

Table STI-TI: Action identified to restore and conserve forests of the SFRL (with map)

An area of 500m can be used as a buffer around forests for livelihood development as beyond this area the link with the forest tends to wane around small forests of the wet zone.¹

Cluster	Forests in the cluster (Beat numbers obtained from the field are included for easy field identification)	Conservation needs (restoration /linking/ buffering)	Conservation efforts outside forests to link and buffer the forests
Delmalla – Yatagampitiya cluster	<ul style="list-style-type: none"> - Delmalla (Pahiyangala 36 and Niggaha 37) - Yatagampitiya(44) - Yatagampitiya-Abankanda(321) - Seek to include Waturana swamp forest into the cluster 	<p>This has originally been one unit during the NCR: as Delmalla-Yatagampitiya. Restoration, linking and buffering the 4 fragments is urgently needed.</p> <p>Due to the water project that receives water from the Delmalla forest, a Delmalla-Yatagampitiya National Biosphere Reserve encompassing the forest fragments and the town area that receives water as well as the archeological site (Fahien Gala cave) should be proposed.</p> <p>An area of 500m can be used as a buffer around forests.</p>	<p>Discussions should be held by field FD extension officers to promote home garden development as economically viable food forest gardens, with timber, fruit and shade living spices under them in the non-forest areas of the ecological clusters and at forest boundaries to buffer the forests and alleviate sharp edge effects. Other options are tea under shade which is being tested elsewhere and special teas from tea “trees” that fetch a special price and are also being tested elsewhere.</p>
Paragala cluster	<ul style="list-style-type: none"> - Paragala/Hallokaya (465) - Katuthiyambarawa/Naaulu uyana Mahapanwila (467) - Gendagala thalpatgala (463) - Gendagala (461) - Mawarakanda/Ayagama (308) - Hadunkanda (464) - No name (458) 	<p>This cluster has forests that are in about 7 fragments; the forest boundaries are severely convoluted. This creates edge effects that have to be addressed through participatory means (<i>action to be taken in lands outside forest boundaries- See ST-5</i>).</p>	<p>An area of 500m can be used as a buffer around forests¹ Correcting the edge effect in tea lands may need less width (3-5m) for other shade loving</p>

¹ As seen at Indikada Mukalana Forest where a participatory project is being established to maintain home garden buffers and linkages for forest fragments

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Neluketiya cluster (all are OSFs)	<p>Neluketiya Mukalana forest fragments:</p> <ul style="list-style-type: none"> - Neluketiya, Neluketiya mukalana, (86), Neluketiya Kahambiliya kanda and Neluketiya Mukalana (90)]-1 - [Neluketiya uduwan kanda (95,96)]-2 - [Neluketiya kotigal anda Navadangala (127)]-3 - [Neluketiya Kumburahena (103)]-4 - [Neluketiya heen panwla/Kumburahena (129), Neliketiya (128) - Neluketiya Wallakeliya (130)] -5 - [Neluketiya Dahaiyagala (101, 102)] -6 - [Neluketiya Dahaiyagala] -7 - [Neluketiya koshen kanda (87,88)]-9 - Neluketiya Liyangahakanda-92 - Neluketiya Halgahahena-93 <p>There are other fragments (<i>Pinus</i>) that may have originally been part of this forest (Neluketiya pandola, hora plantation, Neluketiya Bampara <i>Pinus</i>)</p>	<p>This extremely valuable forest (see section 7) is severely fragmented (12 patches) and appears to have lost considerable area since the mid 1990s. It needs to be restored, linked and buffered urgently. The natural forests may need passive restoration while areas that appear converted to forest plantations need active interventions to convert them to secondary natural forest, or at least to multi-species forest that supports biodiversity conservation as habitats for threatened species. It needs linking and buffering via home gardens and rubber (ST 5). There are some areas which appear to be forest plantations with dipterocarps and <i>Pinus</i> which can be restored into semi-natural forest.</p>	<p>crops which will have to be decided in consultation with the TSHA.</p> <p>RPC companies can provide markets for sale of spices through the FD in lieu of providing homegarden linkages and buffer areas for forests.</p> <p>This approach for encouraging economically attractive canopy cover with cash crops can also be applied to other areas of the landscape matrix that act as linkages for connectivity where feasible. This is already being implemented by other projects and agencies (in the SFRL) as mentioned in the recommendations section.</p> <p>As evicting owners of permitted land plots from OSFs is a long-drawn out process and may never happen; entering into agreements with the permit holders to transform their traditional tea holdings to economically feasible spice crops (could be in grow bags) under canopy trees could be considered.</p>
Kalugala-Hinidumakanda cluster * being checked	<ul style="list-style-type: none"> - Kalugala Forest Reserve (116 shrub*, 146, 147, 148, 149 150, 151, (to be re-gazetted) plus a plantation patch* - [Dabada kanda (117), Weerakanda in 2 patches (118), Gamekkanda as 	<p>The Kalugala forest has been severely fragmented at its southern periphery. The issue of private lands within this forest also needs addressing. As evicting the "owners" is a long-drawn out process and may never happen, entering into agreements with the permit holders for tea cultivations to be converted from traditional tea holdings to spice crops (in grow bags)</p>	<p>Discussions with rubber</p>

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	<p>2 patches (G1, G2), Navalakada (G3)]</p> <ul style="list-style-type: none"> - Bambarawana (193) - Yattapatha (Y1 NF, Y2 x2FP) - Kudumirishena CF (contains plantations and is in 2 parts (179,177) - Boralugoda FR (178, contains FP) - Visilahena (177, 179) contains O&S and FP) - Kalukota kanda (191) - Aauwegala kanda CF an FR (129, 192) - Madol Mukalana - Wanasirikanda- 2 parts - Haycock/Habarakada complex (198/134) 	<p>under canopy, tea under forest, or other livelihood benefit scheme in lieu of increasing tree cover in these plots should be considered.</p> <p>The other small forests in this cluster are isolated in a matrix of adverse land uses. Connecting and buffering them is vital via home gardens and rubber plantations using participatory methods.</p> <p>It is proposed that this cluster is managed as the Kalugala-Hinidumakanda National Biosphere Reserve.</p>	<p>plantation owners also show that with tangible benefits, they too can be involved in providing adequate linkages and buffers for small fragmented forests.</p> <p>As such, smallholders and MSGs that are abandoning their rubber lands due to labour and increased rainy days (with no latex tapping) can be provided PES for maintaining rubber lands for ecological reasons.</p>
Karawita cluster	<ul style="list-style-type: none"> - [Batakada shrub (312), Thoranakkotha kanda (315-O&S, 317 shrub), - Vihara kanda/Galauda kanda/Karawita (361)] - [Watawala (364)] - [2 Kiriella watte Pvt forests (needs to maintain this to link with Magurugoda)] - [Magurugoda (365 -373) connected to other forests with rubber] - [Karawita Kanda 668, 670 (surveyed by the NCR) and Pitakanda FP within the Karawita forest] - Katuwila-669 	<p>This cluster has 7 separated forest patches with convoluted boundaries.</p> <p>The same process as for the other non-forest matrices should be adopted to link and buffer these forests.</p> <p>More field work is needed to identify corridors to link these patches.</p> <p>Magurugoda can be connected to the other forests with rubber. It has dense forest as well as associated Plantation forest (PF) patches that can be restored and re-wilded.</p>	

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	<ul style="list-style-type: none"> - Malwala /Aludeniya (468, 667) 		
The Walankanda-Kudumiriya cluster	<p>Walankanda complex:</p> <ul style="list-style-type: none"> - Wewalkandura (678), Delwala, Walankanda (683), Rammalakanda (685), Pannila, Kabaragala patina (may contain LRC lands) (683), Nehitimukalana (685), which is now called Walankanda] <p>Handuwel kanda (703) consisting of 6 segments.</p> <p>Kudumiriya (area surveyed by NCR):</p> <ul style="list-style-type: none"> - Balawathukanda FP 4 patches (713), - Pitawaturawa FP- 704, 705 - Balawathukanda O&S, - Wathurawa parawinna DF (708), - Wathurawa waththehena DF(709), - Kudumiriya FP (710)] - [Kudumiriya Madurupalpola FP (711)] - [Horaketihena O&S (712)] - [Mudalige kanda DF, Yakgaha kanda DF Mudalige kanda FP (716), Thebugala shrub (717), Arukgoda O&S (719), Illukthenna O&S (719)] - Kudumiriya woodlot (715) - Nagaha athura DF (718) - Anakagulana DF (714) - Madampe (686) - Masimbula (518) 	<p>The Walankanda complex appears to be fairly well preserved, bar some private land plots in some of the forests, but there are LRC lands on its southern boundary which includes Kabaragala patina from NCR days.</p> <p>Handuwelkanda (#703) consists of 3 segments with O&S, FP and DF.</p> <p>The extremely valuable Kudumiriya forest surveyed during the NCR appears very fragmented and is separated from Handuwelkanda.</p> <p>In order to provide maximum conservation cover for these biodiversity rich forest patches, it is proposed that this cluster is managed as the Walankanda-Kudumiriya National Biosphere Reserve, with the high quality forests of the Walankanda complex, Kudumiriya, Madampe and Massimbula forming its core areas. Other forests can be designated Buffer Areas, while areas where people live could be designated Transition Zones provided the people agree and the FD can engage in participatory conservation efforts with them. This needs tangible benefits to people through sustainable agriculture, etc. that are provided conditionally in lieu of their cooperation for conservation. It is also necessary to ascertain connectivity of the forests with field checking which is now underway. For example, the FD field staff state that Kudumiriya is not as fragmented as appears in</p>	

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	<p>Forests cluster outside the Sinharaja buffer zone</p> <ul style="list-style-type: none"> - Katukithularawa (674) - Ingalpottha DF (675) - Pitigala kanda DF (676) - Warathalgoda kithulathura DF (688) - Dulgoda-Ellawella (689)-3 patches - Gorangala (Delgoda) (689) - Kokkawita Dunhena shrub (690) - Kobahadukanda - Delgoda East (691) - Puhulalpola FP (692) - Puhulalpola DF (693), FP -2 patches, Wewagama Nindagama (Pvt) O&S (694), Suduwelipotha FP (695) 2- patches, Galagalamuwa Pinus (724,725) - Kosgulana FP (728), - Pelawatte FP and DF (729,730) - Annakkagala DF (739) - Wellahena bandipanawa Pinus FP (741) - Beragala forest FP 	<p>Google maps.</p> <p>Madampe is close to the Walankanda complex and could easily be connected to it. Massimbula is further off and a corridor will have to be investigated and established to maintain connectivity.</p> <p>Also Puhulalpola DF (693), FP (692), Delgoda East DF (691), Kokkawita Dunhena shrub (690), Gorangala (now called Gonalakanda and Delgoda-Ellawella 689) may be more closely connected.</p> <p><i>The existing connectivity and possibilities for new linkages and corridors will emerge at the FD field workshop planned in the near future as a recommendation of the SFR-LMP.</i></p>	
Individual forests are difficult to link to the main clusters but need	<p>Ratnapura range</p> <ul style="list-style-type: none"> - Dambuluwana FR – 3 segments (DF and FP 328, 331, 332) - Yakadagala (326) 	Dambuluwana FR – 3 segments (Needs to be restored and the segments linked and buffered to ensure connectivity)	

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<p>special conservation measures. While they seem very isolated, buffering them and linking them to other forests using rubber, stream reservations, gallery forests or other should be explored.</p>	<ul style="list-style-type: none"> - Muwagankanda CF (339, 347)-4 segments- contains DF and FP. This is being field checked <p>Rakwana range</p> <ul style="list-style-type: none"> - Kiribathgala OSF (DF, 434,484) - Iharakanda FR (509) <p>Ingiriya Range</p> <ul style="list-style-type: none"> - Thunkadulla Kanda CF (DF, 49) - Kudaganga (46) <p>Neluwa /Deniyaya Ranges</p> <ul style="list-style-type: none"> - Kalubowitiyana CF/FR (DF, 224) 	<p>Muwagankanda CF (Needs to be restored and the segments linked and buffered to ensure connectivity)</p> <p>Kiribathgala OSF should be converted to a FR and issues pertaining to land plots in the forest should be dealt with. <i>See recommendations for Kalugala FR.</i></p> <p>All forests need a conceptual BZ of 500m from forest boundaries for which participatory conservation methods can be used. Further declaring Environmentally Sensitive Areas around these forests should also be considered with due discussion and considering the results of the ESA project of the MoE. Kudaganga (?) – buffered by rubber. Needs re-gazeting and restoration due to its hydrological importance.</p> <p>Kalubowitiyana CF/FR: The entire forest should be converted to CF status and a buffer zone should be established around the forest as feasible. Potential for linking it to the Sinharaja Complex should be explored.</p>	
<p>Isolated small forests in the Kolonna Forest range</p>	<ul style="list-style-type: none"> - Kurulugala DF (522) (LRC) and Pinus (FD) (756); - Rangovikanda Pinus (FD, 525); - Kurulugala O&S LRC owned (524); - Mahagama FP (PVT, 762, 527); - Mahausakanda FP (FD, 761); - [Mahagama (FP/pvt 764, 465); Mahagama FP/pvt (767); Kirindiminna Plantation FP, FD owned (768). 	<p>Establish forest corridor to link the forest patches in this forest range</p> <p>Identify management goals for these forests and identify collaboration with private sector for forest plantation enrichment into multi-species, multi-purpose forests</p>	
<p>former Kumburugamuwa</p>	<ul style="list-style-type: none"> - Malgasthura FP, FD owned (530/763); - Naathura O&S FD owned (766); 	<p>Work out a restoration and re-wilding programme to establish natural forest with expert advice to re-establish hydrological features of value. Link to forest</p>	

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	<ul style="list-style-type: none"> - Madathura FR/FD owned (530)- 2 patches 	corridor to be established.	
The Sinharaja Biosphere Reserve	<p>Forests in</p> <ul style="list-style-type: none"> - Core Area: Sinharaja NHWA. - Buffer zone: Morapitiya - Runakanda (part only)*, Tibboruwakota, Horakanthelya, Delgoda CF, Dellawa, Dombagoda (part only), Gongala, Kabaragala, Handapanella, Beragala (?), Silverkanda, Sooriyakanda, Hapugoda, Wellahena, Bandipanawa Pinus plantation, Rajuwangala, Miyanapalawa pinus, Gamage paththa Pinus, Suduwelipotha Pinus, Part of Warathalgoda Kithulathara, in which is Nawalakanda). 	<p>The BZ needs to be expanded to cover the entire Morapitiya-Runakanda reserve as well as the entirety of Dellawa-Dombagoda, and the <i>Suduwelipotha pinus</i> plantation.</p> <p>TZ: GN divisions of Kudawa, Kosmulla, Thambalagama, Warukandeniya, Lankagama, Keeriweldola, Keeriwelgama, Kandilpana, Viharahena, Ullinduwawa (only some sections of these GN divisions are in the TZ)</p> <p>The Transition Zone needs to be expanded. There is possibility of incorporating several tea plantations on the eastern boundary of Sinharaja to be part of the TZ. (See recommendations in this report).</p> <p>Acquisition of parts of Handapanella that are LRC as well as Gongala and Sooriyakanda forests which appear to be wholly LRC owned are addressed in recommendations of ST-I.</p>	<p>Buffer zone expansion needs to be justified and presented to the UNESCO Biosphere Reserve Committee, either before or during the 2023 periodic review.</p> <p>Increasing the TZ needs the concurrence of people living in it. Legal implications of getting private plantation owners involved in being part of the BZ should clarified as a priority action.</p>

