity	Brackish/saline pH level of water averages to 7.2 which falls within the standard for Class C Freshwater category which is 6.5 – 8.5. (See Annex V). Due to its high nutrient content, the surrounding water is found to be eutrophic.
Climate	Dry season from November to April and wet season for the rest of the year. Average temperature for wet season is 28.1°C while it is 27.1°C for dry season. Average rainfall for wet and dry season is 244.6 mm and 33 mm, respectively.
Tidal Variation	1.25 meters

17. Physical features of the catchment area:

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

Manila Bay has a total a surface area of about 1,800 square kilometres. It is 60 km long, may be entered through a channel 18 km wide, in which Corregidor and Caballo Islands are situated, and has a coastline of approximately 190 kilometres. The bay consists of a gently sloping basin with the depth increasing at a rate of 1 meter per kilometre from the interior to the entrance and has an average depth of 17 meters (PRRP, 1999). It receives drainage from approximately 17,000 square kilometres of watershed consisting of 26 catchment areas. The catchment area is bounded by the Sierra Madre mountain range to the east, the Caraballo mountains to the north, the Zambales mountains to the northwest and the Bataan mountains to the west (BFAR, 1995). The two main contributory areas are the Pasig and the Pampanga river basins. Other major rivers discharging directly into Manila Bay are Talisay, Pasag, Meycauayan, Navotas-Malabon-Tullahan-Tenejeros, and Maragondon. Freshwater inflow has been estimated at approximately 25 cubic kilometres per annum. The typical retention time for freshwater in the Bay is between two weeks and one month, depending on the season (PRRP, 1999). Annex VI is the Manila Bay Coastal and Watershed Area boundary map.

18. Hydrological values:

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

The 36-hectare mangrove swamp serves multiple purposes such as a pollutant “sink” by filtering certain types of waste, and provide shoreline defence against floods, erosion and storm surges. It also provides nursery grounds for fish and other biota which in turn support fisheries production in coastal waters. Aside from these, mangrove forests produce leaf litter and detrital matter as well. This detritus matter forms the base of the aquatic food chain, as they become food-source for other organisms (eg. shrimps), which afterwards serve as food for a much higher animal species.

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: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

Inland: L • M • N • O • P • Q • R • Sp • Ss • Tp • Ts • U • Va •
Vt • W • Xf • Xp • Y • Zg • Zk(b)

Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

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.

G – Intertidal mud, sand or salt flats

I – Intertidal forested wetlands

H – Intertidal marshes

J – Coastal Brackish/Saline Lagoons

F – Estuarine waters

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.

The site has been declared a protected area to help preserve one of the few feeding and resting grounds of migratory birds using the East Asian-Australasian Flyway. Encompassing approximately 175 hectares of mangroves, coastal plains and tidal lagoons, thousands of birds fill the site during the months of September to March. There are over eight (8) species of mangroves and associated species, excluding the recently re-introduced Nilad (*Scyphiphora hydrophyllacea*), found at the LPPCHEA. These mangrove swamps provide a nursery function to a wide array of fish species which turn serve as food for both migratory and residential birds found in the site. They also serve as a pollutant sink and provide shoreline defence against flood and erosion. Within the surrounding waters of LPPCHEA, three major groups of macroinvertebrates are identified. The group consists of crustaceans, polychaetes and the most dominant the molluscs. Polychaetes are represented by mud worms (*Nereis* sp.), while mollusk is comprised of twenty-three (23) species of bivalves and fourteen (14) species of gastropods.

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.*

Mangroves

Within LPPCHEA are mangrove swamps containing a total of eight (8) species of mangroves, which serve as a breeding and nesting ground for both the resident and migratory birds. Recently, the DENR has re-introduced the Nilad (*Scyphiphora hydrophyllacea*), a mangrove species native to the Philippines, where the name of “Maynila” (Manila), its capital city was derived.

Beach-type species

Six (6) species of beach-type trees are also found within the site making it a beach forest nestled within the urban setting.

Other tree species

The site serves as a living laboratory that showcases endemic and indigenous trees. In fact, the area harbours quite a number of Philippine native tree species, some of which are endemic and cannot be found elsewhere in the world. There are also tree species in LPPCHEA from which some of the cities and municipalities in the country were named after. For instance, the Antipolo city, the Pilgrimage Capital of the Philippines was named after the Antipolo (*Artocarpus blancoi*) tree.

Trees which are exclusively found in the Philippines and nowhere else in the world but are present in the area include: the Bignay (*Antidesma bunius*), Kamagong (*Diospyros philippinensis*) and the Yakal (*Shorea laevis*).

Other tree species which also serve as food for the birds like Guava (*Psidium guajava*), Atis (*Annona squamosa*) and Bignai (*Antidesma bunius*) are also found in the area. Annex VII lists down all the tree/plant species found in LPPCHEA.

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.*

Avifauna

Presence of birds is one of the compelling reasons LPPCHEA was proclaimed as a critical habitat. In fact, during the onset of the winter season in the northern hemisphere, thousands of migratory birds flock in the area to rest and feed. One of these is the IUCN listed vulnerable species, the Chinese Egret (*Egretta eulophotes*), which population has declined over the years due to threats in habitat lost. Therefore a sighting of these birds in the area is a mere evidence of the LPPCHEA’s international importance. Another thing is the establishment of the Black-crowned Night Heron (*Nycticorax nycticorax*) in the area. As per the DENR’s accounting, this bird species was once migratory but has permanently resided in the area. Their roosting and breeding ground is within the thick mangrove stand inside the Freedom Island. The Philippine Duck (*Anas luzonica*), also a vulnerable and endemic bird species cannot be found elsewhere within the National Capital Region but LPPCHEA. Any birdwatching trip here wouldn’t be considered complete without the sighting of these ducks.

Macro benthos

Macro-invertebrates comprised of polychaetes, mollusc, and crustaceans also abound the area. Among the group, molluscan fauna are the most abundant. Polychaetes are represented by mud worms (*Nereis* sp.), while mollusk is comprised of twenty-three (23) species of bivalves and fourteen (14) species of gastropods. Crustaceans are represented by striped barnacle (*Amphibalanus amphitrite*).

Fish species

In 2001 researchers from Ecosystems Research and Development Bureau (ERDB) recorded eight (8) species of fishes. Four species were caught during the day sampling, which included milkfish (*Chanos chanos*), dusky frillgoby (*Bathygobius forma fuscus*), striped ponyfish (*Leiognathus fasciatus*), and long-arm mullet (*Valamugil cunnesius*). During the night sampling, four additional species were caught. These were silver sillago (*Sillago sibama*), fourlined terapon (*Pelates quadrilineatus*), fringescale sardinella (*Sardinella fimbriata*), and whipfin silverbiddy (*Gerres filamentosus*). Majority of the fishes in the study were at their juvenile to sub-adult sizes. This finding supports the fact that mangroves serve as nursery areas for a number of fishes.

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:

The surrounding waters of LPPCHEA are utilized neighbouring fisher folks for artisanal fishing and shell gathering, for their daily consumption. As for the site, the only allowed use is for photography, ecotours/nature walk/birdwatching, CSR/outreach/community work activities/cleanup activities and research.

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:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

24. Land tenure/ownership:

a) within the Ramsar site:

The area is titled under the Philippine Reclamation Authority (PRA), a government owned and controlled corporation. Formerly Public Estates Authority (PEA), it was created in 1977 by virtue of Presidential Decree 1084 to serve primarily as the clearing house for all reclamation projects in the country. Executive Order No.380-A dated 03 April 2006 renamed PEA as PRA.

LPPCHEA was proclaimed as a Critical Habitat in April 22, 2007 by the virtue of Proclamation 1412 issued by the then President Gloria Macapagal-Arroyo. LPPCHEA is managed by the Manila Bay Critical Habitat Management Council, wherein DENR acts as the chair and the PRA as vice-chair.

b) in the surrounding area:

The surrounding area is owned by the state. Annex VIII lists down all the coastal barangays with direct access to the site.

25. Current land (including water) use:

a) within the Ramsar site:

Pursuant to Presidential Proclamation 1412, the area is officially declared as a critical habitat. The only use allowed for the area is photography, ecotours/nature walk/birdwatching, CSR/outreach/community work activities/cleanup activities and research.

b) in the surroundings/catchment:

- Fishing and shellfish gathering
- Adjacent to the site is the Manila-Cavite Coastal Road
- Residential

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:

The accumulation of trash and litters along the coast of the critical habitat poses a great threat to the wildlife found within the area. This garbage comes from nearby cities and provinces, and is brought into the area via the natural wave action. Heavy metals and other organic contents coming from residential and industrial effluents are also flushed into the surrounding waters. Potential problems in land mass stability are also projected and this is due to the presence of fault line and rapid liquefaction in the area. The Manila Bay Reclamation Project is also seen as a threat to the critical habitat in the future as its effect could alter the natural ecological integrity of the critical habitat in the long run. However, designation of the site as a Ramsar Site will be able to improve its chances of long-term conservation. Mangrove cutting have also been reported, and though this matter is currently being addressed by the DENR, future incidences may still happen if not taken care of appropriately.

b) in the surrounding area:

- Given the location of LPPCHEA, the likelihood of the area becoming a garbage sink of sorts is alarmingly high. Eight (8) coastal barangays are immediately adjacent to LPPCHEA. Accordingly, based on a simple extrapolation of the data obtained from a study on the garbage collection efficiency of the local government units of Las Piñas and

Parañaque, the probable volume of wastes being thrown directly into LPPCHEA from the coastal barangays alone is an astounding 572.76 kg. a day. If the population of these barangays doubles over the years, then the problem in garbage generation will become twice as much greater. This problem though is being addressed on an on-going basis.

- As per the Ecological Profiling of LPPCHEA, the presence of the adjacent Manila-Cavite Coastal Road wherein hundreds of cars are passing every day. Aside from being attributed as a potential source of noise pollution in the area, this may also alter the quality of the LPPCHEA's soil. It has been proven that vehicular traffic affects the soil pH and in turn hampers its primary productivity.
- Encroachment of informal settlers.

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.

The area is a proclaimed critical habitat.

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

The LPPCHEA does not fit into any IUCN protected area category but may be partially categorized as II and IV. It is a designated critical habitat subject for protection from any form of exploitation or destruction which may be detrimental to the survival of threatened species dependent therein. Likewise, it is a designated ecotourism site which provides educational and recreational opportunities for the people in a sustainable manner.

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

The LPPCHEA Framework Plan has already been prepared. Though the Council Resolution approving and adopting it has not yet been signed by all the Council members, all the provisions and stipulations stated therein are being implemented.

d) Describe any other current management practices:

During the last Draft Management Plan writeshop for LPPCHEA on August 10-12, 2011, the members of the council were able to identify major Management Issues that need to be addressed and they are as follows:

- Pollution. Air, water, noise, light and solid wastes needs to be minimized if not eliminated to protect the wildlife within the area.
- Soil Erosion. The land area of the LPPCHEA has been significantly decreasing through the years. It's because of the natural wave action and the instability of the land mass.
- Development Projects/Activities of various NGAs Both on-site and off-site. This may lead to encroachment of invasive species into the area.

Presently, the DENR continues to protect, maintain and rehabilitate the area. Water quality sampling is conducted bi-annually to monitor fluctuations in nutrient content, pH and other

substances and compounds including heavy metals. The conduct of soil sampling every other two (2) years has also been proposed to be undertaken starting this year.

As for the problems in solid wastes, coastal cleanup activities are conducted in the area regularly. Local Government Units from both the Parañaque and Las Piñas Cities, different government and private owned corporations, environmental groups and other entities join hand in hand in scouring accumulated trash and litters off the coast of LPPCHEA.

Tree planting activities are also being done to improve and enrich the floral diversity of the area. Different ornamentals, forest species and mangrove are strategically planted within the site. Mangroves and its associated species are planted along the LPPCHEA's coast to stabilize the land and prevent erosion. Recently, the DENR has re-introduced Nilad (*Scyphiphora hydrophyllacea*) into the area, a mangrove species endemic to the Philippines.

28. Conservation measures proposed but not yet implemented:

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

The Manila Bay Critical Habitat Management Council must work on the strengthening of the areas legal basis. It shall, as defined in the LPPCHEA Framework Plan, craft a bill and lobby for its legislation as a protection and conservation area.

29. Current scientific research and facilities:

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

The site is among the stations monitored during the annual Asian Waterbirds Census which is being done every January. LPPCHEA is also one of the core sites for the Macrobenthic Ecological Baseline for Manila Bay Report by PAWB which will run from February of 2012 up to 2018.

As for the studies, University of the Philippines, Polytechnic University of the Philippines, Pamantasan ng Lungsod ng Maynila have chosen LPPCHEA as subject for their thesis proposals. These include inventory of mangrove and other tree species, effect of heavy metals on fishes, among others.

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 LPPCHEA Management Office has conducted several activities increasing public awareness regarding the site since it has been established as a critical habitat. These include dissemination of IEC materials to different schools and colleges, on-the-job trainings, lectures and seminars. ANNEX VIX lists down all these CEPA undertaken by the office.

31. Current recreation and tourism:

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

Shortly after it has been proclaimed as a critical habitat, LPPCHEA has served several purposes such as a spot for birdwatching and nature walk, tree planting and a perfect site for nature photography. Spectators from many nations have visited the site to watch some birds during the migration seasons. On a rough estimate, about 3000 plus visitors are coming to visit the area every year.

32. Jurisdiction:

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

LPPCHEA is under the jurisdiction of the Department of Environment and Natural Resources (DENR) and the Philippine Reclamation Authority. It is covered by the Republic Act 9147 (Wildlife Act of 2001).

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.

Manila Bay Critical Habitat Management Council
Las Piñas-Parañaque Critical Habitat and Ecotourism Area-Project Management Office
headed by Mr. Rey M.T. Aguinaldo
DENR-NCR
Production Nursery North Avenue, Diliman Quezon City
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Donna Mayor-Gordove
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Protected Areas, Wildlife and Coastal Zone Management Service (PAWCZMS)
Department of Environment and Natural Resources
National Capital Region
Production Nursery, North Avenue, Diliman,
Quezon City
1100 Philippines
dmgordove@denr.gov.ph
+632 435-2509

34. Bibliographical references:

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

Alba et al. 2009. Ecological Profiling and Characterization of the Las Piñas-Parañaque Critical Habitat and Ecotourism Area. DENR-NCR Report

Bureau of Fisheries and Aquatic Resources. 1995. Fisheries Sector Program-Resource and Ecological Assessment of the Manila Bay, Final Report. Bureau of Fisheries and Aquatic Resources, Department of Agriculture, Quezon City, Philippines.

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Pasig River Rehabilitation Program. 1999. Manila Bay Monitoring Status for 1996 – 1998 and Recommendation for Continued Monitoring. Pasig River Rehabilitation Program, Department of Environment and Natural Resources, Quezon City, Philippines and Danish International Development Assistance (Danida) and Ministry of Foreign Affairs, Denmark.

Sabater, Espada, Combalicer and Bantayan, 2009. Vulnerability Assessment of the Las Piñas-Parañaque Critical Habitat and Ecotourism Area. DENR-NCR LPPCHEA-PMO File.

Udvardy, M.D.F. (1975). A classification of the biogeographic provinces of the world. IUCN Occasional Paper no. 18. Morges, Switzerland: IUCN.

Wildfowl & Wetlands Trust Limited, 2009. Fact Finding Trip to the Philippines. Fact Finding Trip Report

Wetlands International Waterbird Population Estimate as provided by Mr. Arne Jensen from the Wildbird Club of the Philippines

LPPCHEA-PMO Files

<http://www.emb.gov.ph/mbemp/dloads/mbscs%2002mvw.pdf>

<http://www.waypoints.ph/gpsdata.php3?wpt=lppche>

ANNEX I. Map of LPPCHEA (submitted as a separate jpeg file)

ANNEX II. WBCP's List of Birds found in the area

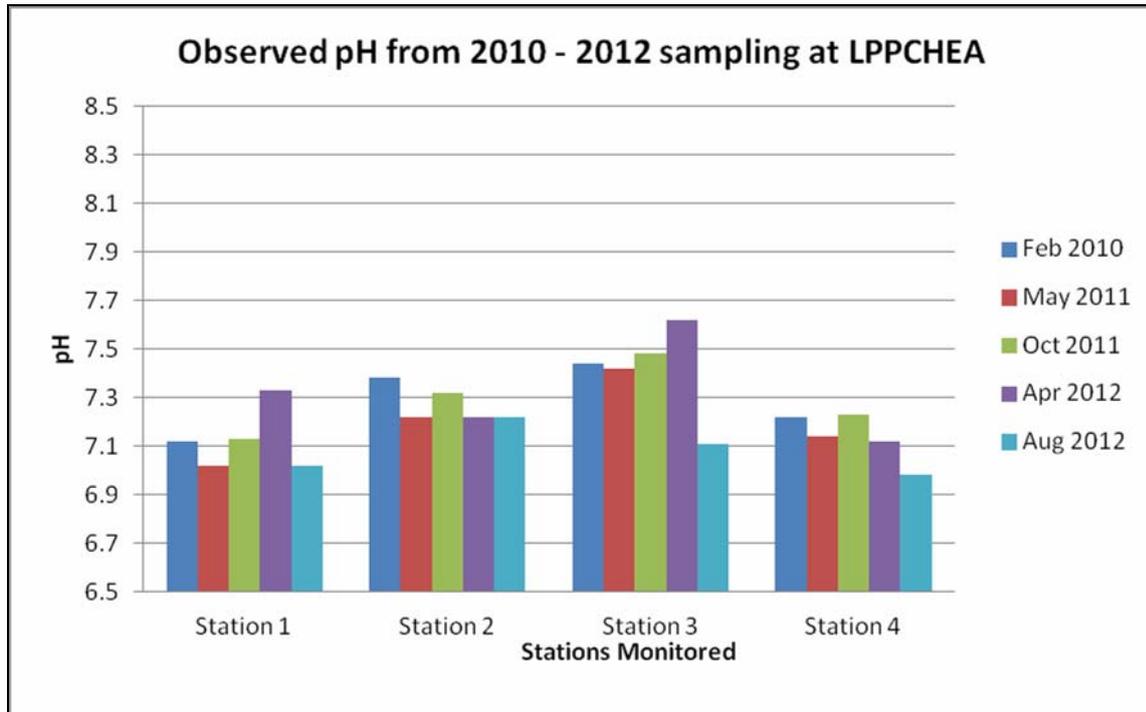
ENGLISH NAME	SCIENTIFIC NAME
Red-tailed Tropicbird	<i>Phaethon rubricauda</i>
Grey Heron	<i>Ardea cinerea</i>
Purple Heron	<i>Ardea purpurea</i>
Great Egret	<i>Ardea alba</i>
Intermediate Egret	<i>Egretta intermedia</i>
Chinese Egret	<i>Egretta eulophotes</i>
Little Egret	<i>Egretta garzetta</i>
Pacific Reef-Egret	<i>Egretta sacra</i>
Little Heron (Striated Heron)	<i>Butorides striata</i>
Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>
Rufous Night-Heron	<i>Nycticorax caledonicus</i>
Cinnamon Bittern	<i>Ixobrychus cinnamomeus</i>
Yellow Bittern	<i>Ixobrychus sinensis</i>
Philippine Duck	<i>Anas luzonica</i>
Northern Shoveler	<i>Anas clypeata</i>
Tufted Duck	<i>Aythya fuligula</i>
Osprey	<i>Pandion haliaetus</i>
Brahminy Kite	<i>Haliastur indus</i>
Eurasian Kestrel (Common Kestrel)	<i>Falco tinnunculus</i>
Peregrine Falcon	<i>Falco peregrinus</i>
Barred Rail	<i>Gallirallus torquatus</i>
White-browed Crake	<i>Porzana cinerea</i>
White-breasted Waterhen (White-breasted Bush-hen)	<i>Amaurornis phoenicurus</i>
Common Moorhen	<i>Gallinula chloropus</i>
Asian Golden-Plover (Pacific Golden-Plover)	<i>Pluvialis fulva</i>
Little Ringed-Plover	<i>Charadrius dubius</i>
Kentish Plover	<i>Charadrius alexandrinus</i>
Lesser Sand-Plover (Mongolian Plover)	<i>Charadrius mongolus</i>
Whimbrel	<i>Numenius phaeopus</i>
Bar-tailed Godwit	<i>Limosa lapponica</i>
Common Redshank	<i>Tringa totanus</i>
Common Greenshank	<i>Tringa nebularia</i>
Wood Sandpiper	<i>Tringa glareola</i>
Marsh Sandpiper	<i>Tringa stagnatilis</i>
Common Sandpiper	<i>Actitis hypoleucos</i>
Grey-tailed Tattler	<i>Heteroscelus brevipes</i>
Ruddy Turnstone	<i>Arenaria interpres</i>
Rufous-necked Stint (Red-necked Stint)	<i>Calidris ruficollis</i>
Long-toed Stint	<i>Calidris subminuta</i>
Sharp-tailed Sandpiper	<i>Calidris acuminata</i>
Ruff (Reeve)	<i>Philomachus pugnax</i>
Oriental Pratincole	<i>Glareola maldivarum</i>
Black-winged Stilt	<i>Himantopus himantopus</i>
Pied Avocet	<i>Recurvirostra avosetta</i>
Black-headed Gull (Common Black-headed Gull)	<i>Larus ridibundus</i>
Common Tern	<i>Sterna hirundo</i>

ENGLISH NAME	SCIENTIFIC NAME
White-winged Tern (White-winged Black Tern)	<i>Chlidonias leucopterus</i>
Whiskered Tern	<i>Chlidonias hybridus</i>
Island Collared-Dove	<i>Streptopelia bitorquata</i>
Spotted Dove (Spotted-necked Dove)	<i>Streptopelia chinensis</i>
Zebra Dove	<i>Geopelia striata</i>
Spotted Imperial-Pigeon	<i>Ducula carola</i>
Philippine Cuckoo-Dove	<i>Macropygia tenuirostris</i>
Colasisi	<i>Loriculus philippensis</i>
Lesser Coucal	<i>Centropus bengalensis</i>
Savanna Nightjar	<i>Caprimulgus affinis</i>
Common Kingfisher	<i>Alcedo atthis</i>
White-throated Kingfisher	<i>Halcyon smyrnensis</i>
White-collared Kingfisher (Collared Kingfisher)	<i>Todirhamphus chloris</i>
Barn Swallow	<i>Hirundo rustica</i>
Pacific Swallow	<i>Hirundo tahitica</i>
Yellow-vented Bulbul	<i>Pycnonotus goiavier</i>
Philippine Bulbul	<i>Ixos philippinus</i>
Black-naped Oriole	<i>Oriolus chinensis</i>
Siberian Rubythroat	<i>Luscinia calliope</i>
Golden-bellied Flyeater (Golden-bellied Gerygone)	<i>Gerygone sulphurea</i>
Arctic Warbler	<i>Phylloscopus borealis</i>
Clamorous Reed-Warbler	<i>Acrocephalus stentoreus</i>
Oriental Reed-Warbler	<i>Acrocephalus orientalis</i>
Striated Grassbird	<i>Megalurus palustris</i>
Middendorff's Grasshopper-Warbler (Middendorff's Warbler)	<i>Locustella ochotensis</i>
Bright-capped Cisticola (Golden-headed Cisticola)	<i>Cisticola exilis</i>
Zitting Cisticola (Fan-tailed Cisticola)	<i>Cisticola juncidis</i>
Pied Fantail	<i>Rhipidura javanica</i>
Grey Wagtail	<i>Motacilla cinerea</i>
Yellow Wagtail	<i>Motacilla flava</i>
Brown Shrike	<i>Lanius cristatus</i>
Asian Glossy Starling	<i>Aplonis panayensis</i>
Crested Myna	<i>Acridotheres cristatellus</i>
Eurasian Tree Sparrow	<i>Passer montanus</i>
Scaly-breasted Munia	<i>Lonchura punctulata</i>
Chestnut Munia	<i>Lonchura malacca</i>

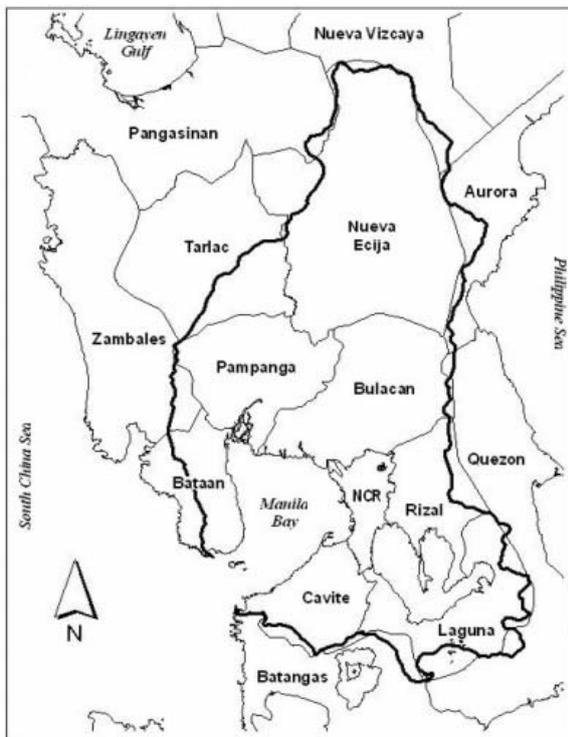
SPECIES	2004	2005	2006	2007	2008	2009	2010	2011	Highest Count
Red-necked Phalarope <i>Phalaropus lobatus</i>									
Eurasian Woodcock <i>Scolopax rusticola</i>									
Pintail Snipe <i>Gallinago stenura</i>									
Swinhoe's Snipe <i>G. megala</i>									
Common Snipe <i>G. gallinago</i>									
Asiatic Dowitcher <i>Limnodromus semipalmatus</i>									
Red Knot <i>Calidris canutus</i>									
Great Knot <i>C. tenuirostris</i>									
Sanderling <i>C. alba</i>							22		22
Red-necked Stint <i>C. ruficollis</i>	62	7		103	50				103
Temminck's Stint <i>C. temminckii</i>									
Long-toed Stint <i>S. subminuta</i>	49	1		7					49
Sharp-tailed Sandpiper <i>C. acuminata</i>									
Dunlin <i>C. alpina</i>									
Curlew Sandpiper <i>C. ferruginea</i>									
Spoon-billed Sandpiper <i>Eurynorhynchus pygmeus</i>									
Broad-billed Sandpiper <i>Limicola falcinellus</i>									
Sandpiper sp.		50		460		577			577
Shorebird/waterbird sp.						150			150
Unidentified shorebirds	321								321
GULLS, TERNS & SKIMMERS									
Herring Gull <i>Larus argentatus</i>									
Brown-headed Gull <i>L. brunnicephalus</i>									
Black-headed Gull <i>L. ridibundus</i>	7					2		1	7
Saunders' Gull <i>L. saundersi</i>									
Unidentified Gulls									
Whiskered Tern <i>Chlidonias hybrida</i>	1,800	473	219	275	995	270	150	575	1,800
White-winged Black Tern <i>C. leucoptera</i>									
Gull-billed Tern <i>Gelochelidon nilotica</i>									
Caspian Tern <i>Hydroprogne caspia</i>									
Indian River Tern <i>Sterna aurantia</i>									
Common Tern <i>S. hirundo</i>									
Black-naped Tern <i>S. sumatrana</i>									
Black-bellied Tern <i>S. melanogaster</i>									
Little Tern <i>S. albifrons</i>		1							1
Great Crested Tern <i>S. bergii</i>									
Lesser Crested Tern <i>S. bengalensis</i>									
Unidentified Terns									
Indian Skimmer <i>Rynchops albicollis</i>									
OTHER SPECIES									
Osprey <i>Pandion haliaetus</i>					1				1
Brahminy Kite <i>Haliastur indus</i>					1				1
Peregrine Falcon <i>Falco peregrinus</i>								1	
Barn Swallow <i>Hirundo rustica</i>								2	2

MOLLUSCS			
Bivalves		Gastropods	
Scientific Name	English Name	Scientific Name	English Name
<i>Anadara antiquata</i>	Antique Ark	<i>Cantbarus (Pollia) fumosus</i>	Smoky Goblet
<i>Anadara granosa</i>	Blood Cockle	<i>Cerithium sp.</i>	Cerith
<i>Anadara maculosa</i>	Ark Shell	<i>Clypeomorus batillariaeformis</i>	Necklace Cerith
<i>Arca navicularis</i>	Indo-Pacific Ark	<i>Cronia margaritcola</i>	Pearl-Shell Murex
<i>Arca ventricosa</i>	Ventricose Ark	<i>Euchelus atratus</i>	Euchelus
<i>Barbatia foliata</i>	Decussate Ark	<i>Monodonta labiata</i>	Monodont
<i>Chama sp</i>	Jewel Box	<i>Nassarius olivaceus</i>	Mud Snail
<i>Crassostrea glomerata</i>	Auckland Oyster	<i>Nassarius pullus</i>	Nassa
<i>Culcullea labiata</i>	Culcullea	<i>Pyrene scripta</i>	Dotted Dove Shell
<i>Gafrarium pectinatum</i>	Comb Venus	<i>Strombus canarium</i>	Dog Conch
<i>Gafrarium tumidum</i>	Tumid Venus	<i>Strombus urceus</i>	Little Pitcher Conch
<i>Gari elongata</i>	Elongate Sunset Clam	<i>Tonna sulcosa</i>	Banded Tun
<i>Gari togata</i>	Courtesan Sunset Clam	<i>Turritella terebralis</i>	Screw Turret
<i>Gloriopallium pallium</i>	Royal Cloak Scallop	<i>Umbonium monilifera</i>	Costate Button Top
<i>Katelysia hiantina</i>	Hiant Venus		
<i>Lioconcha castrensis</i>	Camp Pitar Venus		
<i>Perna viridis</i>	Asian Brown Mussel		
<i>Pinctda margaritifera</i>	Pacific Pearl-Oyster		
<i>Placamen calophylla</i>	Woodcarving Cake		
<i>Spondylus squamosus</i>	Ducal Thorny Oyster		
<i>Tellina staurella</i>	Cross Tellin		
<i>Veprecardium multispinosum</i>	Many-spined Cockle		
Crustaceans		Polychaetes	
Scientific Name	English Name	Scientific Name	English Name
<i>Amphibalanus amphitrite</i>	Striped Barnacle	<i>Nereiid polychaete</i>	Rag Worms

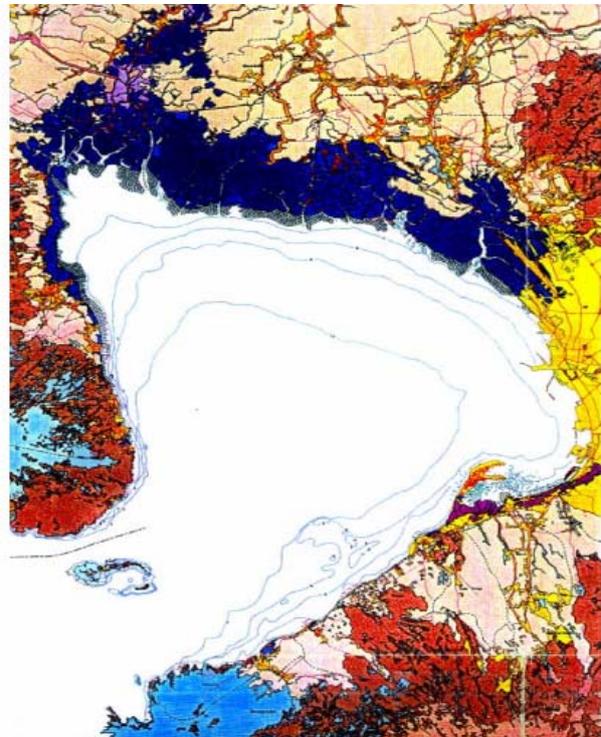
ANNEX V. pH analysis of water samples at LPPCHEA from 2010 – 2012



ANNEX VI. Manila Bay Coastal and Watershed Area boundary Map



The Manila Bay Coastal and Watershed Area Boundary.



Source: BFAR 1995.

The Manila Bay.

ANNEX VII. List of floral species in LPPCHEA

Common Name	Scientific Name
Mangroves	
Nilad	<i>Scyphiphora hydrophyllacea</i>
Bungalon	<i>Avicennia marina</i>
Kulasi	<i>Lumnitzera racemosa</i>
Pagatpat	<i>Sonneratia alba</i>
Bakauan	<i>Rhizophora sp.</i>
Pototan	<i>Bruguiera sexangula</i>
Nipa	<i>Nypa fruticans</i>
Tabigi	<i>Xylocarpus granatum</i>
Saging-saging	<i>Aegiceras comiculatum</i>
Mangrove-associated species	
Banalo	<i>Thespesia populnea</i>
Bangkoro	<i>Morinda citrifolia</i>
Buta-buta	<i>Excoecaria agallocha</i>
Beach type species	
Agoho	<i>Casuarina equisetifolia</i>
Alagau	<i>Premna odorata</i>
Aroma	<i>Acacia farnesiana</i>
Bani	<i>Pongamia pinnata</i>
Bitag	<i>Callophyllum inophyllum</i>
Talisay	<i>Terminalia catappa</i>
Trees, Ornamentals and other plant species	
African Tulip	<i>Spatodea campanulata</i>
Alibangbang	<i>Pileostigma hexagona</i>
Andadasi	<i>Cassia sophera</i> Linn.
Antipolo	<i>Artocarpus blancoi</i>
Aratiles	<i>Muntingia calabura</i>
Atis	<i>Annona squamosa</i>
Balitbitan	<i>Cynometra ramiflora</i>
Banaba	<i>Lagerstroemia speciosa</i>
Bayabas	<i>Psidium guajava</i>
Bignay Laki	<i>Antidesma bunius</i>
Bignay Pugo	<i>Antidesma pentandrum</i>
Bolong Eta	<i>Diospyros pilosanthera</i>
Botong	<i>Barringtonia asiatica</i>
Bougainvillea	<i>Bougainvillea spectabilis</i>

Common Name	Scientific Name
Caballero	<i>Caesalpinia pulcherrima</i>
Calumpit	<i>Terminalia microcarpa</i>
Camachile	<i>Pithecelobium dulce</i>
Castor Oil Plant	<i>Ricinus communis</i>
Champagne Palm	<i>Mascarena lagenicaulis</i>
Chico	<i>Achras zapota</i> Linn.
Dao	<i>Dracontomelon dao</i>
Datiles	<i>Muntingia calabura</i>
Duhat	<i>Syzygium cuminii</i>
Ficus	<i>Ficus benjamina</i>
Fire Tree	<i>Delonix regia</i>
Gakakan	<i>Drypetes falcata</i>
Golden Shower	<i>Cassia fistula</i>
Guava	<i>Psidium guajava</i>
Gumamela	<i>Hibiscus rosa-sinensis</i>
Guyabano	<i>Annona muricata</i>
Ilang-Ilang	<i>Canaga odorata</i>
Ipil	<i>Intsia bijuga</i>
Ipil-ipil	<i>Leucaena leucocephala</i>
Kaimito	<i>Chrysophyllum cainito</i>
Kaliot	<i>Hopea malibato</i>
Kalantas	<i>Toona calantas</i> Merr.
Kamagong	<i>Diospyros philippinensis</i>
Kamuning	<i>Murraya paniculata</i>
Lanete	<i>Wrightia pubescens</i>
Lipote	<i>Syzygium polycephaloides</i>
Mahogany	<i>Swietenia mahogany</i> Jacq.
Malapapaya	<i>Polyscias nodosa</i> (Blume) Seem.
Mangga	<i>Mangifera indica</i>
Manila Palm	<i>Veitcha merrillii</i>
Molave	<i>Vitex parviflora</i>
Nangka	<i>Artocarpus heterophyllus</i>
Narra	<i>Pterocarpus indicus</i>
Neem Tree	<i>Azadirachta indica</i>
Niyog	<i>Cocos nucifera</i>
Palawan Cherry	<i>Cassia nodosa</i>
Palosapis	<i>Shorea palosapis</i>
Pandan	<i>Pandanus</i>
Pandan Dagat	<i>Pandanus tectorius</i>
Rain Tree	<i>Samanea saman</i>
Santan	<i>Ixora spp.</i>

Common Name	Scientific Name
Santol	<i>Sandoricum koetjape</i>
Tabebuia	<i>Tabebuia spp.</i>
Tecoma	<i>Tecoma stans</i>
Tuai	<i>Bischofia javanica Blume</i>
Yakal	<i>Shorea laevis</i>
Yellow bell	<i>Allamanda cathartica</i>

ANNEX VIII. Coastal Barangays with direct access to the site

MUNICIPALITIES / BRGYS	AREA (hectares)	POPULATION (Aug. 2007)	POP DENSITY (popn/ha)
Parañaque City	4,657.00	552,660	119
Bgy. San Dionisio	309.69	60,175	194
Brgy. La Huerta	53.72	7,298	136
Las Piñas City	3,298.60	532,330	161
Brgy. Zapote	69.68	17,944	258
Brgy. Pulanglupa	338.96	33,838	100
Brgy. D. Fajardo	30.77	14,690	477
Brgy. Ilaya	13.32	6,196	465
Brgy. E. Aldana	33.36	10,342	310
Brgy. Manuyo Uno	74.85	12,057	161

ANNEX IX. LPPCHEA's Communications, Education and Public Awareness (CEPA) activities

School/Institution	Program/Activity	CEPA action	Date
Manila Ocean Park	Celebration of World Wetlands Day themed: "Wetlands and Forests"	30-minute talk about wetlands specifically LPPCHEA	Feb. 10, 2011
Polytechnic University of the Philippines	Biology Week Celebration themed: "Biology Students: Nurturing the Nature through Bio Innovation"	Lecture about the LPPCHEA	Feb. 8, 2011
		On-The-Job Training	May 2-18, 2011
	Interview as a requirement for the completion	Dissemination of documents like DENR DAO 15 s.	Feb. 15, 2011

	of research work entitled: “Endangered Animals in the Philippines”	2004 and e-copy of PAWB statistics 2004	
St. Scholastica’s College	Sangguniang Maka-Kalikasan General Assembly	Lecture about a brief history & background of LPPCHEA and Birdwatching Techniques	Sept. 26, 2011
Las Piñas East National High School	Celebration of the National Science Month themed: “Nasa Siyensya ang Pag-asa”	Talk regarding the importance and current state of the environment as well as the importance of the LPPCHEA as a critical habitat.	October 7, 2011

