

# DATABASE FOR MONITORING & CRITICAL HABITAT DISTRIBUTION MAP

April 2017





**Enhancing Biodiversity Conservation and Sustenance of Ecosystem Services in  
Environmentally Sensitive Areas Project**

**BIODIVERSITY BASELINE SURVEY FOR THE ESA PROJECT**

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## Clearing House Mechanism

Organizations and experts who are responsible for managing information regarding biodiversity vary from place to place, between organizations, and among institutions in Sri Lanka. For this reason, the Biodiversity Secretariat needs to establish a "**Clearing-House Mechanism**" (CHM) to ensure that all governments and other organizations have access to the information they need for their work on biodiversity conservation and management in Sri Lanka. The Biodiversity Secretariat should facilitate this process and bring together seekers and providers of information, to ensure that information and data is consistent, reliable and accessible to the relevant authorities.

This BDS Clearing-House Mechanism should serve to:

- Promote and facilitate technical and scientific collaboration and assistance within and among organization in Sri Lanka;
- Develop a national mechanism for exchanging and integrating information on biodiversity; and
- Develop a network that support interagency coordination and technological network.

The mechanism's key characteristics we proposed are:

- Compatibility with different levels of national capacity.
- Needs-driven.
- Structurally decentralized.
- Provides access to information.
- Supports decision-making.
- No vested interest in information control.
- Created for the mutual benefit of all participants.

BDS needs to provide this information, data, reports etc. in its websites and should be a public domain, or made available to public. However, it is also imperative for the relevant staff who are appointed to be sufficiently trained in database management for long term monitoring and maintenance of biodiversity.



## Critical Habitat Distribution

Critical Species can be defined as any species that is, (i) Critically Endangered or Endangered (ii) Endemic and (iii) or a Restricted range species. The table below provides a summary of critical species found in the Kala Oya basin. By the given definition, the table indicates the importance of different clusters in terms of taxonomic and conservation considerations.



Table 1 No of Critical Species in Each Habitat Cluster or Sub Basin (No of Species in each Habitat)

Taxonomic Group	Total no of species	A	B	C	D	E	F	G	H	Total no of critical species
<b>Plants</b>	609	09	12	13	11	07	18	09	15	41
<b>Mammals</b>	39	11	10	04	09	05	09	09	11	15
<b>Birds</b>	188	04	11	06	07	08	06	09	09	14
<b>Herpertofauna</b>	105	11	6	13	15	12	16	23	20	29
<b>Fish</b> (cluster wise species categorization not possible for aquatic fauna)	64									8 (all EDN of which 4 are VUL)
<b>Dragonflies</b>	40	2	2	2	2	2	2	3	2	05
<b>Butterflies</b>	84	02	01	00	01	00	01	02	02	07
<b>Mangroves</b> (cluster wise species categorization not possible for aquatic fauna)	14									10 (5NT,3 EDN 2 VUL)
<b>TOTAL</b>	<b>1129</b>	<b>39</b>	<b>42</b>	<b>38</b>	<b>45</b>	<b>34</b>	<b>52</b>	<b>55</b>	<b>59</b>	<b>129</b>



Please refer to the critical habitat map which demarcates the clusters/sub-basins in Kala Oya Basin that was surveyed. The above table outlines the number of critical species found in each cluster/sub-basin.

Cluster F: Galpaya sub-basin is an important area in terms of terrestrial flora, while Cluster B: Eluwankulama is a key sub-basin in terms of avifauna diversity. Cluster G: Manawa is important for dragonflies while the mouth of the Kala Oya is a crucial area for diversity of fish and mangroves as it forms the estuary that creates a critical habitat. Although parts of this estuary is already under conservation, a considerable part of the Lunu Oya and Henakachchi segments of the estuary along with associated salt marshes are essential environments for the survival of mangroves, salt marsh associated fauna and flora as well as migratory birds.

Other critical habitat clusters include the entirety of Kala Oya estuary and associated salt marshes in landward side. In terms of freshwater fauna, remaining flood plains of the river still preserved at Wilpattu and Eluwankulama areas should be given needed legislative and institutional protection.

Compared to Wilpattu National Park localities (transect 21 – 24), Species Richness and type of Habitats are more or less similar in Locality A: Eile area sub-basin, B: Eluwankulama sub-basin, E: Horiwila/ Ambagahawewa sub-basin and F: Wilpattu NP area. Additionally, these four localities are very significant due to high levels of endemism, near threatened species, endangered and vulnerable species compared to species distribution and species richness of other localities in the adjacent areas.

Avifauna observed during the study period included four nationally threatened species (other than breeding migrants) all of whom fell into the category “vulnerable”: *Porzana fusca* (Ruddy-breasted Crake), *Leptoptilos javanicus* (Lesser Adjutant), *Chrysocolaptes festivus* (White-naped Woodpecker) and *Lonchura malabarica* (White-throated Munia). Further two globally threatened species were recorded: *Ciconia episcopus* and *Leptoptilos javanicus*. As per the IUCN Red List of threatened species, 2016, both species are considered as “vulnerable” globally as their overall populations are seems to be in rapid decline mainly due to loss and degradation of wetlands and loss of nesting trees as well as hunting. Yet nationally, only *L. javanicus* is considered as vulnerable, while *C. episcopus* status is near threatened, indicating its population is more stable in Sri Lanka. During the present survey, records *C. episcopus* was high with eight individuals being observed in a dried up tank within Manawakanda area. Single individual of *L. javanicus* was observed near to Eluwankulama Tank (Transect 6). A recent study on *L. javanicus* in the country indicated that the species’ distribution was restricted to dry lowlands (rainfall <2200mm, elevation <300m). The bird showed preference for savannah/woody savannahs, dry mixed evergreen forests, permanent wetlands, and croplands, and was prominently found within protected areas. Habitat loss and fragmentation, hunting pressure, agricultural intensification, and development projects were identified as potential threats faced by the species, which varied in magnitude across the KOB.

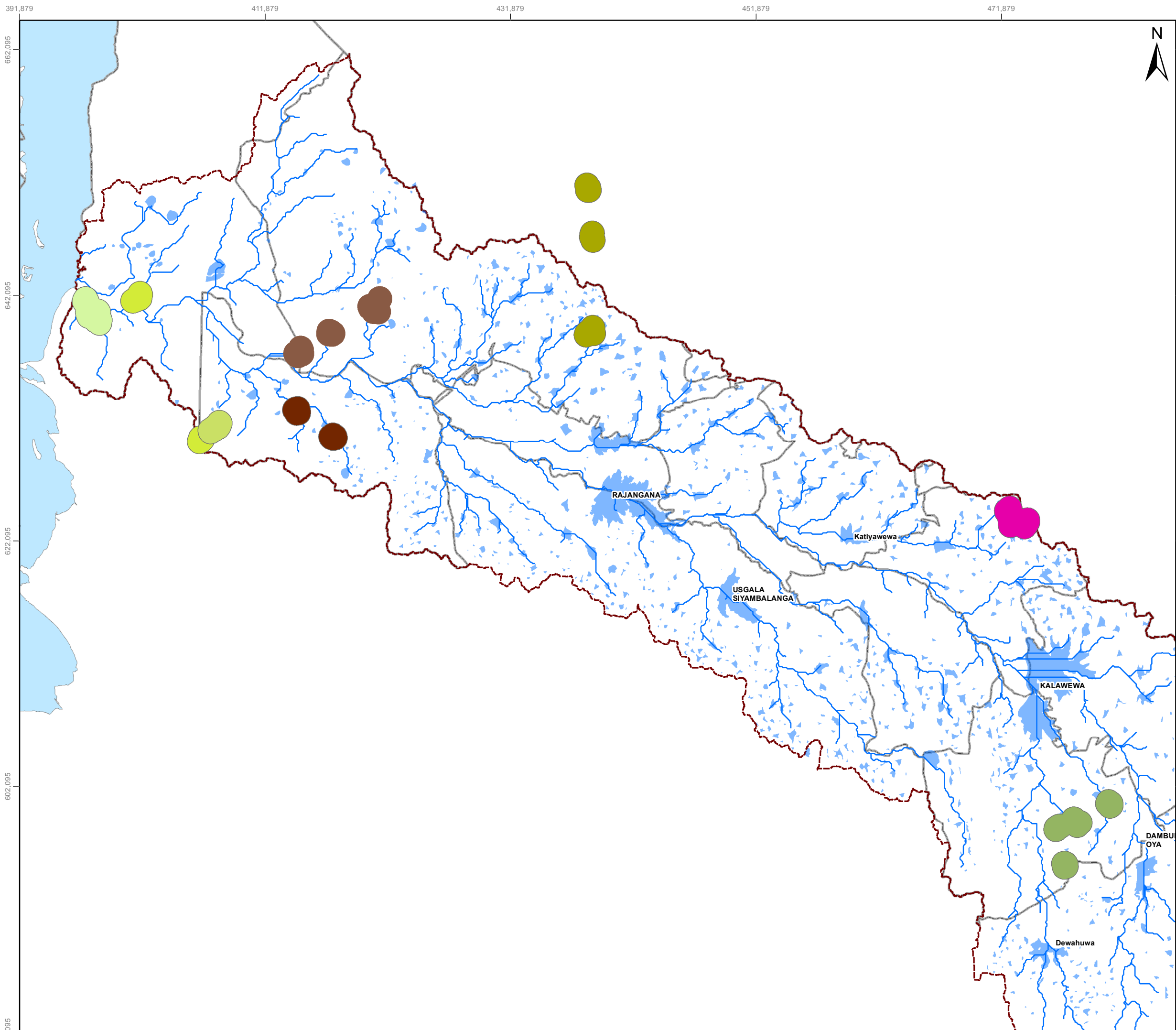
The highest avifaunal species diversity was recorded from transects that included a variety of habitats including both aquatic and terrestrial: Nabatayagama Tank and associated forests (Transect 14) located adjacent to Namal Uyana Conservation Forest recorded the highest diversity followed by Manawa tank associated habitats (Transect 19). Of the Dry mixed evergreen forests, highest bird diversity was recorded from Manawakanda forests (Transect 17) followed by Higuruwelpitiya (Transect 13) and Aily tank associated DMEF (Transect 1). Least diversity was observed from

DMEF of Suduwelithalawa (Transects 7 & 8) and this might be due to high density of the forest cover.

Out of the habitats selected in the Kala Oya river basin, Scrub forest and Tank associated habitats stand out as the best sites for butterflies. The current study shows that the Galpaya, Hinguruwelpitiya, Ranva kannda, Nambatiwewa, Manawa area supports high levels of butterfly diversity including endemic butterfly species. The Eile area – transects T1 and T2 - is an ideal habitat for the Joker, *Byblia ilithyia*, a characteristic species of this area found only in Meadows with seasonal flooding. When considering the North West butterfly region, it is typically home to and the preferred habitat for the Large Salmon Arab- *Colotis fausta*, Crimson Tip- *Colotis danaeare*, Yellow Pansy- *Junonia hierta*, and Bright Babul Blue- *Azamus ubaldus*. However, these species were not encountered despite previous records of their existence in these habitats indicating inadequate sampling or lack of time to carry out sampling.

The raw data from the survey for each taxonomic group has been outlined herewith.



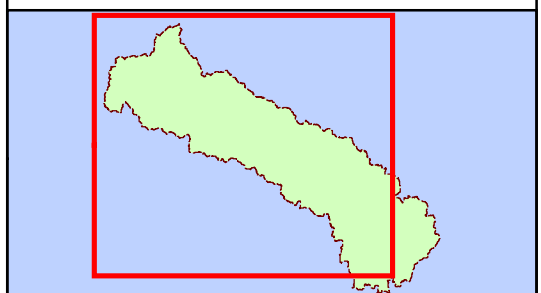


**Biodiversity Baseline Syrvey  
for the "Enhancing Biodiversity  
Conservation and Sustenance  
of Ecosystems Services in ESA**

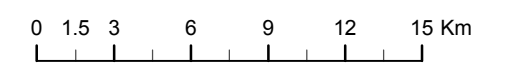
**Distribution map of  
Critical Habitats in  
Kala Oya Basin**

**Key**

- Eile Wewa Area
- Eluwankulama Area
- Galpaya, Hinguruwelpitiya,  
Ranawa kanda & Nambatiwe  
Area
- Horivila Area
- Mannawa Area
- Suduwelithalawa & Morapathna  
Area
- Weerakkodochole & Thabbowa  
Area
- Wilpattu National Park
- Reservoirs
- Kala Oya
- River Basin Boundary
- Survey Area



Data sources: Survey Department of Sri Lanka



Scale (at A3): 1:294,352

Purpose of issue: For Coordination		<b>GREENTECH CONSULTANTS</b>	
Rev: REV	Drawn: RH 20/03/2017	Checked: RMH 20/03/2017	Authorised: DG 20/03/2017

