

### 3.2 Biological Environment

The details of the biological environment including the survey method, habitat characteristics described in hear , list of species with their ecological parameters also have been given in hear.

#### Notes on study approach

Observations on biodiversity of the project area was done in line with recommended study framework by CEA as shown in Table 1 annex; with reference to the approach for cultivated lands and disturbed sites. During this rapid assessment event, Visual Encounter Survey (VES) method was used to document fauna and flora in different habitat types. There are three standard sampling designs for visual encounter surveys: opportunistic or randomized walk, transects, or a quadrat design (Crump and Scott, 1994), and the present survey was carried out through opportunistic or randomized walks in different uniform vegetation blocks. Visual encounter surveys can determine species richness; be applied in long term monitoring projects; provide information for compilation of a species list; and provide data used to estimate proportion of area surveyed that is occupied by target species. Photographic records were made to identify less familiar plants and animals, and standard taxonomic keys and other scientific literature mentioned in the list of references were used in the process of species identification. Enumeration of trees, tree saplings and tree seedlings vulnerable for clearance was done through direct measurements and counting within areas ear marked for clearance.

Table. 9. Detail biological survey method for each major fauna and floral group

| Group   | Direct Survey Method  | Indirect method  |
|---------|---|--|
| Flora   | Transects parallel to river bank including upper reaches of inundation area and lower area of Tailrace outlet,<br><br>Specimen identification on site, using guide books and comparison with specimens in National herbarium in Peradeniya. | Seasonally emerge plant species and medicinal species information collected by local people and local ayurvedic doctor |
| Mammals | Visual and auditory encounters during the transect survey   | Foot prints, pug marks analysis of fecal matter.   |

## PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

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|             |  | Information from knowledgeable local people                                       |
| Birds       | Visual and auditory encounters during the transect survey  | Random visual and auditory encounters during the field works                      |
| Reptiles    | Capture and release after identification using guide books | Information from knowledgeable local people                                       |
| Amphibians  | Capture and release after identification using guide books | Auditory encounters for some species  |
| Fish        | Underwater observation, river bank survey and netting      | Food fishery information from knowledgeable local people, past literature records |
| Butterflies | Visual encounters during the transect survey               | Random sightings in project site  |
| Dragonflies | Visual encounters during the transect survey               | Random sightings in project site  |

### Existing habitats of flora and fauna

**Ecological setting:** Project influencing area is located in the wet zone mid country of Sri Lanka where altitude range between 330m and 590m. Characteristic to the wet zone climatic region, the rainfall is distinctly seasonal with two rainfall peaks in the year. The south western monsoon rains occurs from May to September. The northeast monsoon occurs from December to February. There are two distinct inter monsoon period. During these inter monsoon periods, namely, March to April and October to November, the rains are mainly due to convectional activity. Agro ecologically, the area is coming under WM1 (Wet zone Mid country 1) and there 75% expectancy of annual rainfall is >3125mm. The mean annual sunshine duration in the wet zone ranges from 4.9 to 6.4 hours per day depending on the location and the duration of sunshine is related to the cloud cover; therefore during rainy season, sunshine is very low. Out of 22 physiographic units in the wet zone of Sri Lanka, the project area is classified under unit 9 termed Undulating to rolling planation surface with isolated hillocks and low ridges/Ratnapura land system. (Somasiri and Nayakekorale, 1999, Somasiri,1999). According to Gunatilleke & Gunatilleke (1990), the site is coming under bio-region 4 where the tropical lowland wet evergreen forest best represents the climax vegetation of this bioregion. The climax forests of this bio-region are dominated by Dipterocarp species. Currently, they are highly degraded and a small patch semi natural rainforest with some Dipterocarps are located within the project site.

The project area is almost devoid of natural mature forests and whatever remaining ecosystems are highly influenced by human presence. The existing habitats show considerable micro-climatic differences within a relatively small spatial area of the project site. Most of the natural vegetation is highly exploited for human settlements, plantation agriculture and house hold agro forestry.

The project influencing area is characterized by presence of following main habitat types.

### **Riverine Forests:**

Riverine forests can be seen from inundation area to power house sites, and most are on steep lands. They are limited to a narrow belt of semi-natural riverine forest and are found along the banks of streams, and the distribution of this vegetation type is generally 5m-10m on either side of the banks. Vegetation height is about 15m-25m with stratified forest, and common species in different layers include; canopy (15m-25m); *Artocarpus nobilis*, *Barringtonia acutangula*, *Caryota urens*, *Celtis philippensis*, *Hydnocarpus venenata*, *Lagerstroemia speciosa* and *Mesua ferrea*.; shrubs/treelets (2m-10m) -*Turpinia malabarica*, *Allophylus cobbe*, *Clerodendron infortunatum*, *Fagrea obovata*, *Litsea gardneri*, *Pagiantha dichotoma* and *Symplocos cochinchinensis*; herbs (below 2m) - *Pandanus ceylanicus*, *Alocasia macrorrhiza*, *Angiopteris erecta*, *Axonopus affinis*, *Cirtococcum trigonum*, *Clidemia hirta*, *Commelina diffusa*, *Costus speciosus* and *Ludwigia decurrens*. This belt of forest is home to many surviving rainforest flora species. Riverine forests form the inter phase between stream and other terrestrial habitats. It is the frontline defense against stream bank erosion due to water currents. Riverine forests provide convenient resting sites for birds, bats, reptiles, amphibians etc.

### **Tea plantations**

Tea (*Camelia sinensis*) has occupied the major portion of lands in upper area of the project site. This monoculture plantation has a simple structure; just the tea bushes of 1m height occupying about 90% of the land cover of the plantation area. The rest of the area is mostly covered with small herbaceous weedy species, upto 50cm height, such as *Ageratum conizoides*, *Axonopus affinis*, *Bidens pilosa*, *Chrysopogon aciculatus*, *Cleome monophylla*, *Clidemia hirta*, *Conyza bonariensis*, *Crassocephalum crepidioides*, *Crotalaria pallida*, *Cyperus rotundus*, *Desmodium heterophyllum*, *Desmodium triflorum*, *Digitaria longiflora*, *Eleusine indica*, *Eleutheranthera raderalis*, *Emilia sonchifoila*, *Eragrostis* spp., *Eupatorium riparia*, *Euphorbia hirta*, *Exallage auricularia*, *Gynura lycopersicifolia*, *Ischaemum indicum*, *Mimosa pudica*, *Oplismenus compositus*, *Paspalum conjugatum*, *Phyllanthus niruri*, *Synedrella nodiflora*, *Tridax procumbens*, *Vernonia cinerea* and *Wedelia trilobata*. Scattered shade tree species like *Albizia falcataria* and *Gliricidia sepium* (5m-30m) occur in the tea landscape. Presence of weedy plants in unoccupied areas of tea lands is an advantage as far as considered soil and water conservation in these steep lands.

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### Home garden agro forests

Home garden agro forests for both commercial produces (spices, timber, fruits) and subsistence purpose (wood, vegetables, etc) are a significant agricultural system. The existing home garden agro forests in the project are poorly managed and does not have well developed structure that mimic a near natural forest. The community pay much of their attention on tea lands and not on developing home gardens.

The home garden vegetation is found immediately around homesteads, and is the result of long-term manipulations. Multipurpose trees, shrubs, herbs and climbers deliberately intermixed and managed for better yields e.g. Mango, Areca, Kithul, Coconut, Jak, Gliricidia, yams etc. The appearance varies depending on the farming practices employed. Generally, there are several poorly developed plant layers: a canopy (20 m), a sub canopy (15 m) and a shrub/herb layer (2 m). Many crop species are found in this habitat; *Alocasia cucullata* (ala), *Gliricidia sepium* (Nanchi), *Artocarpus heterophyllus* (Kos), *Musa paradisiaca* (Kesel), *Psidium guajava* (Pera), *Areca catechu* (Puwak), *Caryota urens* (Kithul), *Cocos nucifera* (Pol), *Bambusa vulgaris* (Una), *Citrus sinensis* (Dodan) and *Tectona grandis* (Teekka). The home garden is also an important faunal habitat providing animals with feeding and nesting sites. It provides people with fruits, spices, nuts, yams, flowers, vegetables, medicines, firewood, timber etc. throughout the year. Visibly, the home garden gradually mix with tea lands in the periphery. In that case, it takes the form of a mixed orchard - sometimes barely recognizable as a separate component from home gardens.

### Secondary Forest

The area half way down the penstock line is covered with partially developed secondary forests; result of abandoning tea cultivations. Also, the natural forests have heavily exploited over the years (some 5-10 years back). Under that circumstances the secondary forest have developed and currently they are still under human pressure. The forest structure is poorly developed and has three strata; canopy (18m), sub canopy (13m), shrubs and herbs (1m-3m). Common species include; Canopy - *Albizia falcataria*, *Alstonia macrophylla*, *Alstonia scholaris*, *Artocarpus heterophyllus*, *Mangifera indica*, *Melia dubia* and *Swietenia macrophylla*; Shrubs/treelets - *Ficus hispida*, *Lantana camara*, *Macaranga peltata*, *Mallotus tetraococcus*, *Manihot glaziovii*, *Neolitsea cassia*, *Pagiantha dichotoma*, *Symplocos cochinchinensis*, *Trema orientalis* and *Zizyphus oenoplia*; Herbs - *Axonopus affinis*, *Blechnum orientale*, *Chromolaena odorata*, *Clidemia hirta*, *Crassocephalum crepidioides*, *Dichranopteris linearis*, *Mikania cordata*, *Panicum maximum*, *Pennisetum polystachyon*, *Tripsacum laxum*, *Urena lobata* and *Wedelia trilobata*. The forests are transitional habitats developing into rainforests if left undisturbed for a long time.

### Semi-natural lowland rain forest patch

Around lower areas of the penstock line there is a semi natural patch of rain forest on steep lands with shallow soil layer on rock bed. The forest reach a height of 30m-35m and have unbroken canopy in less disturbed sites. It has the most diverse native species composition and the vertical structural arrangement (stratification) in relation to other habitats of the project area and is

composed of four vegetation layers or strata; emergent layer (30m-35m), canopy layer (20m-25m), sub canopy layer (15m-20m), shrub layer (2m-4m) and ground layer (below 1m). Heights of strata may vary slightly depending on site-specific environmental conditions. Taller trees include *Artocarpus heterophyllus*, *Artocarpus nobilis*, *Dipterocarpus zeylanicus*, *Horsfieldia iryagedhi*, *Myristica dactyloides* and *Pometia pinnata*. Below that common shrubs/treelets such as *Acronychia pedunculata*, *Anisophyllea cinnamomoides*, *Cinnamomum zeylanicum*, *Clausena indica*, *Ficus hispida*, *Glochidion mooni*, *Memecylon rostratum*, *Neolitsea cassia*, *Pagiantha dichotoma*, *Scolopia pusilla* and *Walsura trifoliolata*. The forest floor is covered with good litter cover and several organisms, including termites, cockroaches, beetles, centipedes, millipedes and earthworms, along with fungi, use the litter layer as a favored habitat. Moreover, the forests are teeming with climbing plants such as *Acacia caesia*, *Anamirta cocculus*, *Calamus thwaitesii*, *Derris canarensis*, *Derris scandens* and *Entada pusaetha*. These woody climbers are frequently found connecting the trees, ascending into the treetops and looping back down.

### **In stream habitats in the project area**

A number of important aquatic habitats were identified in the river within the project area. These main habitat types are formed by the interaction of underlying geological conditions with the river flow. These are important habitats for *Lutra lutra* (Otter), *Prionailurus viverrinus* (fishing cat), many amphibians, various damselfly and dragonfly species (see tables xx-xx) as well as some indigenous fish species.

**Deep pools :** A 2-3 deep pools about 3-5m deep were identified within the near the powerhouse location. The pool bottom is essentially muddy with some driftwood and rock boulders. The river current has deeply carved The sides of these pools, deeply carved by the river current, have sandy bottoms with a high water flow. The pools which oppose the main water current have a slower water momentum with a muddy/organic rich bottom. Fish such as *Garra ceylonensis* are found in this habitat.

**Shallow areas with high water flow:** These areas are located in narrow passes between large rocks. The bottom consists of medium to large rocky boulders (20- 100 cm diam.) *Garra* spp. are common in this area.

**Rocky torrential area:** The river flows in this area which has exposed bed rock, high rapids and sudden drops creating small falls. the water is well oxygenated, fast moving. Gobis and *Garra* spp. are the main fish species found in this habitat.

Table. 10. Summary of species recorded in the study area

| Taxa        | Endemic | National threatened list 2012 |    |    | Global IUCN Red list |    |    | Protected under FFPO 2009 |    | Total |
|-------------|---------|-------------------------------|----|----|----------------------|----|----|---------------------------|----|-------|
|             |         | VU                            | EN | CR | VU                   | EN | CR | P                         | SP |       |
| Amphibians  | 14      | 7                             | 4  | 1  | 2                    | 6  | 0  | 15                        | 0  | 17    |
| Birds       | 9       | 4                             | 2  | 0  | 0                    | 0  | 0  | 84                        | 9  | 97    |
| Butterflies | 5       | 5                             | 4  | 0  | 0                    | 0  | 1  | 66                        | 0  | 66    |
| Reptiles    | 21      | 7                             | 5  | 0  | 0                    | 0  | 0  | 43                        | 0  | 45    |
| Mammals     | 9       | 4                             | 8  | 1  | 4                    | 3  | 0  | 23                        | 7  | 34    |
| Dragonflies | 7       | 5                             | 3  | 1  | 0                    | 1  | 1  | 14                        | 0  | 14    |
| Fish        | 3       | 1                             | 0  | 0  | 0                    | 1  | 0  | 0                         | 0  | 5     |
| Flora       | 67      | 31                            | 3  |    | 11                   | 4  | 3  | 9                         |    | 313   |
|             |         |                               |    |    |                      |    |    |                           |    |       |

Tables 3 – 9 E= Endemic, Red Listed categories CR= Critically Endangered, EN=Endangered, VU= Vulnerable (IUCN, 2012), protected status under Fauna and Flora protection act P= protected SP= Strictly protected (2009 amendment)

Table.11 Plant species recorded during the study period

| Family        | Species                                    | Status | NCS | GCS | Local name   | FFPO | Commercial value |
|---------------|--|--------|-----|-----|--------------|------|------------------|
| Acanthaceae   | <i>Strobilanthes adenophora</i> Nees       | E      | VU  |     | nelu         |      |                  |
| Acanthaceae   | <i>Strobilanthes lupulina</i> Nees         |        | LC  |     | nelu         |      |                  |
| Acanthaceae   | <i>Thunbergia fragrans</i> Roxb.           |        | LC  |     |              |      |                  |
| Achariaceae   | <i>Hydnocarpus venenata</i> Gaertn.        | E      | LC  |     | Makul        |      |                  |
| Amaranthaceae | <i>Achyranthes aspera</i> L.               |        | LC  |     | karalsebo    |      |                  |
| Amaranthaceae | <i>Alternanthera sessilis</i> (L.) DC.     |        | LC  | LC  | mukunuwenna  |      | food             |
| Amaranthaceae | <i>Amaranthus tricolor</i> L.              |        |     |     | thampala     |      |                  |
| Anacardiaceae | <i>Anacardium occidentale</i> L.           |        |     |     | kaju         |      | food             |
| Anacardiaceae | <i>Camposperma zeylanicum</i> Thw.         | E      | LC  |     | aaridda      |      | timber           |
| Anacardiaceae | <i>Mangifera indica</i> L.                 | i      | NE  |     | Amba         |      | fruit            |
| Anacardiaceae | <i>Mangifera zeylanica</i> (Blume) Hook.f. | E      | LC  | VUi | Etamba       |      |                  |
| Anacardiaceae | <i>Nothopegia beddomei</i> Gamble          |        | LC  |     | bala         |      |                  |
| Anacardiaceae | <i>Semecarpus subpeltata</i> Thw.          | E      | VU  | VUi | Maha badulla |      |                  |
| Anacardiaceae | <i>Semecarpus walkeri</i> Hook.f.          | E      | LC  | VUi | badulla      |      |                  |
| Anacardiaceae | <i>Spondias dulcis</i> Sol. ex Parkinson   |        |     |     | embarella    |      |                  |

Initial Environmental Examination Report

PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|                   |   |   |    |     |                |           |           |
|-------------------|---|---|----|-----|----------------|-----------|-----------|
| Ancistrocladaceae | <i>Anisophyllea cinnamomoides</i> (Gardner & Champ.) Alston   |   | NT |     | welipiyanna    |           |           |
| Annonaceae        | <i>Annona squamosa</i> L.                                     |   |    |     | anoda          |           | fruit     |
| Annonaceae        | <i>Cyathocalyx zeylanica</i> Champ. ex Hook. f. & Thoms.      |   | LC |     |                |           |           |
| Annonaceae        | <i>Uvaria semecarpifolia</i> Hook. f. & Thoms.                | E | LC |     | karabambarawel |           |           |
| Annonaceae        | <i>Xylopiya parvifolia</i> (Wight) Hook. f. & Thoms.          |   | LC |     | athuketiya     |           |           |
| Apiaceae          | <i>Centella asiatica</i> (L.) Urban                           |   | LC |     | gotukola       |           |           |
| Apocyanaceae      | <i>Allamanda cathartica</i> L. var. <i>nobilis</i> Bailey     |   |    |     |                |           |           |
| Apocyanaceae      | <i>Alstonia macrophylla</i> Wall                              | i | NE |     | Astonia        |           | timber    |
| Apocyanaceae      | <i>Alstonia scholaris</i> (L.) R.Br.                          |   | LC | LCi | Ruk-attana     |           |           |
| Apocyanaceae      | <i>Anodendron paniculatum</i> A.DC.                           |   | VU |     |                |           |           |
| Apocyanaceae      | <i>Pagiantha dichotoma</i> (Roxb.) Markgraf                   |   | LC |     | Divi kaduru    |           |           |
| Araceae           | <i>Alocasia cucullata</i> (Lour.) G. Don                      |   |    |     | kiriala        |           | food      |
| Araceae           | <i>Alocasia macrorrhizos</i> (L.) G. Don.                     |   |    |     | habarala       |           |           |
| Araceae           | <i>Amorphophallus paeoniifolius</i> var. <i>paeoniifolius</i> |   | DD |     | walkidaran     |           |           |
| Araceae           | <i>Anthurium andraeanum</i> Andre                             |   |    |     | anthuriam      |           |           |
| Araceae           | <i>Colocasia esculenta</i> (L.) Schott                        |   | LC | LC  | kiriala        |           |           |
| Araceae           | <i>Pothos scandens</i> L.                                     |   | LC |     | Potawel        |           |           |
| Araliaceae        | <i>Polyscias balfouriana</i> (André) L.H.Bailey               |   |    |     |                |           |           |
| Araliaceae        | <i>Schefflera emarginata</i> (Moon) Harms                     | E | VU |     | Iththa         |           |           |
| Arecaceae         | <i>Areca catechu</i> L.                                       |   | NE |     | Puwak          |           | cash crop |
| Arecaceae         | <i>Calamus thwaitesii</i> Becc.                               |   | VU |     | wewel          |           | Cane      |
| Arecaceae         | <i>Caryota urens</i> L.                                       |   | LC |     | Kitul          |           | cash crop |
| Arecaceae         | <i>Cocos nucifera</i> L.                                      | i | NE |     | Coconut        |           | cash crop |
| Arecaceae         | <i>Oncosperma fasciculatum</i> Thw.                           | E | VU |     | katukithul     | Protected |           |
| Aristolochiaceae  | <i>Thottea siliquosa</i> (Lam.) Ding Hou                      |   | LC |     | thpasarabulath |           |           |
| Asparagaceae      | <i>Asparagus falcatus</i> L.                                  |   | LC |     | hathawariya    |           |           |
| Asparagaceae      | <i>Dracaena thwaitesii</i> Regel                              |   | NT |     |                |           |           |
| Aspleniaceae      | <i>Asplenium nidus</i> L.                                     |   | NT |     | bird nest      |           |           |
| Asteraceae        | <i>Ageratum conyzoides</i> L.                                 |   |    |     | hulanthala     |           |           |
| Asteraceae        | <i>Austroeupatorium inulifolium</i> (Kunth) King & Robinson   |   |    |     |                |           |           |
| Asteraceae        | <i>Bidens pilosa</i> L.                                       |   |    |     |                |           |           |
| Asteraceae        | <i>Chromolaena odorata</i> (L.) King & Robinson               |   |    |     | Podisinnomaran |           |           |
| Asteraceae        | <i>Conyza bonariensis</i> (L.) Cronquist                      |   |    |     |                |           |           |
| Asteraceae        | <i>Elephantopus scaber</i> L.                                 |   | LC |     | ethadi         |           |           |
| Asteraceae        | <i>Eleutheranthera ruderalis</i> (Sw.) Sch. Bip.              |   |    |     |                |           |           |
| Asteraceae        | <i>Emilia sonchifolia</i> (L.) DC.                            |   | LC |     |                |           |           |
| Asteraceae        | <i>Gynura lycopersicifolia</i> DC.                            |   | LC |     |                |           |           |
| Asteraceae        | <i>Mikania cordata</i> (Burm.) Robinson                       |   |    |     | Vatu palu      |           |           |
| Asteraceae        | <i>Synedrella nodiflora</i> (L.) Gaertn.                      |   |    |     |                |           |           |
| Asteraceae        | <i>Tridax procumbens</i> L.                                   |   |    |     |                |           |           |

## Initial Environmental Examination Report

## PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|                  |   |   |    |     |                 |           |              |
|------------------|---|---|----|-----|-----------------|-----------|--------------|
| Asteraceae       | <i>Vernonia cinerea</i> (L.) Less.              |   | LC |     | monarakudumbiya |           |              |
| Asteraceae       | <i>Wedelia trilobata</i> (L.) A. Hitchc         |   |    |     |                 |           |              |
| Begoniaceae      | <i>Begonia malabarica</i> Lam.                  |   | NT |     | hakambala       |           |              |
| Blechnaceae      | <i>Blechnum orientale</i> L.                    |   | LC |     | barukoku        |           |              |
| Bromeliaceae     | <i>Ananas comosus</i> (L.) Merr.                |   |    |     | annasi          |           | fruit        |
| Burseraceae      | <i>Canarium zeylanicum</i> (Retz.) Blume        | E | VU | Vui | kekuna          |           |              |
| Calophyllaceae   | <i>Calophyllum bracteatum</i> Thw.              | E | NT |     |                 |           |              |
| Calophyllaceae   | <i>Mesua ferrea</i> L.                          |   | LC |     | naa             |           |              |
| Cannabaceae      | <i>Celtis philippensis</i> Blanco               |   | LC |     | medithala       |           |              |
| Cannabaceae      | <i>Trema orientalis</i> (L.) Blume              |   | LC |     | gedumba         |           |              |
| Caricaceae       | <i>Carica papaya</i> L.                         |   |    |     | pepol           |           | fruit        |
| Celastraceae     | <i>Euonymus walkeri</i> Wight                   | E | LC | VUi |                 |           |              |
| Centrocaceae     | <i>Bhesa ceylanica</i> (Arn. ex Thw.) Ding Hou  | E | LC | VUi | Ethheraliya     |           | timber       |
| Clusiaceae       | <i>Garcinia morella</i> (Gaertn.) Desr.         |   | NT |     |                 |           |              |
| Clusiaceae       | <i>Garcinia quaesita</i> Pierre                 | E | LC |     | goraka          |           | spice        |
| Commelinaceae    | <i>Commelina diffusa</i> Burm.f.                |   | LC | LC  | girapala        |           |              |
| Commelinaceae    | <i>Commelina kurzii</i> Clarke                  |   | LC |     |                 |           |              |
| Connaraceae      | <i>Rourea minor</i> (Gaertn.) Alston            |   | LC |     |                 |           |              |
| Convolvulaceae   | <i>Ipomoea batatas</i> (L.) Lam.                |   |    |     | batala          |           |              |
| Costaceae        | <i>Costus speciosus</i> (Koenig) Smith          |   | LC |     | thebu           |           |              |
| Crypteroniaceae  | <i>Axinandra zeylanica</i> Thw.                 | E | VU |     | polhunna        |           |              |
| Cyatheaceae      | <i>Cyathea walkerae</i> Hook.                   | E | VU |     | treefern        |           |              |
| Cyperaceae       | <i>Cyperus iria</i> L.                          |   | LC |     |                 |           |              |
| Cyperaceae       | <i>Cyperus pilosus</i> Vahl                     |   | LC | LC  |                 |           |              |
| Cyperaceae       | <i>Cyperus rotundus</i> L.                      |   | LC | LC  |                 |           |              |
| Cyperaceae       | <i>Fimbristylis cinnamometorum</i> (Vahl) Kunth |   | LC |     |                 |           |              |
| Cyperaceae       | <i>Fimbristylis falcata</i> (Vahl) Kunth        |   | LC |     |                 |           |              |
| Cyperaceae       | <i>Fimbristylis miliacea</i> (L.) Vahl          |   | LC |     |                 |           |              |
| Cyperaceae       | <i>Kylinga bulbosa</i> P. Beauv.                |   |    |     |                 |           |              |
| Dennstaedtiaceae | <i>Pteridium aquilinum</i> (L.) Kuhn            |   |    |     | brakenfern      |           |              |
| Dilleniaceae     | <i>Dillenia retusa</i> Thunb.                   |   | LC |     |                 |           |              |
| Dilleniaceae     | <i>Dillenia triquetra</i> (Rottb.) Gilg         |   | LC | CRi | para            |           | light timber |
| Dilleniaceae     | <i>Tetracera sarmentosa</i> (L.) Vahl           |   | LC |     | horawel         |           |              |
| Dioscoreaceae    | <i>Dioscorea alata</i> L.                       |   |    |     | welala          |           | food         |
| Dioscoreaceae    | <i>Dioscorea spicata</i> Roth                   |   | VU |     | katuala         |           |              |
| Dipterocarpaceae | <i>Dipterocarpus zeylanicus</i> Thw.            | E | NT | ENi | Hora            |           | timber       |
| Dipterocarpaceae | <i>Hopea jucunda</i> Thw.                       | E | VU |     |                 |           |              |
| Dipterocarpaceae | <i>Shorea oblongifolia</i> Thw.                 | E | VU | CRi | yakahalu        | Protected | timber       |
| Dipterocarpaceae | <i>Stemonoporus acuminatus</i> (Thw.) Beddome   | E | EN |     |                 | Protected |              |
| Dipterocarpaceae | <i>Vateria copallifera</i> (Retz.) Alston       | E | VU | ENi | hal             |           |              |
| Elaeagnaceae     | <i>Elaeagnus latifolia</i> L.                   |   | LC |     |                 |           |              |



Initial Environmental Examination Report

PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|                 |   |   |    |     |                         |  |                      |
|-----------------|---|---|----|-----|-------------------------|--|----------------------|
| Elaeocarpaceae  | <i>Elaeocarpus glandulifer</i> (Hook.) Masters                            | E | VU | VUi | Malweralu               |  |                      |
| Elaeocarpaceae  | <i>Elaeocarpus serratus</i> L.  |   | LC |     | Veralu                  |  | fruit                |
| Euphorbiaceae   | <i>Acalypha indica</i> L.   |   | LC |     | kuppameniya             |  |                      |
| Euphorbiaceae   | <i>Agrostistachys coriacea</i> Alston                                     | E | LC | VUi |                         |  |                      |
| Euphorbiaceae   | <i>Cleistanthus</i> sp.   |   |    |     |                         |  |                      |
| Euphorbiaceae   | <i>Codiaeum variegatum</i> (L.) Juss.                                     |   |    |     | croton                  |  |                      |
| Euphorbiaceae   | <i>Euphorbia heterophylla</i> L.  |   |    |     |                         |  |                      |
| Euphorbiaceae   | <i>Euphorbia hirta</i> L.   |   | LC |     |                         |  |                      |
| Euphorbiaceae   | <i>Fahrenheitia zeylanica</i> (Thw.) Muell.Arg.                           |   | LC |     | utha                    |  | timber               |
| Euphorbiaceae   | <i>Hevea brasiliensis</i> (Willd. ex A.Juss.) Müll.Arg                    | i | NE |     | Rubber                  |  | cash crop            |
| Euphorbiaceae   | <i>Jatropha curcas</i> L.   |   |    |     | wetaendaru              |  |                      |
| Euphorbiaceae   | <i>Macaranga indica</i> Wight   |   | LC |     | Bukenda                 |  |                      |
| Euphorbiaceae   | <i>Macaranga peltata</i> (Roxb.) Muell.Arg                                |   | LC |     | Kenda                   |  |                      |
| Euphorbiaceae   | <i>Mallotus philippensis</i> (Lam.) Muell. Arg.                           |   | LC |     | hamperilla              |  |                      |
| Euphorbiaceae   | <i>Mallotus tetracoccus</i> (Roxb.) Kurz                                  |   | LC |     | bookenda                |  |                      |
| Euphorbiaceae   | <i>Manihot esculenta</i> Crantz   |   |    |     | mayokka                 |  | food                 |
| Euphorbiaceae   | <i>Manihot glaziovii</i> Muell.-Arg.                                      |   |    |     |                         |  |                      |
| Euphorbiaceae   | <i>Phyllanthus amarus</i> Schum.  |   |    |     | pitawakka               |  |                      |
| Fabaceae        | <i>Acacia caesia</i> (L.) Willd.  |   | LC |     | Diyahinguru             |  |                      |
| Fabaceae        | <i>Albizia falcataria</i> (L.) Fosberg                                    |   |    |     | Albisia                 |  | light timber         |
| Fabaceae        | <i>Caesalpinia hymenocarpa</i> (Prain) Hattink                            |   | NT |     | godavavuletiya          |  |                      |
| Fabaceae        | <i>Centrosema pubescens</i> Benth.  |   |    |     |                         |  |                      |
| Fabaceae        | <i>Clitoria ternatea</i> L.   |   | LC |     |                         |  |                      |
| Fabaceae        | <i>Crotalaria juncea</i> L.   |   | DD |     | andanaheeriya           |  |                      |
| Fabaceae        | <i>Crotalaria laburnifolia</i> L.   |   | LC |     | andanaheeriya<br>pohora |  |                      |
| Fabaceae        | <i>Dalbergia pseudo-sissoo</i> Miq.                                       |   | LC |     | Ratabambara             |  |                      |
| Fabaceae        | <i>Derris canarensis</i> (Dalz.) Baker                                    |   | NT |     |                         |  |                      |
| Fabaceae        | <i>Derris scandens</i> (Roxb.) Benth.                                     |   | LC |     | Kalawel                 |  |                      |
| Fabaceae        | <i>Desmodium heterophyllum</i> (Willd.) DC.                               |   | LC |     | undupiyali              |  |                      |
| Fabaceae        | <i>Desmodium triflorum</i> (L.) DC.                                       |   | LC |     | undupiyali              |  |                      |
| Fabaceae        | <i>Entada pusaetha</i> DC.  |   | LC |     |                         |  |                      |
| Fabaceae        | <i>Erythrina variegata</i> L.   |   | LC |     | eramudu                 |  |                      |
| Fabaceae        | <i>Gliricidia sepium</i> (Jacq.) Kunth ex Walp.                           |   |    |     | wetahira                |  | soil<br>conservation |
| Fabaceae        | <i>Humboldtia laurifolia</i> (Vahl) Vahl                                  |   | LC |     | galkaranda              |  |                      |
| Fabaceae        | <i>Mimosa pudica</i> L.   | i | NE |     | nidikumba               |  |                      |
| Fabaceae        | <i>Pueraria phaseoloides</i> (Roxb.) Benth.                               |   |    |     | pohorawel               |  | Soil fertility       |
| Gentianaceae    | <i>Fagraea ceilanica</i> Thunb.   |   | NT |     | etamuru                 |  |                      |
| Gleicheniaceae  | <i>Dicranopteris lineairs</i> (Burm.f.) Underw.<br>var.<br><i>montana</i> |   | DD |     |                         |  |                      |
| Hydrocotylaceae | <i>Hydrocotyle javanica</i> Thunb.  |   | NT |     |                         |  |                      |
| Hypoxidaceae    | <i>Curculigo orchoides</i> Gaertn.  |   | LC |     |                         |  |                      |

Initial Environmental Examination Report

PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|                 |  |   |    |     |                |           |              |
|-----------------|--|---|----|-----|----------------|-----------|--------------|
| Icacinaceae     | <i>Stemonurus apicalis</i> (Thw.) Miers                      | E | NT |     |                |           |              |
| Lamiaceae       | <i>Callicarpa tomentosa</i> (L.) Murr.                       |   | LC |     | Buseru         |           |              |
| Lamiaceae       | <i>Clerodendrum infortunatum</i> L.                          |   | LC |     | pinna          |           |              |
| Lamiaceae       | <i>Hyptis suaveolens</i> (L.) Poit.                          |   |    |     |                |           |              |
| Lamiaceae       | <i>Scutellaria violacea</i> Heyne ex Benth.                  |   | LC |     |                |           |              |
| Lamiaceae       | <i>Tectona grandis</i> L.f.                                  |   |    |     | thekka         |           | timber       |
| Lamiaceae       | <i>Vitex altissima</i> L.f.                                  |   | NT |     | Milla          |           | timber       |
| Lauraceae       | <i>Cinnamomum zeylanicum</i> Blume                           | E | VU |     | Kurundu        |           | cash crop    |
| Lauraceae       | <i>Cryptocarya membranacea</i> Thw.                          | E | VU | ENi |                |           |              |
| Lauraceae       | <i>Cryptocarya wightiana</i> Thw.                            |   | NT | VUi |                |           |              |
| Lauraceae       | <i>Litsea gardneri</i> (Thw.) Meissner                       | E | VU | VUi | Rathkeliya     |           |              |
| Lauraceae       | <i>Litsea glutinosa</i> (Lour.) C.B. Robinson                |   | LC |     | Rathkeliya     |           |              |
| Lauraceae       | <i>Litsea longifolia</i> (Nees) Trimen                       | E | LC | VUi | Rathkeliya     |           |              |
| Lauraceae       | <i>Neolitsea cassia</i> (L.) Kosterm.                        |   | LC |     | Davulkurundu   |           |              |
| Lauraceae       | <i>Persea amaricana</i> Miller                               | i | NE |     | alipera        |           | fruit        |
| Lecythidaceae   | <i>Barringtonia racemosa</i> (L.) Spreng.                    |   | LC |     | Mudilla        |           |              |
| Lindernaceae    | <i>Torenia cyanea</i> Alston                                 | E | VU |     |                |           |              |
| Loranthaceae    | <i>Dendrophthoe neelgherrensensis</i> (Wight & Arn.) Tieghem |   | LC |     | pilila         |           |              |
| Lygodiaceae     | <i>Lygodium microphyllum</i> (Cav.) R. Br.                   |   | LC |     | pamba          |           |              |
| Magnoliaceae    | <i>Michelia champaca</i> L.                                  |   |    |     | hapu           |           | light timber |
| Malpighiaceae   | <i>Hiptage benghalensis</i> (L.) Kurz                        |   | LC |     | Puwakgediyawel |           |              |
| Malvaceae       | <i>Abutilon indicum</i> (L.) Sweet                           |   | LC |     |                |           |              |
| Malvaceae       | <i>Ceiba pentandra var pentandra</i> (L.) Gaertn.            |   | LC |     | kotta          |           |              |
| Malvaceae       | <i>Cullenia rosayroana</i> Kosterm.                          | E | LC | LCi |                | Protected |              |
| Malvaceae       | <i>Durio zibethinus</i> Murr.,                               | i | NE |     | durian         |           | fruit        |
| Malvaceae       | <i>Grewia orientalis</i> L.                                  |   | LC |     |                |           |              |
| Malvaceae       | <i>Hibiscus furcatus</i> Roxb.                               |   | LC |     | naapiriththa   |           |              |
| Malvaceae       | <i>Hibiscus rosa-sinensis</i> L.                             |   |    |     | wadamal        |           |              |
| Malvaceae       | <i>Microcos paniculata</i> L.                                |   | LC |     |                |           |              |
| Malvaceae       | <i>Pavonia odorata</i> Willd.                                |   | LC |     |                |           |              |
| Malvaceae       | <i>Sida acuta</i> Burm. f.                                   |   | LC |     | bevila         |           |              |
| Malvaceae       | <i>Urena lobata</i> L.                                       |   | LC |     | pattaepala     |           |              |
| Marattiaceae    | <i>Angiopteris evecta</i> (Forst.) Hoffm.                    |   | NT |     |                |           |              |
| Melastomataceae | <i>Clidemia hirta</i> (L.) D. Don.                           | i | NE |     | nylon bowitiya |           |              |
| Melastomataceae | <i>Lijndenia capitellata</i> (Arn.) Bremer                   | E | VU |     | pinibaru       |           |              |
| Melastomataceae | <i>Memecylon rivulare</i> Bremer                             | E | VU |     |                |           |              |
| Melastomataceae | <i>Memecylon rostratum</i> Thw.                              | E | NT |     |                |           |              |
| Melastomataceae | <i>Memecylon royenii</i> Blume                               | E | LC |     |                |           |              |
| Melastomataceae | <i>Osbeckia aspera</i> (L.) Blume                            |   | NT |     | Bovitiya       |           |              |
| Melastomataceae | <i>Tibouchina urvilleana</i> (DC.) Cogn.                     |   | NE |     |                |           |              |
| Meliaceae       | <i>Chukrasia tabularis</i> A.Juss.                           |   | NT | LCi | hik            |           |              |

Initial Environmental Examination Report

PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|                  |   |   |    |     |               |           |               |
|------------------|---|---|----|-----|---------------|-----------|---------------|
| Meliaceae        | <i>Dysoxylum championii</i> Hook. f. & Thoms. ex Thw. | E | VU |     |               |           |               |
| Meliaceae        | <i>Melia azedarach</i> L.                             |   |    |     | lunumidella   |           | light timber  |
| Meliaceae        | <i>Swietenia macrophylla</i> King                     | i | NE |     | Mahogany      |           | timber        |
| Meliaceae        | <i>Walsura trifoliolata</i> (A.Juss.) Harms           |   | LC |     | Kirikon       |           |               |
| Menispermaceae   | <i>Anamirta cocculus</i> (L.) Wight & Arn.            |   | LC |     | Thiththawel   |           |               |
| Moraceae         | <i>Artocarpus altilis</i> (Parkinson) Fosberg         |   |    |     | Del           |           | food          |
| Moraceae         | <i>Artocarpus gomezianus</i> Wall.                    |   | NT |     |               |           |               |
| Moraceae         | <i>Artocarpus heterophyllus</i> Lam.                  |   |    |     | kos           |           | food & timber |
| Moraceae         | <i>Artocarpus nobilis</i> Thw.                        | E | LC |     | Waldel        |           | timber        |
| Moraceae         | <i>Ficus benghalensis</i> L.                          |   | LC |     | Nuga          |           |               |
| Moraceae         | <i>Ficus exasperata</i> Vahl                          |   | LC |     | Budeliya      |           |               |
| Moraceae         | <i>Ficus hispida</i> L.f.                             |   | LC |     | Kota dibula   |           |               |
| Moraceae         | <i>Morus alba</i> L.                                  |   |    |     |               |           |               |
| Moraceae         | <i>Plecosperrum spinosum</i> Trecul                   |   | VU |     | thingol       |           |               |
| Musaceae         | <i>Musa balbisiana</i> L.A. Colla                     |   | EN |     | etikehel      | Protected |               |
| Musaceae         | <i>Musa x paradisiaca</i> L.                          | i | NE |     | kesel         |           | fruit         |
| Myristicaceae    | <i>Horsfieldia iryagedhi</i> (Gaertn.) Warb.          | E | VU | CRi |               |           |               |
| Myristicaceae    | <i>Myristica dactyloides</i> Gaertn.                  |   | LC | LCi | Malaboda      | Protected |               |
| Myrtaceae        | <i>Cleistocalyx operculatus</i> (Roxb.) Merr. & Perry | E | LC |     | batadamba     |           |               |
| Myrtaceae        | <i>Psidium guajava</i> L.                             |   |    |     | ratapera      |           | fruit         |
| Myrtaceae        | <i>Syzygium makul</i> Gaertn.                         |   |    |     | meedan        |           |               |
| Nephrolepidaceae | <i>Nephrolepis cordifolia</i> (L.) C.Presl            |   | NT |     |               |           |               |
| Nephrolepidaceae | <i>Nephrolepis falcata</i> (Cav.) C.Chr.              |   | VU |     |               |           |               |
| Ochnaceae        | <i>Gomphia serrata</i> (Gaertn.) Kanis                |   | LC |     |               |           |               |
| Ochnaceae        | <i>Ochna Jabotapita</i> L.                            | E | LC |     |               |           |               |
| Olacaceae        | <i>Olax zeylanica</i> L.                              |   | LC |     |               |           |               |
| Olacaceae        | <i>Strombosia ceylanica</i> Gardner                   |   | VU |     |               |           |               |
| Onagraceae       | <i>Ludwigia hyssopifolia</i> (G. Don) Exell           |   | LC | LC  | Wel karambu   |           |               |
| Opiliaceae       | <i>Cansjera rheedii</i> J.Gmelin                      |   | LC |     |               |           |               |
| Orchidaceae      | <i>Arundina graminifolia</i> (D. Don) Hochr.          |   |    |     |               | Protected |               |
| Orchidaceae      | <i>Dendrobium macrostachyum</i> Lindl.                |   |    |     | posonorchid   | Protected |               |
| Orchidaceae      | <i>Zeuxine regia</i> (Lindley) Trimen                 | E | EN |     | wanaraja      | Protected |               |
| Oxalidaceae      | <i>Biophytum reinwardtii</i> (Zucc.) Klotzsch         |   | LC |     |               |           |               |
| Oxalidaceae      | <i>Oxalis corniculata</i> L.                          |   |    |     | embulembiliya |           |               |
| Pandanaceae      | <i>Freycinetia walkeri</i> Solms                      | E | NT |     | Viyakeyya     |           |               |
| Pandanaceae      | <i>Pandanus ceylanicus</i> Solms                      | E | VU |     | wiyakeyya     |           |               |
| Passifloraceae   | <i>Adenia hondala</i> (Gaertn.) de Wilde              |   | LC |     | hondala       |           |               |
| Phyllanthaceae   | <i>Antidesma alexiteria</i> L.                        |   | LC |     |               |           |               |
| Phyllanthaceae   | <i>Aporusa acuminata</i> Thw.                         |   | LC |     |               |           |               |
| Phyllanthaceae   | <i>Breynia vitis-idaea</i> (Burm.f.) C.E.C. Fischer   |   | LC |     |               |           |               |

Initial Environmental Examination Report

PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|                |  |   |    |  |               |  |                |
|----------------|--|---|----|--|---------------|--|----------------|
| Phyllanthaceae | <i>Bridelia retusa</i> (L.) A. Juss.                         |   | LC |  | Ketakela      |  | timber         |
| Phyllanthaceae | <i>Glochidion mooni</i> Thw.                                 | E | LC |  |               |  |                |
| Phyllanthaceae | <i>Glochidion stellatum</i> (Retz.) Beddome                  | E | LC |  |               |  |                |
| Phyllanthaceae | <i>Phyllanthus debilis</i> Klein ex Willd.                   |   | LC |  |               |  |                |
| Phytolaccaceae | <i>Rivina humilis</i> L.                                     |   |    |  | divibiju      |  |                |
| Piperaceae     | <i>Piper betle</i> L.  |   |    |  | bulath        |  | cash crop      |
| Piperaceae     | <i>Piper nigrum</i> L.                                       | i | NE |  | Gammiris      |  | spice          |
| Piperaceae     | <i>Piper sylvestre</i> Lam.                                  |   | LC |  | Walgammiris   |  |                |
| Poaceae        | <i>Alloteropsis cimicina</i> (L.) Stapf                      |   | LC |  |               |  |                |
| Poaceae        | <i>Axonopus compressus</i> ( Sw.) P. Beauv.                  |   |    |  |               |  |                |
| Poaceae        | <i>Bambusa vulgaris</i> Schrader ex Wendl.                   |   | LC |  | Bamboo        |  |                |
| Poaceae        | <i>Bothriochloa pertusa</i> (L.) A. Camus                    |   | LC |  |               |  |                |
| Poaceae        | <i>Chrysopogon aciculatus</i> (Retz.) Trin.                  |   | LC |  | thuththiri    |  |                |
| Poaceae        | <i>Cymbopogon nardus</i> (L.) Rendle                         |   | LC |  | Pegiri mana   |  |                |
| Poaceae        | <i>Cyrtococcum trigonum</i> (Retz.) A. Camus                 |   | LC |  |               |  |                |
| Poaceae        | <i>Dactyloctenium aegyptium</i> (L.) Willd.                  |   | LC |  |               |  |                |
| Poaceae        | <i>Digitaria ciliaris</i> (Retz.) Koeler                     |   | LC |  |               |  |                |
| Poaceae        | <i>Digitaria longiflora</i> (Retz.) Pers.                    |   | LC |  |               |  |                |
| Poaceae        | <i>Eleusine indica</i> (L.) Gaertn.                          |   | LC |  |               |  |                |
| Poaceae        | <i>Eragrostis japonica</i> (Thumb.) Trin.                    |   | LC |  | pus           |  |                |
| Poaceae        | <i>Eragrostis unioides</i> (Retz.) Nees ex Steud.            |   | LC |  |               |  |                |
| Poaceae        | <i>Isachne walkeri</i> (Arn. ex Steud.) Wight & Arn. ex Thw. |   | NT |  |               |  |                |
| Poaceae        | <i>Ischaemum muticum</i> L.                                  |   | LC |  |               |  |                |
| Poaceae        | <i>Lophatherum gracile</i> Brongn.                           |   | LC |  |               |  |                |
| Poaceae        | <i>Ochlandra stridula</i> Moon ex Thw.                       | E | LC |  | Bata          |  |                |
| Poaceae        | <i>Oplismenus compositus</i> (L.) P. Beauv.                  |   | LC |  |               |  |                |
| Poaceae        | <i>Panicum gardneri</i> Thw.                                 |   | LC |  |               |  |                |
| Poaceae        | <i>Panicum maximum</i> Jacq.                                 | i | NE |  | ratathanakola |  |                |
| Poaceae        | <i>Panicum repens</i> L.                                     |   | LC |  | etora         |  |                |
| Poaceae        | <i>Paspalum scrobiculatum</i> L.                             |   | LC |  |               |  |                |
| Poaceae        | <i>Pennisetum polystachyon</i> (L.) Schultes                 |   |    |  |               |  |                |
| Poaceae        | <i>Pennisetum purpureum</i> Schumach.                        |   |    |  | napierglass   |  |                |
| Poaceae        | <i>Setaria barbata</i> (Lam.) Kunth.                         |   |    |  |               |  |                |
| Poaceae        | <i>Sporobolus diander</i> (Retz.) P. Beauv.                  |   | LC |  |               |  |                |
| Poaceae        | <i>Tripsacum laxum</i> Nash                                  |   |    |  | gothamala     |  | Soil fertility |
| Podostemaceae  | <i>Farmeria metzgerioides</i> (Trimen) Willis ex Hook.f.     | E | VU |  |               |  |                |
| Polypodiaceae  | <i>Drymoglossum piloselloides</i> (L.) C. Presl              |   |    |  |               |  |                |
| Polypodiaceae  | <i>Drynaria quercifolia</i> (L.) J. Smith                    |   | LC |  | beduru        |  |                |
| Polypodiaceae  | <i>Pyrrosia heterophylla</i> (L.) Price                      |   | LC |  |               |  |                |
| Primulaceae    | <i>Ardisia missionis</i> Wall. ex A. DC.                     |   | LC |  | baludan       |  |                |

Initial Environmental Examination Report

PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|                |   |   |    |     |                  |  |              |
|----------------|---|---|----|-----|------------------|--|--------------|
| Primulaceae    | <i>Maesa indica</i> (Roxb.) A. DC.              |   | LC |     | Metibembiya      |  |              |
| Pteridaceae    | <i>Adiantum caudatum</i> L.                     |   | LC |     |                  |  |              |
| Pteridaceae    | <i>Hemionitis arifolia</i> (Burm.) T.Moore      |   | LC |     |                  |  |              |
| Pteridaceae    | <i>Pteris biaurita</i> L.                       |   | LC |     |                  |  |              |
| Pteridaceae    | <i>Pteris ensiformis</i> Burm.f.                |   | LC |     |                  |  |              |
| Ranunculaceae  | <i>Naravelia zeylanica</i> (L.) DC              |   | NT |     |                  |  |              |
| Rhamnaceae     | <i>Ziziphus napeca</i> (L.) Willd.              | E | LC |     |                  |  |              |
| Rhamnaceae     | <i>Ziziphus oenoplia</i> (L.) Miller            |   | LC |     | eraminiya        |  |              |
| Rhizophoraceae | <i>Carallia brachiata</i> (Lour.) Merr.         |   | NT |     | Dawata           |  |              |
| Rubiaceae      | <i>Coffea arabica</i> L.                        | i | NE |     | Coffee           |  | cash crop    |
| Rubiaceae      | <i>Hedyotis auricularia</i> L.                  |   |    |     |                  |  |              |
| Rubiaceae      | <i>Hedyotis fruticosa</i> L.                    |   | LC |     | Weraniya         |  |              |
| Rubiaceae      | <i>Lasianthus oliganthus</i> (Thw.) Thw.        | E | LC |     |                  |  |              |
| Rubiaceae      | <i>Mussaenda frondosa</i> L.                    |   | LC |     | Mussanda         |  |              |
| Rubiaceae      | <i>Ophiorrhiza mungos</i> L.                    |   | LC |     |                  |  |              |
| Rubiaceae      | <i>Pavetta indica</i> L.                        |   | LC |     |                  |  |              |
| Rubiaceae      | <i>Psychotria gardneri</i> (Thw.) Hook. f.      | E | NT | ENi |                  |  |              |
| Rubiaceae      | <i>Psychotria sarmentosa</i> Blume              |   | NT |     |                  |  |              |
| Rubiaceae      | <i>Tarenna asiatica</i> (L.) Kuntze ex Schumann |   | LC |     | tharana          |  |              |
| Rubiaceae      | <i>Timonius flavescens</i> (Jack) Baker         |   | LC |     |                  |  |              |
| Rubiaceae      | <i>Uncaria elliptica</i> R.Br. ex G.Don         |   | LC |     |                  |  |              |
| Rubiaceae      | <i>Uncaria elliptica</i> R.Br. ex G.Don         |   | LC |     | aapassa          |  |              |
| Rubiaceae      | <i>Wendlandia bicuspidata</i> Wight & Arn.      | E | LC |     | Wanaidala        |  |              |
| Rutaceae       | <i>Acronychia pedunculata</i> (L.) Miq.         |   | LC |     | ankenda          |  |              |
| Rutaceae       | <i>Citrus aurantifolia</i> (Christm.) Swingle   |   |    |     | dehi             |  |              |
| Rutaceae       | <i>Clausena indica</i> (Dalz.) Oliver           |   | LC |     | Meegonkarapincha |  |              |
| Rutaceae       | <i>Murraya koenigii</i> (L.) Spreng.            |   | LC |     | karapincha       |  | spice        |
| Rutaceae       | <i>Toddalia asiatica</i> (L.) Lam.              |   | LC |     | Kudumiris        |  |              |
| Salicaceae     | <i>Homalium ceylanicum</i> (Gardner) Benth.     |   | LC |     |                  |  |              |
| Salicaceae     | <i>Scolopia pusilla</i> (Gaertn.) Willd.        | E | LC |     | katukeeriya      |  |              |
| Sapindaceae    | <i>Allophylus cobbe</i> (L.) Rausch.           |   | LC |     | kobbe            |  |              |
| Sapindaceae    | <i>Cardiospermum halicacabum</i> L.             |   | LC |     | penela           |  |              |
| Sapindaceae    | <i>Dimocarpus longan</i> Lour.                  |   | LC |     | Mora             |  |              |
| Sapindaceae    | <i>Filicium decipiens</i> (Wight & Arn.) Thw.   |   | LC |     | Pihimbiya        |  | light timber |
| Sapindaceae    | <i>Nephelium lappaceum</i> L.                   | i | NE |     | rambutan         |  |              |
| Sapindaceae    | <i>Pometia pinnata</i> J.R. & G. Forst.         |   | LC |     | naaimbul         |  | light timber |
| Sapotaceae     | <i>Palaquium hinmolpedda</i> van Royen          | E | VU |     | meeriya          |  |              |
| Smilacaceae    | <i>Smilax zeylanica</i> L.                      |   | LC |     | kabarossa        |  |              |
| Solanaceae     | <i>Capsicum annum</i> L.                        |   |    |     |                  |  |              |
| Solanaceae     | <i>Solanum indicum</i> L.                       |   |    |     |                  |  |              |

## PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|               |   |   |    |  |              |  |           |
|---------------|---|---|----|--|--------------|--|-----------|
| Solanaceae    | <i>Solanum melongena</i> L. var. <i>melongena</i> |   |    |  | elabatu      |  |           |
| Staphyleaceae | <i>Turpinia malabarica</i> Gamble                 |   | LC |  | Gurenda      |  |           |
| Stemonuraceae | <i>Gomphandra coriacea</i> Wight                  |   | VU |  |              |  |           |
| Symplocaceae  | <i>Symplocos cochinchinensis</i> (Lour.) S.Moore  |   | LC |  | Bombu        |  |           |
| Theaceae      | <i>Camellia sinensis</i> (L.) Kuntze              |   |    |  | Tea          |  | cash crop |
| Thymelaeaceae | <i>Gyrinops walla</i> Gaertn.                     |   | VU |  | wallapatta   |  |           |
| Tiliaceae     | <i>Grewia carpinifolia</i> Juss.                  |   |    |  | Boradamaniya |  |           |
| Urticaceae    | <i>Fleurya interrupta</i> (L.) Gaudich.           |   |    |  |              |  |           |
| Verbenaceae   | <i>Lantana camara</i> L.                          |   |    |  | hinguru      |  |           |
| Verbenaceae   | <i>Stachytarpheta jamaicensis</i> (L.) Vahl       |   |    |  | balunaguta   |  |           |
| Verbenaceae   | <i>Stachytarpheta urticaefolia</i> (Salisb.) Sims |   |    |  | balunaguta   |  |           |
| Vitaceae      | <i>Cissus trilobata</i> Lam.                      |   | LC |  |              |  |           |
| Vitaceae      | <i>Leea indica</i> (Burm.f.) Merr.                |   | LC |  | burulla      |  |           |
| Zingiberaceae | <i>Amomum echinocarpum</i> Alston                 | E | VU |  | kelaniya     |  |           |
| Zingiberaceae | <i>Zingiber officinale</i> Roscoe                 |   |    |  | inguru       |  | spice     |
| Zingiberaceae | <i>Zingiber zerumbet</i> (L.) J. E. Smith         |   |    |  | harankaha    |  |           |

## Faunal species recorded during the study period

Table 12. Dragonflies recorded during the study period.

| Family         | Scientific Name                                 | English                           | Endemic | NSG | GCS | Protected | DAM TO UPPER AREA | DAM TO LOWER AREA | LOWER FOREST | TANNEl PATH | POWER HOUS |
|----------------|---|-----------------------------------|---------|-----|-----|-----------|-------------------|-------------------|--------------|-------------|------------|
| Calopterygidae | <i>Neurobasis chinensis</i> (Linnaeus, 1758)    | Oriental Green-wing               |         | VU  | LC  | P         | x                 | x                 |              |             | x          |
| Calopterygidae | <i>Vestalis apicalis</i> Selys, 1873            | Black-tipped Flashwing            |         | VU  | LC  | P         | x                 | x                 |              |             | x          |
| Chlorocyphidae | <i>Libellago finalis</i> (Hagen in Selys, 1869) | Sri Lanka Ultima Gem              | *       | VU  |     | P         | x                 |                   |              |             | x          |
| Chlorocyphidae | <i>Libellago greeni</i> (Laidlaw, 1924)         | Sri Lanka Green's Gem             | *       | EN  |     | P         |                   | x                 |              |             | x          |
| Euphaeidae     | <i>Euphaea splendens</i>                        | E: Sri Lanka Shining Gossamerwing | *       | NT  |     | P         | x                 | x                 |              |             | x          |

Initial Environmental Examination Report

PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|                 |  |  |   |    |    |   |   |  |  |   |   |
|-----------------|--|--|---|----|----|---|---|--|--|---|---|
| Coenagrionidae  | <i>Agriocnemis pygmaea</i><br>(Rambur, 1842)             | E: Wandering Wisp                          |   | LC | LC | P |   |  |  |   | x |
| Platycnemididae | <i>Copera marginipes</i>                                 | E: Yellow Featherleg                       |   | LC | LC | P |   |  |  | x |   |
| Platystictidae  | <i>Drepanosticta sp.</i>                                 | E: Sri Lanka Dark Knob-tipped Shadowdamsel | * | CR | CR | P |   |  |  | x |   |
| Protoneuridae   | <i>Elattonaura caesia</i>                                | E: Sri Lanka Jungle Threadtail             | * | VU | EN | P |   |  |  | x |   |
| Protoneuridae   | <i>Elattonaura tenax</i>                                 | E: Sri Lanka Red- striped Threadtail       | * | EN |    | P |   |  |  | x |   |
| Gomphidae       | <i>Paragomphus henryi</i><br>(Campion and Laidlaw, 1928) | E: Sri Lanka Brook Hooktail                | * | EN | NT | P | x |  |  | x |   |
| Corduliidae     | <i>Epophthalmia vittata</i><br>Burmeister, 1839          | E: Blue-eyed Pondcruiser                   |   | NT | LC | P |   |  |  |   | x |
| Libellulidae    | <i>Orthetrum sabina</i><br>(Drury, 1770)                 | E: Green Skimmer                           |   | LC | LC | P |   |  |  | x |   |
| Libellulidae    | <i>Trithemis festiva</i><br>(Rambur, 1842)               | E: Indigo Dropwing                         |   | VU | LC | P |   |  |  |   | x |

Table.13. Butterflies recorded during the study period.

|              | Scientific Name                             | English Name      | Endemic | NCS | GCS |   | DAM TO UPPER AREA | DAM TO LOWER AREA | LOWER FOREST | TANNEL PATH | POWER HOUS |
|--------------|---|-------------------|---------|-----|-----|---|-------------------|-------------------|--------------|-------------|------------|
| Papilionidae | <i>Graphium agamemnon</i><br>Linnaeus, 1758 | Tailed Jay        |         | LC  |     | P | H                 | H                 | H            | H           | H          |
| Papilionidae | <i>Graphium antiphates</i> Cramer,<br>1775  | Fivebar Swordtail |         | EN  |     | P | H                 | H                 | H            |             |            |
| Papilionidae | <i>Graphium doson</i> Felder, 1864          | Common Jay        |         | LC  |     | P | H                 | H                 | H            | H           | H          |
| Papilionidae | <i>Graphium sarpedon</i>                    | Bluebottle        |         | LC  |     | P | X                 | X                 | X            | X           | X          |
| Papilionidae | <i>Pachliopta aristolochiae</i>             | Common Rose       |         | LC  |     | P | H                 | H                 | H            | H           | H          |
| Papilionidae | <i>Pachliopta hector</i> Linnaeus,<br>1758  | Crimson Rose      |         | LC  |     | P | H                 | H                 | H            | H           | H          |
| Papilionidae | <i>Pachliopta jophon</i> Gray, 1852         | Sri Lanka Rose    | *       | EN  | CR* | P | H                 | H                 | H            | H           |            |

## Initial Environmental Examination Report

## PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|              |  |                            |   |    |    |   |   |   |   |   |   |
|--------------|--|----------------------------|---|----|----|---|---|---|---|---|---|
| Papilionidae | <i>Papilio clytia</i>                    | Mime                       |   | LC |    | P | H | H | H | H | H |
| Papilionidae | <i>Papilio crino</i>                     | Banded Peacock             |   | VU |    | P | H | H | H | H |   |
| Papilionidae | <i>Papilio helenus</i>                   | Red Helen                  |   | VU |    | P | X | X | H | H | H |
| Papilionidae | <i>Papilio polymnestor</i>               | Blue Mormon                |   | LC |    | P | X | X | X | X | X |
| Papilionidae | <i>Papilio polytes</i>                   | Common Mormon              |   | LC |    | P | H | H | H | H | H |
| Papilionidae | <i>Troides darsius</i>                   | Sri Lanka Birdwing         | * | LC |    | P | H | H | H | H | H |
| Pieridae     | <i>Appias galene</i> Cramer, 1777        | Sri Lanka Lesser Albatross | * | LC |    | P | H | H | H | H | H |
| Pieridae     | <i>Appias lycinda</i> Cramer, 1779       | Chocolate Albatross        |   | LC |    | P | H | H | H | H | H |
| Pieridae     | <i>Catopsilia pomona</i>                 | Lemon Emigrant             |   | LC |    | P | H | H | H | H | H |
| Pieridae     | <i>Catopsilia pyranthe</i>               | Mottled Emigrant           |   | LC |    | P | H | H | H | H | H |
| Pieridae     | <i>Delias eucharis</i> Drury, 1773       | Jezebel                    |   | LC |    | P | X | X | H | H | H |
| Pieridae     | <i>Eurema blanda</i> Boisduval, 1836     | Three-spot Grass Yellow    |   | LC |    | P | X | X | X | X | X |
| Pieridae     | <i>Eurema hecabe</i> Linnaeus, 1764      | Common Grass Yellow        |   | LC |    | P | X | X | X | H | H |
| Pieridae     | <i>Leptosia nina</i> Fabricius, 1793     | Psyche                     |   | LC |    | P | X | X |   | H | H |
| Nymphalidae  | <i>Ariadne ariadne</i> Linnaeus, 1763    | Angled Castor              |   | LC |    | P | H | H | H | H | H |
| Nymphalidae  | <i>Ariadne merione</i> Cramer, 1777      | Common Castor              |   | VU |    | P | H | H | H | H | H |
| Nymphalidae  | <i>Cethosia nietneri</i> Felder, 1867    | Ceylon Lace Wing           |   | LC |    | P | H | H | H | H |   |
| Nymphalidae  | <i>Danaus genutia</i>                    | Common Tiger               |   | LC |    | P | H | H | H | H | H |
| Nymphalidae  | <i>Dophla evelina</i> Stoll, 1790        | Redspot Duke               |   | LC |    | P | H | H | H | H | H |
| Nymphalidae  | <i>Elymnias hypermnestra</i>             | Common Palmfly             |   | LC |    | P | H | H | H | H | H |
| Nymphalidae  | <i>Euploea core</i> Cramer, 1779         | Common Indian Crow         |   | LC |    | P | H | H | H | H | H |
| Nymphalidae  | <i>Euploea klugii</i> Moore, 1888        | Brown King Crow            |   | LC |    | P | H | H | H | H | H |
| Nymphalidae  | <i>Euploea phaenareta</i> Schaller, 1758 | The Great Crow             |   | EN |    | P | H | H | H | H | H |
| Nymphalidae  | <i>Euthalia aconthea</i> Cramer, 1777    | Baron                      |   | LC |    | P | H | H | H | H | H |
| Nymphalidae  | <i>Idea iasonia</i>                      | Sri Lanka Tree Nymph       | * | VU | NT | P | H | H | H | H |   |
| Nymphalidae  | <i>Ideopsis similis</i> Linnaeus, 1764   | Blue Glassy Tiger          |   | VU |    | P | H | H | H | H | H |
| Nymphalidae  | <i>Junonia atlites</i> Linnaeus, 1758    | Grey Pansy                 |   | LC |    | P | H | H | H | H | H |
| Nymphalidae  | <i>Junonia iphita</i> Cramer, 1779       | Chocolate Soldier          |   | LC |    | P | X | X | H | H | H |
| Nymphalidae  | <i>Junonia lemonias</i> Linnaeus, 1758   | Lemon Pansy                |   | LC |    | P | H | H | H | H | H |
| Nymphalidae  | <i>Kallima philarchus</i>                | Sri Lanka Blue Oakleaf     | * | EN |    | P | H | H | H | H | H |
| Nymphalidae  | <i>Kaniska canace</i>                    | Blue Admiral               |   | LC |    | P | H | H | H | H | H |
| Nymphalidae  | <i>Melanitis leda</i> Linnaeus, 1763     | Common Evening Brown       |   | LC |    | P | H | H | H | H | H |
| Nymphalidae  | <i>Melanitis phedima</i> Cramer, 1780    | Dark Evening Brown         |   | NT |    | P | H | H | X | H |   |
| Nymphalidae  | <i>Moduza procris</i> Cramer, 1777       | Commander                  |   | LC |    | P | H | H | H | H | H |



## Initial Environmental Examination Report

## PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|             |   |                          |  |    |  |   |   |   |   |   |   |
|-------------|---|--------------------------|--|----|--|---|---|---|---|---|---|
| Nymphalidae | <i>Mycalesis patnia</i> Moore, 1857             | Gladeye Bushbrown        |  | LC |  | P | H | H | H | H | H |
| Nymphalidae | <i>Mycalesis perseus</i> Fabricius, 1775        | Common Bushbrown         |  | LC |  | P | H | H | H | H | H |
| Nymphalidae | <i>Neptis hylas</i> Linnaeus, 1758              | Common Sailor            |  | LC |  | P | H | H | H | H | H |
| Nymphalidae | <i>Neptis jumbah</i> Moore, 1857                | Chestnut-streaked Sailor |  | LC |  | P | H | H | H | H | H |
| Nymphalidae | <i>Pantoporia hordonia</i> Stoll, 1790          | Common Lascar            |  | NT |  | P | H | H | H | H | H |
| Nymphalidae | <i>Parantica aglea</i> Stoll, 1782              | Glassy Tiger             |  | LC |  | P | H | H | H | X | X |
| Nymphalidae | <i>Parthenos sylvia</i>                         | Clipper                  |  | LC |  | P | H | H | H | H | H |
| Nymphalidae | <i>Phalanta phalantha</i> Drury, 1773           | Leopard                  |  | LC |  | P | H | H | H | H | H |
| Nymphalidae | <i>Polyura athamas</i> Drury, 1770              | Nawab                    |  | LC |  | P | H | H | H | H | H |
| Nymphalidae | <i>Vindula erota</i> Fabricius, 1793            | Cruiser                  |  | NT |  | P | H | H | H | H |   |
| Nymphalidae | <i>Ypthima ceylonica</i> Hewitson, 1864         | White Four-ring          |  | LC |  | P | X | X |   |   | X |
| Lycaenidae  | <i>Loxura atymnus</i> Stoll, 1780               | Yamfly                   |  | LC |  | P | H | H | H | H | H |
| Lycaenidae  | <i>Rathinda amor</i> Fabricius, 1775            | Monkey-puzzle            |  | LC |  | P | H | H | H | H | H |
| Lycaenidae  | <i>Spalgis epeus</i> Westwood, 1851             | Apefly                   |  | LC |  | P | H | H | H | H | H |
| Lycaenidae  | <i>Talicauda nyseus</i> Guérin-Méneville, 1843  | Red Pierrot              |  | LC |  | P | H | H | H | H | H |
| Lycaenidae  | <i>Zizeeria karsandra</i> Moore, 1865           | Dark Grass Blue          |  | LC |  | P | H | H | H | H | H |
| Lycaenidae  | <i>Zizina otis</i> Fabricius, 1787              | Lesser Grass Blue        |  | LC |  | P | H | H | H | H | H |
| Lycaenidae  | <i>Zizula hylax</i> Fabricius, 1775             | Tiny Grass Blue          |  | LC |  | P | H | H | H | H | H |
| Riodinidae  | <i>Abisara echerius</i> Stoll, 1790             | Plum Judy                |  | LC |  | P | H | H | X | H | H |
| Hesperiidae | <i>Cephrenes trichopepla</i> Lower, 1908        | Yellow Palm Dart         |  | LC |  | P | H | H | H | H | H |
| Hesperiidae | <i>Hasora chromus</i> Cramer, 1780              | Common Banded Awl        |  | LC |  | P | H | H | H | H | H |
| Hesperiidae | <i>Potanthus confuscus</i> C. & R. Felder, 1862 | Tropic Dart              |  | LC |  | P | H | H | H | H | H |
| Hesperiidae | <i>Spialia galba</i> Fabricius, 1793            | Indian Skipper           |  | LC |  | P | H | H | H | H | H |
| Hesperiidae | <i>Suastus gremius</i> Fabricius, 1798          | Indian Palm Bob          |  | LC |  | P | H | H | H | H | H |
| Hesperiidae | <i>Udaspes folus</i> Cramer, 1775               | Grass Demon              |  | LC |  | P | H | H | H | H | H |

## PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

Table 14. Fish recorded during the study period.

| Family      | Scientific Name             | Common Name                     | Endemic | NCS | GCS | protected | DAM TO UPPER AREA | DAM TO LOWER AREA | LOWER FOREST | TANNEL PATH | POWER HOUS |
|-------------|-----------------------------|---------------------------------|---------|-----|-----|-----------|-------------------|-------------------|--------------|-------------|------------|
| Cyprinidae  | <i>Dawkinsia singhala</i>   | Sri Lanka Filament Barb         | x       | LC  | LC  |           |                   |                   |              |             | x          |
| Cyprinidae  | <i>Devario malabaricus</i>  | Giant Danio                     |         | LC  | LC  |           |                   |                   |              |             | x          |
| Cyprinidae  | <i>Garra ceylonensis</i>    | Sri Lanka Stone Sucker          | x       | VU  | EN  |           | x                 | x                 |              |             | x          |
| Cyprinidae  | <i>Rasbora dandiya</i>      | Broad line Strip Rasbora        |         | LC  |     |           |                   |                   |              |             | x          |
| Balitoridae | <i>Schistura notostigma</i> | Sri Lanka Banded Mountain Loach | x       | NT  |     |           |                   |                   |              |             | x          |

Table 15. Amphibians recorded during the study period.

| Family       | Scientific Name                                   | Common Name                                   | Endemic | NCS | GCS |   | DAM TO UPPER AREA | DAM TO LOWER AREA | LOWER FOREST | TANNEL PATH | POWER HOUS |
|--------------|---|---|---------|-----|-----|---|-------------------|-------------------|--------------|-------------|------------|
| Bufoidea     | <i>Adenomus kelaartii</i> (Günther, 1858)         | Kelaart's dwarf toad                          | *       | VU  | EN  | P | X                 | X                 | X            | H           | H          |
| Bufoidea     | <i>Duttaphrynus melanostictus</i> Schneider, 1799 | Common toad                                   |         | LC  |     |   | H                 | H                 | H            | H           | H          |
| Microhylidae | <i>Ramanella obscura</i> (Günther, 1864)          | Obscure ramanella                             | *       | VU  |     | P | H                 | H                 | H            | H           | H          |
| Ranidae      | <i>Euphlyctis cyanophlyctis</i> (Schneider, 1799) | E:Indian skipper frog;<br>S:Uthpathana madiya |         | LC  |     |   |                   | H                 | H            | H           | H          |
| Ranidae      | <i>Fejervarya limnocharis</i> (Boie, 1835)        | Common paddy field frog                       |         | LC  |     |   | H                 | H                 | H            | H           | H          |
| Ranidae      | <i>Lankanectes corrugatus</i> (Peters, 1863)      | Corrugated water frog                         | *       | VU  |     | P | H                 | H                 | H            |             |            |
| Ranidae      | <i>Nannophrys ceylonensis</i> (Günther, 1868)     | Sri Lankan rock frog                          | *       | EN  | VU  | P | H                 | H                 | H            | H           | H          |
| Ranidae      | <i>Hylarana aurantiaca</i> Boulenger, 1904        | E:Golden frog;<br>S:Ranvan diya madiya        |         | EN  | VU  | P | X                 | X                 | X            | X           | X          |

Initial Environmental Examination Report

PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|               |  |                                       |   |    |    |   |   |   |   |   |   |
|---------------|--|---------------------------------------|---|----|----|---|---|---|---|---|---|
| Ranidae       | <i>Hylarana temporalis</i> (Günther, 1864)                                   | Bronzed frog                          | * | NT |    | P | X | H | H | H | X |
| Ranidae       | <i>Pseudophilautus asankai</i><br>Manamendra-Arachchi & Pethiyagoda, 2005    | Asanka's shrub frog                   | * | CR | EN | P | H | H | H | H | H |
| Ranidae       | <i>Pseudophilautus fergusonianus</i><br>(Ahl, 1927)                          | Ferguson's shrub frog                 | * | VU |    | P | X | H | H | H | H |
| Ranidae       | <i>Pseudophilautus folicola</i><br>Manamendra-Arachchi & Pethiyagoda, 2005   | Leaf dwelling shrub frog              | * | VU | EN | P | H | H | H | H | H |
| Ranidae       | <i>Pseudophilautus popularis</i><br>Megaskumbura & Manamendra-Arachchi, 2005 | Common shrub frog                     | * | NT | EN | P | H | H | H | H | H |
| Ranidae       | <i>Pseudophilautus reticulatus</i><br>(Günther, 1864)                        | Reticulated thigh shrub frog          | * | EN | EN | P | H | H | H | H | H |
| Ranidae       | <i>Pseudophilautus sordidus</i><br>Manamendra-Arachchi & Pethiyagoda, 2005   | Grubby shrub frog                     | * | VU |    | P | H | H | H | H | H |
| Ranidae       | <i>Polypedates cruciger</i> Blyth, 1852                                      | Common hourglass tree frog            | * | LC |    | P | H | H | H | H | H |
| Ranidae       | <i>Taruga longinasus</i> (Ahl, 1931)   | Long-snouted tree frog                | * | EN | EN | P | H | H | H | H | H |
| Icthyophiidae | <i>Ichthyophis glutinosus</i> (Linnaeus, 1758)                               | Ceylon caecilian<br>S: Kaha hiridanda | * | VU |    | P | H | H | H | H | H |

Table16. Reptiles recorded during the study period.

| Family     | Scientific Name               | English Name                         | Endemic | NCS | GCS | Protected | DAM TO UPPER AREA | DAM TO LOWER AREA | LOWER FOREST | TANNEL PATH | POWER HOUS |
|------------|-------------------------------|--------------------------------------|---------|-----|-----|-----------|-------------------|-------------------|--------------|-------------|------------|
| Agamidae   | <i>Calotes calotes</i>        | Green garden lizard                  |         | LC  |     | P         | H                 | X                 | H            | X           | H          |
| Agamidae   | <i>Calotes liolepis</i>       | Whistling lizard / Forest lizard     | *       | NT  |     | P         | H                 | H                 | H            | H           | H          |
| Agamidae   | <i>Calotes versicolor</i>     | Common garden lizard                 |         | LC  |     | P         |                   | H                 |              |             | H          |
| Agamidae   | <i>Lyriocephalus scutatus</i> | Lyre head lizard / Hump snout lizard | *       | VU  | NT  | P         | H                 | H                 | H            | H           | X          |
| Agamidae   | <i>Otocryptis wiegmanni</i>   | Sri Lankan kangaroo lizard           | *       | LC  |     | P         | H                 | H                 | X            | X           | H          |
| Gekkonidae | <i>Gehyra mutilata</i>        | Four-claw gecko                      |         | LC  |     | P         |                   | H                 |              |             | H          |
| Gekkonidae | <i>Hemidactylus depressus</i> | Kandyan gecko                        | *       | LC  | LC  | P         | H                 | H                 | H            | H           | H          |
| Gekkonidae | <i>Hemidactylus frenatus</i>  | Common house-gecko                   |         | LC  | LC  | P         |                   | H                 |              |             | H          |

Initial Environmental Examination Report

PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|                |                                     |                                    |   |    |           |   |   |   |   |   |   |
|----------------|-------------------------------------|------------------------------------|---|----|-----------|---|---|---|---|---|---|
| Scincidae      | <i>Eutropis carinata</i>            | Common skink                       |   | LC |           | P | H | H | H | H | H |
| Scincidae      | <i>Eutropis macularia</i>           | Bronzegreen little skink           |   | LC |           | P | H | H | H | H | H |
| Scincidae      | <i>Lankascincus fallax</i>          | Common lankaskink                  | * | LC |           | P | H | X | X | X | H |
| Scincidae      | <i>Lankascincus gansi</i>           | Gans's lankaskink                  | * | VU |           | P | H | H | H | X | H |
| Scincidae      | <i>Lankascincus greari</i>          | Geer's lanka skink                 | * | EN |           | P | X | H | H | H | H |
| Scincidae      | <i>Lygosoma punctatus</i>           | Dotted skink                       |   | LC |           | P | H | H | H | H | H |
| Scincidae      | <i>Nessia burtonii</i>              | Threetoe Snakeskink                | * | LC |           | P | H | H | H | H | H |
| Varanidae      | <i>Varanus salvator</i>             | Water monitor                      |   | LC | LC        | P |   |   |   |   | H |
| Acrochordidae  | <i>Acrochordus granulatus</i>       | Wart snake                         |   | VU | LC        | P |   |   |   |   | H |
| Pythonidae     | <i>Python molurus</i>               | Indian python                      |   | LC | LR/<br>nt | P | H | H | H | H | H |
| Cylindrophidae | <i>Cylindrophis maculata</i>        | Pipe snake                         | * | NT |           | P | H | H | H | H | H |
| Natricidae     | <i>Amphiesma stolatum</i>           | Buff striped keelback              |   | LC |           | P | H | H | H | H | H |
| Natricidae     | <i>Aspidura guentheri</i>           | Guenther's roughside               | * | NT |           | P | H | H | H | H | H |
| Natricidae     | <i>Atretium schistosum</i>          | The Olive keelback<br>water- snake |   | LC | NT        | P | H | H | H | H | H |
| Natricidae     | <i>Balanophis ceylonensis</i>       | Sri Lanka keelback                 | * | EN |           | P | H | H | H | H |   |
| Natricidae     | <i>Xenochrophis asperrimus</i>      | The checkered keelback             | * | LC |           | P | H | H | H | H | H |
| Natricidae     | <i>Xenochrophis piscator</i>        | Checkered Keelback                 |   | LC |           | P | H | H | H | H | H |
| Colubridae     | <i>Ahaetulla nasuta</i>             | Green vine snake                   |   | LC |           | P | H | H | H | H | H |
| Colubridae     | <i>Ahaetulla pulverulenta</i>       | Brown vine snake                   |   | LC |           | P | H | H | H | H | H |
| Colubridae     | <i>Boiga barnesii</i>               | Barnes's cat snake,                | * | VU |           | P | H | H | H | H |   |
| Colubridae     | <i>Boiga beddomei</i>               | Beddoms cat snake                  |   | NT | DD        | P | H | H | H |   |   |
| Colubridae     | <i>Boiga ceylonensis</i>            | Sri Lanka cat snake                |   | LC |           | P | H | H | H | H | H |
| Colubridae     | <i>Boiga forsteni</i>               | Forsten's cat snake                |   | NT | LC        | P | H | H | H |   |   |
| Colubridae     | <i>Chrysopelea ornata</i>           | Ornate flying snake                |   | VU |           | P |   | H | H | H | H |
| Colubridae     | <i>Dendrelaphis bifrenalis</i>      | Boulenger's bronze back            | * | NT | LC        | P | H | H | H | H | H |
| Colubridae     | <i>Dendrelaphis caudolineolatus</i> | Gunther's bronze back              |   | VU |           | P | H | H | H | H | H |

## Initial Environmental Examination Report

## PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|             |                                     |                                |   |    |    |   |   |   |   |   |   |
|-------------|-------------------------------------|--------------------------------|---|----|----|---|---|---|---|---|---|
| Colubridae  | <i>Dendrelaphis schokari</i>        | Schokari's bronze back         | * | LC |    | P | H | H | H | H | H |
| Colubridae  | <i>Lycodon aulicus</i>              | Wolf snake, house snake        |   | LC |    | P | H | H | H | H | H |
| Colubridae  | <i>Oligodon calamarius</i>          | Templeton's kukri snake        | * | EN | DD | P | H | H | H | H | H |
| Colubridae  | <i>Oligodon sublineatus</i>         | Dumerul's kuki snake           | * | LC | LC | P | H | H | H | H | H |
| Colubridae  | <i>Ptyas mucosa</i>                 | Rat snake                      |   | LC |    | P | H | H | H | H | H |
| Elapidae    | <i>Bungarus ceylonicus</i>          | Sri Lanka krait / Ceylon krait | * | VU |    |   | H | H | H | H |   |
| Uropeltidae | <i>Rhinophis homolepis</i>          | Kelaarts earth snake           | * | EN |    | P | H | X | X | H | H |
| Viperidae   | <i>Daboia russelii</i>              | Russell's viper                |   | LC |    |   | H | H | H | H | H |
| Viperidae   | <i>Hypnale hypnale</i>              | The Merrem's Hump nose viper   |   | LC |    | P |   |   |   | H | H |
| Viperidae   | <i>Hypnale nepa</i>                 | Merrem's hump-nosed viper      | * | EN | LC | P | H | H | H | H | H |
| Viperidae   | <i>Trimeresurus trigonocephalus</i> | Green pit viper                | * | LC |    | P | H |   | H |   |   |

Table 17. Birds recorded during the study period.

| Family       | Scientific Name                                | English Name                    | Endemic | National | Global |    | DAM TO UPPER AREA | DAM TO LOWER AREA | LOWER FOREST | TANNEL PATH | POWER HOUS |
|--------------|--|---------------------------------|---------|----------|--------|----|-------------------|-------------------|--------------|-------------|------------|
| Phasianidae  | <i>Galloperdix bicalcarata</i> (Forster, 1781) | Sri Lanka Spurfowl              | *       | NT       | LC     | SP | H                 | H                 | H            |             |            |
| Phasianidae  | <i>Gallus lafayetii</i>                        | Sri Lanka Junglefowl            | *       | LC       | LC     | P  | H                 | H                 | H            | H           | H          |
| Phasianidae  | <i>Pavo cristatus</i> Linnaeus, 1758           | Indian Peafowl                  |         | LC       | LC     | P  |                   |                   | H            | H           | H          |
| Picidae      | <i>Dendrocopos nanus</i> (Vigors, 1832)        | Brown-capped Woodpecker         |         | LC       | LC     | P  | H                 | H                 | H            | H           | H          |
| Picidae      | <i>Picus chlorolophus</i>                      | Lesser Yellownappe              |         | NT       | LC     | P  | H                 | H                 | H            | H           | H          |
| Picidae      | <i>Dinopium benghalense</i>                    | Black-rumped Flameback          |         | LC       | LC     | P  | H                 | H                 | H            | H           | H          |
| Picidae      | <i>Chrysocolaptes lucidus</i>                  | Greater Flameback               |         | LC       |        | P  | H                 | H                 | H            | H           |            |
| Ramphastidae | <i>Megalaima zeylanica</i>                     | Brown-headed Barbet             |         | LC       | LC     | P  | H                 | H                 | H            | H           | H          |
| Ramphastidae | <i>Megalaima flavifrons</i>                    | Sri Lanka Yellow-fronted Barbet | *       | LC       | LC     | SP | X                 | X                 | H            | H           | H          |
| Ramphastidae | <i>Megalaima rubricapillus</i>                 | Crimson-fronted Barbet          |         | LC       | LC     | P  | H                 | H                 | H            | H           | X          |
| Bucerotidae  | <i>Ocyrceros gingalensis</i>                   | Sri Lanka Grey Hornbill         | *       | LC       | LC     | SP | H                 | X                 | X            | H           | H          |
| Trogonidae   | <i>Harpactes fasciatus</i>                     | Malabar Trogon                  |         | NT       | LC     | P  | H                 | H                 | H            |             |            |
| Coraciidae   | <i>Eurystomus orientalis</i> (Linnaeus, 1766)  | Asian Dollarbird                |         | EN       | LC     | SP | H                 | H                 |              |             |            |

## Initial Environmental Examination Report

## PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|              |   |  |   |    |    |    |   |   |   |   |   |   |
|--------------|---|--|---|----|----|----|---|---|---|---|---|---|
| Alcedinidae  | <i>Ceyx erithaca</i>                          | Black-Backed Kingfisher(Three Toad Kingfisher) |   | NT | LC | P  |   |   |   |   |   | H |
| Alcedinidae  | <i>Halcyon smyrnensis</i>                     | White-Throated Kingfisher                      |   | LC | LC | P  |   |   |   |   |   | H |
| Meropidae    | <i>Merops philippinus</i>                     | Blue tailed Bee-eater                          |   |    |    | P  |   | X | X | H | H |   |
| Cuculidae    | <i>Cuculus varius</i> Vahl, 1797              | Common Hawk-cuckoo                             |   | EN | LC | SP | H | H | H | H | H |   |
| Cuculidae    | <i>Eudynamys scolopaceus</i>                  | Asian Koel                                     |   | LC | LC | P  |   |   |   |   |   |   |
| Cuculidae    | <i>Centropus sinensis</i>                     | Greater Coucal                                 |   | LC | LC | P  | H | H | H | H | H |   |
| Psittacidae  | <i>Loriculus beryllinus</i>                   | Sri Lanka Hanging Parrot                       | * | LC | LC | SP | X | X | X | X | X |   |
| Psittacidae  | <i>Psittacula eupatria</i>                    | Alexandrine Parakeet                           |   | LC | LC | P  | H | X | H | H | H |   |
| Psittacidae  | <i>Psittacula krameri</i> (Scopoli, 1769)     | Rose-ringed Parakeet                           |   | LC | LC |    |   |   |   |   |   |   |
| Apodidae     | <i>Collocalia unicolor</i>                    | Indian Swiftlet                                |   | LC | LC | P  | X | X | X | X | X |   |
| Tytonidae    | <i>Otus bakkamoena</i> Pennant, 1769          | Collared Scops-owl                             |   | LC | LC | P  |   |   |   |   |   |   |
| Tytonidae    | <i>Bubo nipalensis</i> Hodgson, 1836          | Spot-Bellied Eagle- owl                        |   | NT | LC | P  |   |   |   |   |   |   |
| Tytonidae    | <i>Ketupa zeylonensis</i>                     | Brown Fish-owl                                 |   | LC | LC | P  | H | H | H | H | H |   |
| Tytonidae    | <i>Strix leptogrammica</i> Temminck, 1831     | Brown Wood-owl                                 |   | NT | LC | P  | H | H | H | H | H |   |
| Tytonidae    | <i>Glaucidium castanonotum</i>                | Sri Lanka Chestnut-backed Owlet                |   | VU | NT | P  |   |   |   |   |   |   |
| Tytonidae    | <i>Ninox scutulata</i> (Raffles, 1822)        | Brown Hawk-owl                                 |   | LC | LC | P  |   |   |   |   |   | H |
| Podargidae   | <i>Batrachostomus moniliger</i> Blyth, 1846   | Frogmouth                                      |   | LC | LC | P  |   |   |   |   |   |   |
| Columbidae   | <i>Columba livia</i>                          | Rock Pigeon                                    |   |    | LC | P  |   | H | H | H | H |   |
| Columbidae   | <i>Stigmatopelia chinensis</i>                | Spotted Dove                                   |   | LC | LC | P  | H | H | X | X | X |   |
| Columbidae   | <i>Chalcophaps indica</i>                     | Emerald Dove                                   |   | LC | LC | P  | H | X | H | H | H |   |
| Columbidae   | <i>Treron pompadora</i> (Gmelin, 1789) PE     | Pompadour Green Pigeon                         |   | LC | LC | P  |   |   |   |   |   |   |
| Columbidae   | <i>Ducula aenea</i> (Linnaeus, 1766)          | Green Imperial-Pigeon                          |   | LC | LC | P  |   |   |   |   |   |   |
| Rallidae     | <i>Amaurornis phoenicurus</i> (Pennant, 1769) | White-breasted Waterhen                        |   | LC | LC | P  |   |   |   |   |   |   |
| Accipitridae | <i>Pernis ptilorhyncus</i>                    | Oriental Honey-Buzzard                         |   | NT | LC | P  | X | H | H | H | H |   |
| Accipitridae | <i>Spilornis cheela</i>                       | Crested Serpent-eagle                          |   | LC | LC | P  | X | X | H | H | H |   |
| Accipitridae | <i>Accipiter trivirgatus</i>                  | Crested Goshawk                                |   | VU | LC | P  |   |   |   |   |   |   |
| Accipitridae | <i>Accipiter badius</i>                       | Shikra   |   | LC | LC | P  | H | H | H | H | H |   |

## Initial Environmental Examination Report

## PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|                   |  |                              |   |    |    |    |   |   |   |   |   |
|-------------------|--|------------------------------|---|----|----|----|---|---|---|---|---|
| Accipitridae      | <i>Accipiter virgatus</i> (Temminck, 1822)   | Besra                        |   | VU | LC | P  | H | H | H | H |   |
| Accipitridae      | <i>Ictinaetus malayensis</i>                 | Black Eagle                  |   | NT | LC | P  | H | H | H | H | H |
| Accipitridae      | <i>Hieraaetus kienerii</i>                   | Rufous-bellied Eagle         |   | NT |    | SP | X | H | H | H | H |
| Accipitridae      | <i>Spizaetus cirrhatus</i>                   | Changeable Hawk-eagle        |   | LC |    | P  | H | H | H | H | H |
| Accipitridae      | <i>Spizaetus nipalensis</i>                  | Mountain Hawk-eagle          |   | VU |    | SP | H | H | H | H | H |
| Phalacrocoracidae | <i>Phalacrocorax niger</i>                   | Little Cormorant             |   | LC | LC | P  | H | X | H | H | H |
| Ardeidae          | <i>Bubulcus ibis</i>                         | Cattle Egret                 |   | LC | LC | P  |   | H | H | H | H |
| Ardeidae          | <i>Ardeola grayii</i>                        | Indian Pond-heron            |   | LC | LC | P  |   | H | H | H | H |
| Chloropseidae     | <i>Chloropsis jerdoni</i>                    | Jerdon's Leafbird            |   | LC | LC | P  | H | H | H | H | H |
| Chloropseidae     | <i>Chloropsis aurifrons</i> (Temminck, 1829) | Golden Fronted Leafbird      |   | LC | LC | P  | H | H | H | H | H |
| Laniidae          | <i>Lanius cristatus</i>                      | Brown Shrike                 |   |    |    | P  | H | H | H | H | H |
| Corvidae          | <i>Corvus splendens</i>                      | House Crow                   |   | LC | LC |    |   | H | H |   | H |
| Oriolidae         | <i>Oriolus xanthornus</i>                    | Black Hooded Oriole          |   | LC | LC | P  | H | H | H | H | H |
| Campephagidae     | <i>Coracina macei</i> (Lesson, 1831)         | Large Cuckooshrike           |   | LC | LC | P  | H | H | H | H | H |
| Campephagidae     | <i>Coracina melanoptera</i>                  | Black Headed Cuckooshrike    |   | LC | LC | P  | H | H | H | H | H |
| Campephagidae     | <i>Pitta brachyura</i>                       | Indian Pitta                 |   |    |    | P  | H | H | H | H | H |
| Campephagidae     | <i>Pericrocotus cinnamomeus</i>              | Small Minivet                |   | LC | LC | P  | H | H | H | H | H |
| Campephagidae     | <i>Pericrocotus flammeus</i>                 | Scarlet Minivet              |   | LC | LC | P  | X | X | H | H | H |
| Campephagidae     | <i>Hemipus picatus</i>                       | Bar Winged Flycatcher Shrike |   | LC | LC | P  | X | X | X | H | H |
| Rhipiduridae      | <i>Rhipidura aureola</i>                     | White Browed Fantail         |   | LC | LC | P  |   |   |   | H | H |
| Dicruridae        | <i>Dicrurus caeruleus</i>                    | White Bellied Drongo         |   | LC | LC | P  | X | H | H | X | X |
| Monarchiidae      | <i>Hypothymis azurea</i>                     | Black Naped Monarch          |   | LC | LC | P  | H | H | H | H | H |
| Monarchiidae      | <i>Terpsiphone paradisi</i>                  | Asian Paradise Flycatcher    |   | LC | LC | P  | H | H | H | H | H |
| Aegithinidae      | <i>Aegithina tiphia</i>                      | Common Iora                  |   | LC | LC | P  | H | H | H | X | H |
| Muscicapidae      | <i>Cyornis tickelliae</i>                    | Tickell's Blue Flycatcher    |   | LC | LC | P  | H | H | H | H | H |
| Muscicapidae      | <i>Copsychus saularis</i>                    | Oriental Magpie Robin        |   | LC | LC | P  | H | X | H | H | X |
| Muscicapidae      | <i>Saxicoloides fulicatus</i>                | Indian Robin                 |   | LC | LC | P  |   | H | H | H | H |
| Sturnidae         | <i>Acridotheres tristis</i>                  | Common Myna                  |   | LC | LC | P  |   | H | X | H | X |
| Sturnidae         | <i>Gracula religiosa</i> Linnaeus, 1758      | Hill Myna                    |   | LC | LC | P  | H | H | H | H | H |
| Sittidae          | <i>Sitta frontalis</i>                       | Velvet Fronted Nuthatch      |   | LC | LC | P  | H | H | H | H | H |
| Hirundinidae      | <i>Hirundo hypertyra</i>                     | Sri Lanka swallow            | * | LC |    | P  | X | X | H | H | X |
|                   | <i>Hirundo rustica</i>                       | Barn Swallow                 |   |    |    | P  | X | X | H | H | H |

Initial Environmental Examination Report

PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|               |  |                                |   |    |    |    |   |   |   |   |   |
|---------------|--|--------------------------------|---|----|----|----|---|---|---|---|---|
| Pycnonotidae  | <i>Pycnonotus melanicterus</i> (Gmelin, 1789) PE | Black Crested Bulbul           |   | LC | LC | P  | H | H | H | H | H |
| Pycnonotidae  | <i>Pycnonotus cafer</i>                          | Red Vented Bulbul              |   | LC | LC | P  | H | X | X | X | X |
| Pycnonotidae  | <i>Pycnonotus luteolus</i> (Lesson, 1841)        | White Browed Bulbul            |   | LC | LC | P  | H | H | H | H | H |
| Pycnonotidae  | <i>Iole indica</i>                               | Yellow Browed Bulbul           |   | LC | LC | P  | H | H | H | H | H |
| Pycnonotidae  | <i>Hypsipetes leucocephalus</i>                  | Asian Black Bulbul             |   | LC | LC | P  | H | H | H | H | H |
| Cisticolidae  | <i>Prinia socialis</i>                           | Ashy Prinia                    |   | LC | LC | P  |   | H |   |   | H |
| Zosteropidae  | <i>Zosterops ceylonensis</i> Holdsworth, 1872    | Sri Lanka White Eye            | * | NT | LC | P  | H | H | H | H |   |
| Zosteropidae  | <i>Zosterops palpebrosus</i>                     | Oriental White Eye             |   | LC | LC | P  | H | H | H | H | H |
| Sylviidae     | <i>Phylloscopus nitidus</i>                      | Green Warbler                  |   |    |    | P  | H | H | H | H | H |
| Sylviidae     | <i>Phylloscopus magnirostris</i>                 | Large-billed Leaf Warbler      |   |    |    | P  | H | H | H | H | H |
| Sylviidae     | <i>Orthotomus sutorius</i>                       | Common Tailorbird              |   | LC | LC | P  | H | H | H | H | H |
| Timaliidae    | <i>Pellorneum fuscicapillus</i>                  | Sri Lanka Brown Capped Babbler | * | LC | LC | SP | H | H | H | H |   |
| Timaliidae    | <i>Pomatorhinus melanurus</i>                    | Sri Lanka Scimitar Babbler     | * | LC | LC | P  | H | H | H | H |   |
| Timaliidae    | <i>Dumetia hyperythra</i>                        | Tawny Bellied Babbler          |   | LC | LC | P  |   | H | H | H | H |
| Timaliidae    | <i>Rhopocichla atriceps</i> (Jerdon, 1839)       | Dark Fronted Babbler           |   | LC | LC | P  | H | H | H | H | H |
| Timaliidae    | <i>Turdoides affinis</i>                         | Yellow Billed Babbler          |   | LC | LC | P  | H | X | H | H | X |
| Dicaeidae     | <i>Dicaeum erythrorhynchos</i>                   | Pale Billed Flowerpecker       |   | LC | LC | P  | X | X | H | H | X |
| Nectariniidae | <i>Nectarinia zeylonica</i>                      | Purple Rumped Sunbird          |   | LC | LC | P  | X | X | H | H | H |
| Nectariniidae | <i>Nectarinia asiatica</i> (Latham, 1790)        | Purple Sunbird                 |   | LC | LC | P  | H | H | H | H | H |
| Nectariniidae | <i>Nectarinia lotenia</i>                        | Long Billed Sunbird            |   | LC | LC | P  | H | H | H | H | H |
| Passeridae    | <i>Passer domesticus</i> (Linnaeus, 1758)        | House Sparrow                  |   | LC |    | P  |   | H |   |   | H |
| Motacillidae  | <i>Dendronanthus indicus</i>                     | Forest Wagtail                 |   |    |    | P  | H | H | H | H | H |
| Motacillidae  | <i>Montacilla cinerea</i>                        | Grey Wagtail                   |   |    |    | P  | X | X |   |   | X |
| Estrildidae   | <i>Lonchura striata</i>                          | White Rumped Munia             |   | LC | LC |    | H | X |   |   | H |
| Estrildidae   | <i>Lonchura punctulata</i>                       | Scaly Breasted Munia           |   | LC | LC |    | H | X |   |   | H |



## PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

Table.18 Mammals recorded during the study period

| Family           | Scientific Name                               | English name                  | Endemic | NCS | GCS | Protected | DAM TO UPPER AREA | DAM TO LOWER AREA | LOWER FOREST | TANNEL PATH | POWER HOUS |
|------------------|---|-------------------------------|---------|-----|-----|-----------|-------------------|-------------------|--------------|-------------|------------|
| Manidae          | <i>Manis crassicaudata</i>                    | Pangolin                      |         | NT  | NT  | SP        | P                 | P                 | P            | P           |            |
| Soricidae        | <i>Crocidura hikmiya</i>                      |                               | *       | CR  |     | P         | H                 | H                 | H            | H           |            |
| Hipposideridae   | <i>Hipposideros ater</i> Temleton, 1848       | Bicolored leaf-nosed bat      |         | LC  | LC  | P         | H                 | H                 | H            | H           | H          |
| Hipposideridae   | <i>Hipposideros fulvus</i> Gray, 1838         | Fulvous-leaf nosed bat        |         | EN  | LC  | P         | H                 | H                 | H            | H           | H          |
| Hipposideridae   | <i>Hipposideros galeritus</i> Cantor, 1846    | Dekhan leaf-nosed bat         |         | VU  | LC  | P         | H                 | H                 | H            | H           | H          |
| Hipposideridae   | <i>Hipposideros speoris</i> (Schneider, 1800) | Schneider's leaf-nosed bat    |         | LC  | LC  | P         | H                 | H                 | H            | H           | H          |
| Pteropodidae     | <i>Cynopterus sphinx</i>                      | Short-nosed fruit bat         |         | LC  | LC  | P         | H                 | H                 | H            | H           | H          |
| Pteropodidae     | <i>Pteropus giganteus</i>                     | Flying fox                    |         | LC  | LC  | P         | H                 | H                 | H            | H           | H          |
| Rhinolophidae    | <i>Rhinolophus rouxii</i> Temminck, 1835      | Rufous horse-shoe bat         |         | LC  | LC  | P         | H                 | H                 | H            | H           |            |
| Vespertilionidae | <i>Pipistrellus tenuis</i> (Temminck, 1840)   | Pigmy pipistrel               |         | LC  | LC  | P         | H                 | H                 | H            | H           | H          |
| Cercopithecidae  | <i>Macaca sinica</i>                          | Sri Lanka toque monkey        | *       | LC  | EN  |           | X                 | X                 | X            | H           | H          |
| Cercopithecidae  | <i>Semnopithecus vetulus</i>                  | Sri Lanka Purple-faced langur | *       | EN  | EN  | P         | P                 | P                 | P            | P           | P          |
| Lorisidae        | <i>Loris tardigradus</i>                      | Sri Lanka red slender loris   | *       | VU  | EN  | SP        | P                 | P                 | P            | P           |            |
| Felidae          | <i>Panthera pardus</i>                        | Leopard                       |         | EN  | NT  | SP        | P                 | P                 |              |             |            |
| Felidae          | <i>Prionailurus viverrinus</i>                | Fishing cat                   |         | EN  | EN  | SP        | P                 | P                 |              |             |            |
| Herpestidae      | <i>Herpestes brachyurus</i>                   | Brown mongoose                |         | LC  |     | P         | H                 | H                 | H            | H           | H          |
| Mustelidae       | <i>Lutra lutra</i>                            | Otter                         |         | VU  | NT  | SP        | X                 | X                 | P            | P           | P          |
| Viverridae       | <i>Paradoxurus hermaphoditus</i>              | Palm cat                      |         | LC  | LC  | P         | P                 | P                 | P            | P           | P          |
| Viverridae       | <i>Paradoxurus aureus</i> Cuvier, 1822        | Golden Palm Civet             | *       | EN  |     | P         | H                 | H                 | H            |             |            |
| Viverridae       | <i>Paradoxurus montanus</i> Kelaart, 1852     | Sri Lankan Brown Palm Civet   | *       | EN  |     | P         | H                 |                   |              |             |            |
| Viverridae       | <i>Viverricula indica</i>                     | Ring-tailed civet             |         | LC  | LC  | P         | P                 | P                 | P            | P           | P          |
| Cervidae         | <i>Rusa unicolor</i>                          | Sambur                        |         | NT  | VU  | SP        | P                 | P                 | P            | P           | P          |
| Cervidae         | <i>Muntiacus muntjak</i>                      | Barking deer                  |         | NT  |     | SP        | P                 | P                 | P            | P           | P          |
| Suidae           | <i>Sus scrofa</i>                             | Wild boar                     |         | LC  | LC  |           | P                 | P                 | P            | P           | P          |
| Tragulidae       | <i>Moschiola meminna</i>                      | Sri Lanka mouse-deer          | *       | LC  | LC  | P         | P                 | P                 | P            | P           | P          |

## PROPOSED UPPER KADURUGALDOLA MINI HYDROPOWER PROJECT

|             |   |   |   |    |    |   |   |   |   |   |   |
|-------------|---|---|---|----|----|---|---|---|---|---|---|
| Hystricidae | <i>Hystrix indica</i>                     | Porcupine                               |   | LC | LC |   | P | P | P | P | P |
| Muridae     | <i>Bandicota indica</i> (Bechstein, 1800) | Malabar bandicoot                       |   | LC | LC | P | P | P | P | P | P |
| Muridae     | <i>Madromys blanfordi</i> (Thomas, 1881)  | White-tailed rat                        |   | EN | LC | P | H | H | H | H | H |
| Muridae     | <i>Mus mayori</i> (Thomas, 1915)          | Sri Lanka spiny rat                     | * | EN | VU | P | H | H | H | H | H |
| Muridae     | <i>Rattus rattus</i> (Linnaeus, 1758)     | Common rat                              |   | LC |    |   | H | H | H | H | H |
| Sciuridae   | <i>Funambulus layardi</i> (Blyth, 1849)   | Sri Lanka flame-striped jungle squirrel | * | VU | VU | P | P | P | P | P | P |
| Sciuridae   | <i>Funambulus palmarum</i>                | Palm squirrel                           |   | LC | LC | P | H | H | H | H | H |
| Sciuridae   | <i>Ratufa macroura</i>                    | Giant squirrel                          |   | LC | NT | P | P | P | P | P | P |
| Leporidae   | <i>Lepus nigricollis</i>                  | Black-naped hare                        |   | LC | LC | P | P | P | P | P | P |

### Important findings from the biological survey

The Biological survey recorded rich faunal and floral community in the area (See tables x-xx for more details).

Flora: The investigation of flora in and around the project influencing zone showed the presence of some 313 species with 36 were Nationally threatened (18 species globally threatened) and 67 species were endemics. Details have been given in Table xx.

Among the Dragonfly fauna, *Drepanosticta sp.* was recorded in stream bank habitats. Which need to further identify as species level. Collectively *Drepanosticta* is very sensitive group of damselfly which only occurring in good forest habitats.

### 3.3 Social Environment

- Provide information about land use along the headrace channel/ penstock path and path of transmission line. It is necessary to provide current land use along with the information of land ownership/ tenure pattern of the lands.
- Significant land use changes (if any) due to the construction of the project should be mentioned.

- Description of the current land use pattern within the project area should be supported by a map preferably 1:10,000 scale
- River users (bathing, drinking, agricultural requirements, transportation, commercial purposes and other
- Income generation sources and patterns
- Existing environmental consideration ,problems or issues prevailing in the area
- Cultural and archaeological aspects/ considerations
- Existing infrastructure facilities, transportation, communication, power supply etc....

#### Land use and likely land use change:

The project influencing area is characterized by having several land use types in this rural landscape. They are briefly as follows.

- a. **Built-up lands** consisting of residential houses, a segment of C grade national road (bituminous road) and dilapidated minor road (macadamized).
- b. **Agricultural lands** consisting of tea plantation and home gardens.
- c. **Forested lands** consisting of varying tree canopy cover ranging between 90% and 30%.
- d. **Water areas**; primarily Kadurugaldola stream and the small marshy area close to the weir site.

**Table. 19** Lanuse types of the area

| Land use component                      | Location features   | Land ownership/tenure |
|---|---|-----------------------|
| Residential houses                      | Only three occupied houses are located in the immediate vicinity of the penstock line of initial 50m. | Private lands         |
| Segment of C grade national road.       | Close to the power house site crossing the transmission line path.                                    | Government lands      |
| Minor road – macadamized & dilapidated. | Close to upper segment of penstock line.  | Government lands      |
| Tea plantations                         | Around the first 100m upper segment of  | Private lands         |

|                                     |  |   |
|-------------------------------------|--|---|
|                                     | penstock line.   |   |
| Home gardens                        | In the immediate vicinity of the penstock line of initial 50m.   | Private lands   |
| Forested lands                      | Around the lower 100m segment of penstock line and the along the stream bank from wier site to power house site. | Stream bank forests are crown land government forest and the rests are private lands. |
| Water areas (Kadurugaldola stream). | Run across the entire project area.  | Government lands  |

#### Likely land use changes:

Minor road is likely to be better constructed/repared for material transport to the project site.

The 5m strip of land flanking the penstock line will be devoid of tea plantation in upper areas, and in the middle- lower areas of penstock, forest cover of that 5m linear zone will be reduced.

The riverside forest patch marked for the power house site and switch yard will be cleared.

Water area of the stream, within the water abstracted zone, will be reduced/narrowed along with occupation of weedy vegetation cover in that narrow belt receding zone of stream bank.

#### River use:

The local river use practices are only for subsistence level community use, and there is no large scale river use in this rural set up. Key river uses include;

- Micro hydropower generation: There is a small scale microhydropower facility is currently available for 3 households below the dam site.

- 
- Bathing & washing: There are three bathing spots within this specific stream segment have identified; 300m above the weir, 50m below the weir and 15m below the power house site. About 12-15 local people use the stream for such needs and other use pipe born water. Recent developments in small scale community water supply schemes to house holds has discouraged people coming to river for bathing and washing.
  - Community managed pipe born water supply: Stream water is tapped above the weir site and then directly supplied as pipe born water for house hold uses such as drinking, cooking, bathing, washing and occasional watering of home garden plants in dry season. Total number of dependents include 19 people.

**Income generation sources and patterns:**

Currently, there are three residential houses in the vicinity of the project and one house is in abandoned state. Altogether, the population is 19 in this project relevant small community (5 males and 9 females above 18 years and 5 children). Adult males are the main earners of the community while 7 adult females also earn some money irregularly through labour works. Two adult females work as migrant workers in middle east to support the family. Families live as extended family members.

Tea sector is the dominant source of income of the locality; people earn from their own small holder tea harvest and also by providing labour inputs to nearby tea cultivations. On average monthly net income of male member is about Rs. 18,000/= per worker per month, but there are seasonal variations due to climate, market fluctuations and personal reasons. In addition, people engage in off-the-village periodic additional income generating activities such as carpenters, day labourers in gem pitss/tea estates/rubber estates, small time businessmen and construction laboures in Colombo and close by cities or townships. Moreover, there is a hidden economy that is hardly expressed by the community and only some visible evidences are available. They include earning income through such clandestine activities as toddy making, collection of Wallapatta (wood of *Gyrinops walla* tree), small scale gem mining and timber extraction from crown lands. Goraka, which is an important spice, is collected from wild and sold.

**Current environmental issues:**

Over the years, the Kadurugaldola hamlet has experienced some forms of natural resource depletion and environmental degradation. These include soil erosion, depletion and

degradation of forest cover and water resources, decline in land fertility and productivity, loss of state lands due to encroachments and pollution caused by modified agricultural practices. The main social causes of environmental degradation and resources depletion are (1) emphasis on rural agri production enhancement by farmers, neglecting environment (2) high rate of poverty (3) low educational levels, and (4) lack of information and awareness on environmental issues.

Examination of social issues associated with environmental degradation shows that this has happened mainly because of the following:

- Communities are generally reluctant to carry out environmental management activities, preferring to support social infrastructure projects and economic activities whenever possible;
- Technical support for environmental management by communities is limited, and technical service agencies lack resources to operate effectively and widely, and external support services are not sufficiently strong enough to fill the development vacuum at the local level;
- Access to funds for environmental projects is limited. The funding agencies (GO & NGO) emphasizes for production and enterprises oriented projects;
- Local institutions are not well established to promote environmental management; and
- Environmental education and awareness levels are limited at community level, exacerbated by low educational levels and the limitations to environmental management information delivery systems.

At the site level the socio ecological issues include;

- Minor gem mining in Kadurugaldola which has been an unsustainable practice and that has damaged some points of river banks. The foot path used by people and their very presence in riverine forest given rise to some visible evidence of soil erosion and degradation of riverine habitats.
- Heavy use of agrochemical by tea cultivators in upland areas results in loading of such toxin in stream ecosystem through drainage canals.
- Timber and firewood extraction from riverine forests and upland forests. Already the riverine forests are confined to a narrow belt due to clearing of lands for agricultural activities. All such human actions put stress on natural river ecosystem.

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### **Socio-cultural aspects and infrastructure facilities**

As expressed earlier, the immediate community numbering 19 (3 house hold units) is living below poverty line receiving government aid through Samurdhi programme. People are tea cultivators of low income category tea small holders. All the people living there, who are confined to the upper part of the project area, are Buddhists and they are generally cut off from urban centers and have a different kind of lifestyle. In addition to Buddhism they follow various forms worships associated with local deities (Deviyos) in belief of protective roles. As expected in a rural setting, the area abounds with natural beauties; clear water streams, forests and the greenery of tea fields. The villagers pass a healthy and peaceful life. There is no smoke and noise as in towns; and they breathe fresh air. They lead a simple life and their desires are few. They manage tea their fields situated in the immediate vicinity. Apart from that direct selling of tea leaves they earn some money through labour works provided to others. It helps them to increase their meager income. None of them are employed as regular wage earners such as government servants. The community is socially bounded together. Their life is corporate and independent. They depend on each other for the supply of their daily wants. They always share the joys and sorrows of each other. They help each other in the time of need and they all combine as a single unit in times of troubles and obstacles. Their social sense is so strong that each one is familiar even with the family histories of the other one. But their life has some serious drawbacks. Their houses are inferior quality and people are less concerned about hygienic and orderly life style. However, people are not so 'ill-clad and ill fed' and have some limited assets like agricultural lands, jewelries, household electronic equipments, mobile phones etc. The community is less educated in general, but know at least to write their names. Bambarabotuwa village school some 3km away is the nearest educational establishment. People do not miss the schooling of younger children. Sometimes, their low level of education makes them superstitious and less progressive thinking. Majority of them are content with older methods of cultivation and mostly do not follow scientific methods. Rice is the staple food of these people and all are non-vegetarians. They do not have much food restrictions and eat bush meat if opportunity comes. Most of the male elders drink toddy, also they take bottled liquor. The community is connected to outside by a minor roads and foot paths. Minor road is only a jeep tract and is in a highly dilapidated state. There is no bus service plying through the settlement. Hence, the community is relatively isolated in the tea landscape. Houses can be approached along foot paths going through tea lands. Electricity is available for the houses from local level micro hydro power generation unit. Several private vehicles (tractors, three wheelers and tea transport tippers) are coming close to the settlement for transporting agricultural produce or attending the needs of businessmen, and people are used to hitch hiking in such vehicles to go to the main road. Private three wheels are hired as low cost vehicle, both for transporting people and agricultural produce. Majority of the elders owns mobile phones and there is no land lines supplied to the houses. Key civic amenities outside the project area and people have travel several kilometers for their needs; village hospital located at Gallella and Buddhist temple at Dehenakanda. Bambarabotuwa small township

is the area center having post office, Grama Nildari office, Divisional Secretarie's office, some grocery shops, shop for fertilizers and pesticides, buyers etc. The people depends on the main township of Ratnapura for their needs that are not available locally.

### **]Archeological aspects**

Careful observations and discussions with local people proved the absence of archeological resources in the project influencing area. Attention was paid to locate any place where physical remains (artifacts) of historical human activities exist; pre-historic human settlement like caves, chipped stone tools left by pre-historic hunters, rock art, cemeteries, stone monuments and remains of places of worship.