

The presence of good vegetation in the area is an indication that it is still intact with preserved endemic and indigenous flora species. An example for this was the presence of the rare plants like *Microrhophium elmerianum* Regalado & Soejarto with Synonym name *Microrhophium palawanense* Elm. belonging to the Family Gentianaceae and the *Nervillia* sp. (with heart shaped leaf) belonging to the Family Orchidaceae which were identified by Merrill (1923) and revised by Regalado and Soejarto (1995). These plants are common component of ultramafic type of vegetation; hence, its habitat which is still intact and spared from destruction by the community residing near the sites assessed.

D. LOWER VASCULAR PLANTS

In Table 12, the understorey vegetation categorized under lower vascular plants include the ferns and fern allies having a total of 4 families such as Aspleniaceae, Polypodiaceae, Selaginellaceae, and Sinopteridaceae with 6 species at 4 different genera to include *Asplenium*, *Drynaria*, *Pyrrosia*, *Selaginella*, and *Adiantum*. These plants are important for they moisturize trees and the ground for the other plants to absorb water during dry seasons. Family Polypodiaceae had 3 species identified while Aspleniaceae, Selaginellaceae, and Sinopteridaceae had only one species each.

Table 12. Ferns and fern allies.

No.	Family	Scientific Name
1	Aspleniaceae	<i>Asplenium nidus</i> (Pakpak Lawin)
2	Polypodiaceae	a.) <i>Drynaria quercifolia</i> b.) <i>Pyrrosia adnascens</i> c.) <i>Pyrossia piloselloides</i> (Pagong pagongan)
3	Selaginellaceae	<i>Selaginella biformis</i>
4	Sinopteridaceae	<i>Adiantum philippense</i>

E. IMPORTANCE VALUE

1. Sampling site 1A - Ibelnan

Table 13 presents the importance value of the tree species found at sampling area 1A - Ibelnan. Among the composition of 25 different tree species encountered that comprise a total of 89 tree individuals counted within the sampling area, reveals that *C. rumphiana*, locally known as Mount Agoho had the highest computed importance value of 80.59% followed by *Licania splendens* locally called Amayan having 29.66%. Other species encountered with importance value ranging from 3.16% - 21.67% are *X. speciosus*, *T. arboreus*, *P. connarifolium*, *E. didyma*, *Drypetes* sp., *T. villariana*, *A. ahernianum*, *C. blancoi*, *P. foxworthyii*, *C. dicocum*, *A. macrophylla*, *B. palustris*, *C. pentapetalum*, *M. bornensis*, and *P. luzoniensis*. On the other hand, *P. pentandrum* locally known as Mamalis had the lowest computed important value of 2.75%.

2. Sampling site 2 - Kinurong Siltation Pond

The importance value for all species found at Sampling Site 2 is presented in **Table 14**. There are 28 different species of trees identified with a total of 96 tree individuals recorded within the sampling site. The exotic species *S. macrophylla* commonly known as Mahogany has obtained the highest importance value of 79.78%. This was followed by *C. formosum* more particularly known as Salinggogon with importance value of 42.12% while *A. blancoi* locally known as Antipolo had 33.54%. Other species of trees encountered such as *C. bartramia*, *E. cumingii*, *C. Asperum*, *A. Auriculiformis*, *G. arborea*, *A. ahernianum*, *L. splendens*, *M. tanarius*, *C. dicoccum*, *V. pubescens*, *A. auriculiformis*, *C. samarensis*, *P. luzonensis*, *P. nodosa*, *Ficus sp.*, *F. fragrans*, *I. bijuga*, *V. pubescens*, *N. vidalli*, *M. creaghii*, *Diospyrus sp.*, *C. blancoi*, *C. Luzoniensis* and *S. aqueum* had obtained lower important values ranging from 2.53% -23.33%.

3. Sampling area 4 - Magas-Magas

As shown in **Table 15**, *E. didyma* commonly known as Alupag had the highest computed importance value of 41.56%, followed by *E. cumingii* locally known as Hunggo and Palinlin had 37.18% and 24.04% importance value, respectively. The rest of the 19 species such as *O. ramiflorus*, *M. corymbosa*, *P. luzonensis*, *C. dicoccum*, *A. ahernianum*, *T. villariana*, *Mimosa sp.*, *Syzygium sp.*, *P. nodosa*, *P. connarifolium*, *G. paniculata*, *E. longifolia*, *S. aqueum*, and *C. blancoi* has an importance value range of 19.26 to 4.83%. and 5 scientifically unidentified local species namely Salingkugi, Balinto, Maglunawan, Marangkukutan and Sinamoman had importance value of 16.13%, 11.89%, 15.78%, 6.47% and 5.72 respectively. The *C. blancoi* species which is commonly known as Bitanghol had the lowest with 4.83%

4. Sampling Area 5 - Mt. Bulanjao

Table 16 presents the importance value of 34 different species of trees encountered in sampling site 5 – Mt. Bulanjao area. Data revealed that *X. speciosus* known as Palawan Mangkono belonging to family Myrtaceae had the highest value of 85.14 % followed by *Syzygium sp.* also known as Wild Tambis had importance values of 28.39 %. Other existing species of trees identified in the sampling area such as *D. Luzoniensis*, *P. connarifolium*, *G. rumphianum*, *A. ahernianum*, *C. pentapetalum*, *T. arboreus*, *A. macrophylla*, *S. foxworthyi*, *A. saponaria*, *L. splendens*, *E. cumingii*, *Palaquim luzonensis*, *C. blancoi*, *B. arborescens*, *E. longifolia*, *M. creaghii*, *A. scholaris*, *Garcinia sp.*, *F. Bataanensis*, *A. penduculat*, *A. clypearia*, *C. discolor*, *T. villariana*, *M. borneensis*, *C. mercadoi*, *B. Microphylla*, *P. luzoniensis*, *Mimosa sp.*, *P. micrantha*, and *P. Odorata* and three (3) scientifically unidentified local species of Maglunawan, Talilisan and Magpango had importance value ranging from 19.88% to 0.90%.

5. Sampling site 8 - TSF 3

Table 17 shows the importance value of 15 species of trees which belong to 12 families were encountered with corresponding 41 individuals recorded within the sampling area. An indigenous tree species named *C. formosum* with common name Salinggogon had the highest importance value 57.96% followed by *L. splendens* locally known as Amayan, *V. parviflora* commonly known as Molave, *A. macrophylla* also known as Batino and *G. coronulatum* or Kakaua with 37.87%, 35.47%, 34.98%, and 34.66

respectively. Other species such as *O. ramiflorus*, *B. arborescens*, *G. benthamii*, *E. cumingii*, *B. microphylla*, and *F. fragrans* Roxb. had importance value ranged from 7.13% to 22.66%. On the contrary, Marangkukutan *C. pentapetalum*, *A. squamulosa* and *P. depauperata*, have values ranged from 6.48% to 6.80% which are the lowest.

6. Importance Value Summary for All Sampling Sites

Table 18 summarizes all the tree species encountered in five (5) assigned sampling sites (sampling site 1, sampling site 2, sampling site 4, sampling site 5 and, sampling site 8 TSF 3) which have recorded a total of 546 tree individuals from 70 different tree species encountered. All tree individuals recorded from 5 sampling sites are the main variable in estimating the Relative Density, Relative Dominance and Relative Frequency and the sum of these three indicators in the composition of forest vegetation was derived the species Importance Value. *X. speciosus* commonly known as Palawan Mangkono is the most dominant tree species with recorded importance value of 47.27 % followed by *G. rumphianum* particularly known as Mountain Agohe had obtained 23.14% while *Syzygium* sp., *S. macrophylla*, *P. connarifolium*, *D. Luzoniensis*, *L. splendens*, *A. ahernianum*, *C. formosum*, *E. cumingii*, *A. macrophylla* had an importance value ranging from 15.7% to 10.02 %. The rest of the remaining 57% of the sampling sites have an importance value ranging from 0.50% to 7.29%.

Table 13. Importance value for sampling site - 1A Ibelnan.

No.	Scientific Name	Common/Local Name	No. of Individuals	Relative Dominance %	Relative Density %	Relative Frequency %	Imptce. Value %
1	<i>Gymnostoma rhumpianum</i>	Mt. Agoho	23	28.91	25.84	25.84	80.59
2	<i>Licania splendens</i>	Amayan	9	9.43	10.11	10.11	29.66
3	<i>Xanthostemon speciosus</i>	Palawan Mangkono	6	14.10	6.74	6.74	27.58
4	<i>Timonius arboreus</i>	Mabalod	7	4.87	7.87	7.87	20.60
5	<i>Protium connarifolium</i>	Marangub	6	5.78	6.74	6.74	19.26
6	<i>Dillenia luzoniensis</i>	Malakatmon	5	3.96	5.62	5.62	15.19
7	<i>Talauma villariana</i>	Patangis	5	3.35	5.62	5.62	14.58
8	<i>Drypetes sp.</i>	Ranta Ranta	4	3.45	4.49	4.49	12.44
9	<i>Euphoria didyma</i>	Alupag	3	4.46	3.37	3.37	11.20
10	<i>Calophyllum blancoi</i>	Palomaria/Bitanghol	2	3.85	2.25	2.25	8.35
11	<i>Arthrophyllum ahernianum</i>	Dokloi	2	2.43	2.25	2.25	6.93
12	<i>Diospyrus sp.</i>	Tandikan	2	1.62	2.25	2.25	6.12
13	<i>Canthium dicoccum</i>	Malakape	2	1.32	2.25	2.25	5.81
14	<i>Magnolia grandiflora</i>	Magnolia	2	1.21	2.25	2.25	5.70
15	<i>Planchonella foxworthyii</i>	Alalud	1	2.33	1.12	1.12	4.58
16		Masok Masok	1	1.42	1.12	1.12	3.67
17	<i>Alstonia macrophylla</i>	Batino/kurayan	1	1.12	1.12	1.12	3.36
18	<i>Brakenridgea palustris</i>	Brakenridgea	1	1.01	1.12	1.12	3.26
19	<i>Magnolia borneensis</i>	Maglandak/Palawan Patangis	1	0.91	1.12	1.12	3.16
20	<i>Calophyllum pentapetalum</i>	Pamitoyen	1	0.91	1.12	1.12	3.16
21	<i>Psychotria luzoniensis</i>	Tagpong gubat/Suwakaw	1	0.91	1.12	1.12	3.16
22	<i>Rothmania merilii</i>	Bagaay	1	0.71	1.12	1.12	2.96

Table 13 continued...

No.	Scientific Name	Common/Local Name	No. of Individuals	Relative Dominance %	Relative Density %	Relative Frequency %	Imppte. Value %
23	<i>Diospyrus philosanthera</i>	Kanomay/bolong-eta	1	0.71	1.12	1.12	2.96
24	<i>Dillenia monantha</i>	Katmon Bugtong	1	0.71	1.12	1.12	2.96
25	<i>Pittosporum pentandrum</i>	Mamalis	1	0.51	1.12	1.12	2.75
Total			89	100.00	100.00	100.00	300.00

Table 14. Importance value for sampling site 2 Kinurong Siltation Pond.

No.	Scientific Name	Common/Local Name	No. of Individuals	Relative Dominance %	Relative Density %	Relative Frequency %	Imppte. Value %
1	<i>Swietenia macrophylla</i>	Mahogany	26	25.61	27.08	27.08	79.78
2	<i>Cratoxylum formosum</i>	Salingogon	14	12.98	14.58	14.58	42.15
3	<i>Artocarpus blancoi</i>	Antipolo	9	14.79	9.38	9.38	33.54
4	<i>Alstonia macrophylla</i>	Batino/kurayan	7	8.75	7.29	7.29	23.33
5	<i>Commersonia bartramia</i>	Kakaag	5	5.32	5.21	5.21	15.74
6	<i>Eleaocarpus cumingii</i>	Katap/Pasi pasi/Hunggo	3	5.77	3.13	3.13	12.02
7	<i>Acacia Auriculiformis</i>	Japanese Acacia	2	3.43	2.08	2.08	7.59
8	<i>Canarium Asperum</i>	Sahing/Pagsahingin	4	2.98	4.17	4.17	11.31
9	<i>Gmelina arborea</i>	Gmelina/Yemane	2	2.07	2.08	2.08	6.24
10	<i>Arthrophyllum ahernianum</i>	Dokloi	3	2.43	3.13	3.13	8.68
11	<i>Licania splendens</i>	Amayan	3	2.07	3.13	3.13	8.32
12	<i>Canthium dicoccum</i>	Malakape	1	1.44	1.04	1.04	3.53
13	<i>Macaranga tanarius</i>	Binunga	1	1.44	1.04	1.04	3.53

Table 14 continued...

No.	Scientific Name	Common/Local Name	No. of Individuals	Relative Dominance %	Relative Density %	Relative Frequency %	Imptce. Value %
15	<i>Albizia Saponaria</i>	Salingkugi	2	0.99	2.08	2.08	5.16
16	<i>Pittosporum pentandrum</i>	Mamalis	1	0.90	1.04	1.04	2.99
17	<i>Palaquim luzonensis</i>	Aripa/Nato	1	0.81	1.04	1.04	2.89
18	<i>Polyscias nodosa</i>	Malapapaya	1	0.81	1.04	1.04	2.89
19	<i>Ficus sp.</i>	Ficus ulmifolia	1	0.72	1.04	1.04	2.80
20	<i>Fagraea fragrans</i>	Dulo/dolo	1	0.68	1.04	1.04	2.76
21	<i>Diospyrus sp.</i>	Tandikan	1	0.63	1.04	1.04	2.71
22	<i>Intsia bijuga</i>	Ipil	1	0.63	1.04	1.04	2.71
23	<i>Mezzettiopsis creaghii</i>	Tabingalan	1	0.63	1.04	1.04	2.71
24	<i>Neolitea vidalli</i>	Puso Puso	1	0.63	1.04	1.04	2.71
25	<i>Vitex pubescens</i>	Molawin mabuhok	1	0.63	1.04	1.04	2.71
26	<i>Calophyllum blancoi</i>	Palomaria/Bitanghol	1	0.59	1.04	1.04	2.67
27	<i>Psychotria luzoniensis</i>	Tagpong Gubat/Suwakaw	1	0.45	1.04	1.04	2.53
28	<i>Syzygium aqueum</i>	Tambis	1	0.45	1.04	1.04	2.53
Total			96	100.00	100.00	100.00	300.00

Table 15. Importance value for sampling site 4 Magas-Magas.

No.	Scientific Name	Local Name	No. of Individuals	Relative Dominance %	Relative Density %	Relative Frequency %	Imptce. Value %
1	<i>Euphoria didyma</i>	Alupag	7	12.99	14.29	14.29	41.56
2	<i>Eleaocarpus cumingii</i>	Katap/Pasi pasi/Hunggo	6	12.69	12.24	12.24	37.18
3	<i>Buchannania microphylla</i>	Bokanana/Palinlin	3	11.79	6.12	6.12	24.04
4	<i>Ochrocarpus ramiflorus</i>	Bitok	3	7.02	6.12	6.12	19.26
5	<i>Maranthes corymbosa</i>	Liusin	1	5.97	2.04	2.04	10.05

Table 15. continued...

No.	Scientific Name	Local Name	No. of Individuals	Relative Dominance %	Relative Density %	Relative Frequency %	Imptce. Value %
6	<i>Palaquim luzonensis</i>	Aripa/Nato	3	5.37	6.12	6.12	17.62
7	<i>Albizia Saponaria</i>	Salingkugi	3	3.88	6.12	6.12	16.13
8	<i>Canthium dicoccum</i>	Malakape	2	5.07	4.08	4.08	13.24
9		Maglunawan	2	7.61	4.08	4.08	15.78
10		Balinto	2	3.73	4.08	4.08	11.89
11	<i>Arthrophyllum ahernianum</i>	Dokloi	2	2.98	4.08	4.08	11.15
12	<i>Talauma villariana</i>	Patangis	2	2.84	4.08	4.08	11.00
13	<i>Mimosa sp.</i>	Diklay	2	2.84	4.08	4.08	11.00
14	<i>Syzygium sp.</i>	Wild Tambis	3	3.13	6.12	6.12	15.38
15	<i>Polyscias nodosa</i>	Malapapaya	1	1.94	2.04	2.04	6.02
16	<i>Achronesia pedunculata</i>	Marangkukutan	1	2.39	2.04	2.04	6.47
17	<i>Protium connarifolium</i>	Marangub	1	2.39	2.04	2.04	6.47
18	<i>Cinnamomum mercadoi</i>	Sinamoman/ Kalingag	1	1.64	2.04	2.04	5.72
19	<i>Gymnacranthera paniculata</i>	Anuping	1	1.19	2.04	2.04	5.28
20	<i>Eurycoma longifolia</i>	Linatog/Tonkat Ali	1	0.90	2.04	2.04	4.98
21	<i>Syzygium aqueum</i>	Tambis	1	0.90	2.04	2.04	4.98
22	<i>Calophyllum blancoi</i>	Palomaria/Bitanghol	1	0.75	2.04	2.04	4.83
Total			49	100.00	100.00	100.00	300.00

Table 16. Importance value for sampling site 5 Mt. Bulanjao

No.	Scientific Name	Local Name	No. of Individuals	Relative Dominance %	Relative Density %	Relative Frequency %	Impptce. Value %
1	<i>Xanthostemon speciosus</i>	Palawan Mangkono	78	27.58	28.78	28.78	85.14
2	<i>Syzygium sp.</i>	Wild Tambis	26	9.20	9.59	9.59	28.39
3	<i>Dillenia Luzoniensis</i>	Malakatmon	19	5.86	7.01	7.01	19.88
4	<i>Protium connarifolium</i>	Marangub	19	5.75	7.01	7.01	19.77
5	<i>Gymnostoma rumphianum</i>	Mt. Agoho	15	8.58	5.54	5.54	19.65
6	<i>Arthrophyllum ahernianum</i>	Dokloi	15	4.38	5.54	5.54	15.45
7	<i>Calophyllum pentapetalum</i>	Pamitoyen	11	4.43	4.06	4.06	12.55
8	<i>Licania splendens</i>	Amayan	11	2.67	4.06	4.06	10.79
9	<i>Timonius arboreus</i>	Mabalod	10	2.65	3.69	3.69	10.03
10		Maglunawan	6	5.02	2.21	2.21	9.45
11	<i>Calophyllum blancoi</i>	Palomaria/Bitanghol	6	3.33	2.21	2.21	7.75
12	<i>Eleaocarpus cumingii</i>	Katap/Pasi pasi/Hunggo	7	2.37	2.58	2.58	7.54
13	<i>Alstonia macrophylla</i>	Batino/kurayan	4	2.75	1.48	1.48	5.70
14	<i>Swintonia foxworthyi</i>	Apitong babui/Rimaraw	4	1.84	1.48	1.48	4.80
15		Talilisan	3	2.07	1.11	1.11	4.29
16	<i>Albizia saponaria</i>	Salingkugi	4	1.22	1.48	1.48	4.17
17	<i>Buchanania arborescens</i>	Balinghasai	4	1.02	1.48	1.48	3.97
18	<i>Eurycoma longifolia</i>	Linatog/Tonkat Ali	3	0.72	1.11	1.11	2.94
19	<i>Mezzettiopsis creaghii</i>	Tabingalang	3	0.56	1.11	1.11	2.77
20	<i>Ficus bataanensis</i>	Bataan Fig	2	0.79	0.74	0.74	2.27
21	<i>Achronesia pedunculata</i>	Marangkukutan	2	0.69	0.74	0.74	2.17
22	<i>Achidendron clypearia</i>	Tiagkot	2	0.59	0.74	0.74	2.07
23	<i>Colona discolor</i>	Magbanotan	2	0.59	0.74	0.74	2.07
24	<i>Buchannania microphylla</i>	Bokanana/Palinlin	4	0.99	1.48	1.48	3.94
25	<i>Garcinia sp.</i>	Malatambis	2	0.53	0.74	0.74	2.00

Table 16 continued...

No.	Scientific Name	Local Name	No. of Individuals	Relative Dominance %	Relative Density %	Relative Frequency %	Imptce. Value %
26	<i>Palaquim luzonensis</i>	Aripa/Nato	1	1.25	0.37	0.37	1.99
27	<i>Alstonia scholaris</i>	Dita	1	0.53	0.37	0.37	1.26
28	<i>Talauma villariana</i>	Patangis	1	0.43	0.37	0.37	1.17
29	<i>Magnolia borneensis</i>	Maglandak/Palawan Patangis	1	0.36	0.37	0.37	1.10
30	<i>Cinnamomum mercadoi</i>	Sinamoman/Kalingag	1	0.36	0.37	0.37	1.10
31		Magpango	1	0.26	0.37	0.37	1.00
32	<i>Mimosa sp.</i>	Diklay	1	0.23	0.37	0.37	0.97
33	<i>Pouteria micrantha</i>	Marapasi	1	0.23	0.37	0.37	0.97
34	<i>Premna depauperata</i>	Alagau	1	0.16	0.37	0.37	0.90
Total			271	100.00	100.00	100.00	300.00

Table 17. Importance value for sampling site 8 TSF 3.

No.	Scientific Name	Common/Local Name	No. of Individuals	Relative Dominance	Relative Density	Relative Frequency	Imptce. Value
				%	%	%	%
1	<i>Cratoxylum formosum</i>	Salinggogon	8	18.94	19.51	19.51	57.96
2	<i>Licania splendens</i>	Amayan	5	13.48	12.20	12.20	37.87
3	<i>Vitex parviflora</i>	Molave/Mulawin	5	11.08	12.20	12.20	35.47
4	<i>Alstonia macrophylla</i>	Batino/kurayan	5	10.59	12.20	12.20	34.98
5	<i>Glochidion coronulatum</i>	Kakaua	5	10.27	12.20	12.20	34.66
6	<i>Ochrocarpus ramiflorus</i>	Bitok	3	8.03	7.32	7.32	22.66
7	<i>Buchanania arborescens</i>	Balinghasai	2	7.70	4.88	4.88	17.46
8	<i>Garcinia benthami</i>	Bunog	1	3.53	2.44	2.44	8.41
9	<i>Eleaocarpus cumingii</i>	Katap/Pasi pasi/Hunggo	1	3.53	2.44	2.44	8.41
10	<i>Buchannania microphylla</i>	Palinin	8	18.94	19.51	19.51	57.96

Table 17. continued...

No.	Scientific Name	Common/Local Name	No. of Individuals	Relative Dominance	Relative Density	Relative Frequency	Imptce. Value
				%	%	%	%
11	<i>Fagraea fragrans</i> Roxb.	Dulo/Dolo	1	2.25	2.44	2.44	7.13
12	<i>Achronesia pedunculata</i>	Marangkukutan	1	1.93	2.44	2.44	6.80
13	<i>Callophylum pentapetalum</i>	Pamitoyen	1	1.93	2.44	2.44	6.80
14	<i>Psychotria luzoniensis</i>	Tagpong Gubat	1	1.93	2.44	2.44	6.80
15	<i>Premna depauperata</i>	Alagau	1	1.61	2.44	2.44	6.48
Total			41	100.00	100.00	100.00	300.00

Table 18. Summary of importance values of all sampling sites

No.	Scientific Name	Local Name	No. of Individuals	Relative Dominance	Relative Density	Relative Frequency	Imptce. Value
				%	%	%	%
1	<i>Xanthostemon speciosus</i>	Palawan Mangkono	82	16.27	15.02	15.02	46.30
2	<i>Gymnostoma rumphianum</i>	Mt. Agoho	38	9.22	6.96	6.96	23.14
3	<i>Syzygium</i> sp.	Wild Tambis	29	5.08	5.31	5.31	15.70
4	<i>Swietenia macrophylla</i>	Mahogany	26	4.80	4.76	4.76	14.32
5	<i>Protium connarifolium</i>	Marangub	26	4.18	4.76	4.76	13.71
6	<i>Dillenia luzoniensis</i>	Malakatmon	24	3.67	4.40	4.40	12.46
7	<i>Licania splendens</i>	Amayan	28	1.91	5.13	5.13	12.17
8	<i>Arthrophyllum ahernianum</i>	Dokloi	22	3.45	4.03	4.03	11.51
9	<i>Cratoxylum formosum</i>	Salinggogon	22	3.43	4.03	4.03	11.49
10	<i>Eleaocarpus cumingii</i>	Katap/Pasi pasi/Pasi/Hunggo	17	3.92	3.11	3.11	10.15
11	<i>Alstonia macrophylla</i>	Batino/batinong gubat/kurayan	17	3.79	3.11	3.11	10.02
12	<i>Timonius arboreus</i>	Mabalod	17	2.17	3.11	3.11	8.40
13	<i>Callophylum pentapetalum</i>	Pamitoyen	13	2.53	2.38	2.38	7.29

Table 18 continued...

No.	Scientific Name	Local Name	No. of Individuals	Relative Dominance %	Relative Density %	Relative Frequency %	Imppte. Value %
14		Maglonawan	8	3.44	1.47	1.47	6.37
15	<i>Calophyllum blancoi</i>	Palomaria/Bitanghol	10	2.54	1.83	1.83	6.21
16	<i>Artocarpus blancoi</i>	Antipolo	9	2.77	1.65	1.65	6.07
17	<i>Euphoria didyma</i>	Alupag	10	1.15	1.83	1.83	4.81
18	<i>Albizia saponaria</i>	Salingkugi	9	1.25	1.65	1.65	4.55
19	<i>Talauma villariana</i>	Patangis	8	1.10	1.47	1.47	4.03
20	<i>Buchanania microphylla</i>	Palinin	6	1.81	1.10	1.10	4.01
21	<i>Ochrocarpus ramiflorus</i>	Bitok	6	1.22	1.10	1.10	3.41
22	<i>Palaquim luzonensis</i>	Aripa/Nato	5	1.40	0.92	0.92	3.23
23	<i>Buchanania arborescens</i>	Balinghasai	6	0.93	1.10	1.10	3.13
24	<i>Vitex parviflora</i>	Molave/Mulawin	6	0.84	1.10	1.10	3.03
25	<i>Canthium dicocum</i>	Malakape	5	1.06	0.92	0.92	2.90
26	<i>Commersonia bartramia</i>	Kakaag	5	1.00	0.92	0.92	2.83
27	<i>Swintonia foxworthyi</i>	Apitong babui/Rimaraw	4	0.95	0.73	0.73	2.41
28	<i>Glochidion coronulatum</i>	Kakaua	5	0.54	0.92	0.92	2.37
29		Talilisan	3	1.06	0.55	0.55	2.16
30	<i>Achronesia pedunculata</i>	Marangkukutan	4	0.61	0.73	0.73	2.07
31	<i>Drypetes sp.</i>	Ranta Ranta	4	0.57	0.73	0.73	2.04
32	<i>Canarium Asperum</i>	Sahing/Pagsahingin	4	0.56	0.73	0.73	2.02
33	<i>Mezzettiopsis creaghii</i>	Tabingalan	4	0.41	0.73	0.73	1.87
34	<i>Mimosa sp.</i>	Diklay	3	0.44	0.55	0.55	1.54
35	<i>Diospyrus sp.</i>	Tandikan	3	0.39	0.55	0.55	1.49
36	<i>Eurycoma longifolia</i>	Linatog/Tonkat Ali	3	0.37	0.55	0.55	1.47
37	<i>Acacia Auriculiformis</i>	Japanese Acacia	2	0.64	0.37	0.37	1.37
38		Balinto	2	0.42	0.37	0.37	1.16

Table 18 continued...

No.	Scientific Name	Local Name	No. of Individuals	Relative Dominance %	Relative Density %	Relative Frequency %	Imppte. Value %
40	<i>Gmelina arborea</i>	Gmelina/Yemane	2	0.39	0.37	0.37	1.12
41	<i>Cinnamomum mercadoi</i>	Sinamoman/Kalingag	2	0.37	0.37	0.37	1.10
42	<i>Polyscias nodosa</i>	Malapapaya	2	0.37	0.37	0.37	1.10
43	<i>Magnolia borneensis</i>	Maglandak/Palawan Patangis	2	0.34	0.37	0.37	1.07
44	<i>Maranthes corymbosa</i>	Liusin	1	0.68	0.18	0.18	1.04
45	<i>Colona discolor</i>	Magbanotan	2	0.30	0.37	0.37	1.04
46	<i>Achidendron clypearia</i>	Tiagkot	2	0.30	0.37	0.37	1.04
47	<i>Garcinia</i> sp.	Malatambis	2	0.27	0.37	0.37	1.00
48	<i>Fagraea fragrans</i>	Dulo/dolo	2	0.25	0.37	0.37	0.98
49	<i>Xanthostemon speciosus</i>	Palawan Mangkono	2	0.24	0.37	0.37	0.97
50	<i>Buchanania macrophylla</i>	Bokanana	2	0.20	0.37	0.37	0.94
51	<i>Magnolia grandiflora</i>	Magnolia	2	0.20	0.37	0.37	0.93
52	<i>Syzygium aqueum</i>	Tambis	2	0.19	0.37	0.37	0.92
53	<i>Premna depauperata</i>	Alagau	2	0.17	0.37	0.37	0.90
54	<i>Planchonella foxworthyi</i>	Alalud	1	0.39	0.18	0.18	0.76
55	<i>Macaranga tanarius</i>	Binunga	1	0.27	0.18	0.18	0.64
56	<i>Swintonia foxworthyi</i>	Dita	1	0.27	0.18	0.18	0.64
57		Masok Masok	1	0.24	0.18	0.18	0.60
58	<i>Garcinia benthami</i>	Bunog	1	0.19	0.18	0.18	0.55
59	<i>Brakenridgea palustris</i>	Brakenridgea	1	0.17	0.18	0.18	0.54
60	<i>Cryptocarya samarensis</i>	Kamalis/Kamali	1	0.17	0.18	0.18	0.54
61	<i>Psychotria luzoniensis</i>	Suwakaw	1	0.15	0.18	0.18	0.52
62	<i>Gymnacranthera paniculata</i>	Anuping	1	0.14	0.18	0.18	0.50
63	<i>Ficus</i> sp.	Ficus ulmifolia	1	0.14	0.18	0.18	0.50
64		Magpango	1	0.14	0.18	0.18	0.50
65	<i>Rothmania merilii</i>	Bagaay	1	0.12	0.18	0.18	0.48

Table 18 continued...

No.	Scientific Name	Local Name	No. of Individuals	Relative Dominance %	Relative Density %	Relative Frequency %	Imptce. Value %
66	<i>Intsia bijuga</i>	Ipil	1	0.12	0.18	0.18	0.48
67	<i>Diospyrus philosanthera</i>	Kanomay/bolong-eta	1	0.12	0.18	0.18	0.48
68	<i>Dillenia monantha</i>	Katmon Bugtong	1	0.12	0.18	0.18	0.48
69	<i>Pouteria micrantha</i>	Marapasi	1	0.12	0.18	0.18	0.48
70	<i>Vitex pubescens</i>	Molawin mabuhok	1	0.12	0.18	0.18	0.48
71	<i>Neolitea vidalli</i>	Puso Puso	1	0.12	0.18	0.18	0.48
72	<i>Ardisia squamulosa</i>	Tagpo	1	0.10	0.18	0.18	0.47
73	<i>Eurycoma longifolia</i>	Tonkat Ali	1	0.10	0.18	0.18	0.47
74	<i>Pittosporum pentandrum</i>	Mamales	1	0.08	0.18	0.18	0.45
75	<i>Psychotria Luzoniensis</i>	Tagpong Gubat	1	0.08	0.18	0.18	0.45
Total			546	100.00	100.00	100.00	300.00

F. DIVERSITY INDEX

1. Site 1A – Ibelnan

The diversity index at sampling site 1A was determined using Shannon's diversity index formula by determining the sum of all species encountered in sampling site 1A less the fraction of the entire population made up of the various species found in site 1 multiplied by the natural log of the fraction of the entire population made up of the various species found in site 1A. The result of diversity index takes into account the phylogenetic relations of the individuals distributed among those types, such as richness, divergence or evenness.

Table 19 has a total of 89 encountered individual trees from various species and the Shannon diversity index is moderate at 2.7035 Mountain Agohe (*Gymnostoma rumphianum*) is the dominant tree species having 23 individuals. 26 are the total no. of species, 21 are identified up to genus level, and 5 unidentified species. The tree species in Ibelnan includes *L. splendens*, *T. arboreus*, *P. connarifolium*, *T. villariana*, *D. philippinensis*, *X. speciosus*, *Drypetes* sp., *E. didyma*, *A. ahernianum*, *M. grandiflora*, *C. dicoccum*, *X. speciosus*, *C. blancoi*, *Diospyrus* sp., *Planchonella foxworthyii*, Masok Masok, *A. macrophylla*, *B. palustris*, *C. pentapetalum*, *P. luzoniensis*, *Rothmania merillii*, *D. philosanthera*, *D. monantha*, *Magnolia borneensis*, *D. luzoniensis*, *P. pentandrum*, and with natural log ranging from -0.2317 to -0.0504. The Evenness of 0.0.1117 is very low since majority of the number of individuals for every species is highly variable ranging from 1-9 while the highest number of species is at 23 for Mt. Agohe.

2. Site 2 – Kinurong Siltation Pond

Kinurong area has a total of 96 encountered individual tree from various trees species and has a diversity index of 2.6613 which is a moderate rating. Mahogany (*Swietenia macrophylla*) has the highest number of individuals at 26. The species shown in **Table 20** include *C. formosum*, *A. blancoi*, *A. macrophylla*, *C. bartramia*, *C. Asperum*, *E. cumingii*, *A. ahernianum*, *L. splendens*, *G. arborea*, *A. saponaria*, *A. auriculiformis*, *A. macrophylla*, *M. tanarius*, *C. dicoccum*, *V. parviflora*, *A. auriculiformis*, *P. pentandrum*, *P. luzonensis*, *P. nodosa*, *Ficus* sp., *F. fragrans*, *I. bijuga*, *V. pubescens*, *N. vidalli*, *M. creaghii*, *Diospyrus* sp., *C. blancoi*, and *S. aqueum* with natural log ranging from -0.2808 to -0.0475.

3. Site 4 – Magas-Magas

In **Table 21**, sampling Site 4 has a total of 49 encountered tree species with Alupag (*Euphoria didyma*) as the dominant tree species. Site 4 has a diversity index of -2.888 that is moderate in rating. There are 20 identified tree species which include *E. didyma*, *E. cumingii*, *P. luzonensis*, *O. ramiflorus*, *Mimosa* sp., *A. ahernianum*, *C. dicoccum*, *T. villariana*, *G. paniculata*, *S. urdanetensis*, *P. nodosa*, *P. connarifolium*, *B. microphylla*, *C. blancoi*, *E. longifolia*, *S. aqueum*, *A. pedunculata*, *C. mercadoi* and *Syzygium* sp. with diversity indices from 0.079 to 0.278. There are 2 tree species identified according to the common or local name such as Balinto, Maglunawan with diversity index of 0.131.

4. Site 5 – Mt. Bulanjao

In **Table 22** sampling site 5 has a total of 271 tree individuals and its diversity index is moderate at 2.760 with *X. speciosus* or Palawan Mangkono as the dominant tree species having 78 number of individuals. The tree species in site 5 as shown below include, *Syzygium* sp., *D. luzoniensis*, *P. connarifolium*, *A. ahernianum*, *G. rumphianum*, *L. splendens*, *C. pentapetalum*, *T. arboreus*, *E. cumingii*, *C. blancoi*, *A. macrophylla*, *S. foxworthyi*, Talilisan, *A. saponaria*, *B. arborescens*, *E. longifolia*, *M. creaghii*, *F. Bataanensis*, *A. penduculata*, *A. clypearia*, *C. discolor*, *B. microphylla*, *Garcinia* sp., *P. luzonensis*, *B. Macrophylla*, *T. villariana*, *M. borneensis*, *C. mercadoi*, Magpango, *Mimosa* sp., *P. micrantha*, and *P. depauperate* with diversity indices ranging from 0.021 to 0.358. The number of individual trees also has a high variability with 9 species having more than 10 individuals.

5. Site 8 – TSF 3

As shown in **Table 23**, the importance value of 15 species of trees encountered with corresponding 41 individuals recorded within the sampling area. An indigenous tree species of *C. formosum* also known as Salinggogon/Kakawa had recorded the highest diversity index H' having 0.32 followed by *L. splendens* locally known as Amayan with 0.26 and *V. parviflora* commonly known as Molave has recorded of the same value while *A. macrophylla* also known as Batino ranked third of the population encountered within the sampling area. Other species identified and recorded are *O. ramiflorus*, *B. arborescens*, *G. benthami*, *E. cumingii*, *F. fragrans*, *C. pentapetalum*, *A. squamulosa*, *P. odorata* and *A. penduculata* have recorded the diversity indices ranging from 0.09 to 0.19.

6. Diversity Index for all sampling sites

Table 24 shows the summary of diversity indices for all sampling sites. Sampling site 8 or TSF 3 had a low diversity index at 2.409. Sampling sites 1, 2, 4 and 5 had moderate diversity index at 2.703, 2.661, 2.888, 2.760 and 2.409 respectively. The overall diversity index is moderate at 2.684.

The tabulation for the five sites (S1, S2, S4, S5 and S8 TSF 3) determined the composition of its vegetation, considering the situation at present where species of plants were decreasing due to the development in the area. The data shown in **Table 24** are based on the ratings for diversity index. The Site 1A Ibelnan got a diversity Index of 2.703 with a moderate rating on the no. of species present in the area so was Site 2 Kinurong siltation pond having a diversity Index of 2.661 rated too as moderate rating. Site 4 had a moderate rating of diversity index at 2.888 while site 5 Mt. Bulanjao obtained a diversity index of 2.760 which is moderate in rating. While, TSF3 or sampling area 8 has a diversity Index of 2.409 has a low rating as the lowest in all ratings made for the different sampling area that were assessed during the study because of the very low number of individuals for each species which is below 10. The vegetation present in the said area were too damaged and the flora were likely to disappear and are critically endangered. Conservation and rehabilitation must take place to conserve and preserved the area mentioned and it should be done immediately. And, also due for being ultramafic type of soil, with high percentage of metals content in the area.

Table 19. Diversity Index of Site 1A – Ibelnan.

No.	Scientific Name	Common/Local Name	No. of Individuals	Pi	ln Pi	H'	J'
1	<i>Gymnostoma rhumpianum</i>	Mt. Agoho	23	0.26	-1.35	-0.3497	-0.00145
2	<i>Licania splendens</i>	Amayan	9	0.10	-2.29	-0.2317	-0.00096
3	<i>Timonius arboreus</i>	Mabalod	7	0.08	-2.54	-0.2000	-0.00083
4	<i>Xanthostemon speciosus</i>	Palawan Mangkono	6	0.07	-2.70	-0.1818	-0.00075
5	<i>Protium connarifolium</i>	Marangub	6	0.07	-2.70	-0.1818	-0.00075
6	<i>Dillenia luzoniensis</i>	Malakatmon	5	0.06	-2.88	-0.1618	-0.00067
7	<i>Talauma villariana</i>	Patangis	5	0.06	-2.88	-0.1618	-0.00067
8	<i>Drypetes</i> sp.	Ranta Ranta	4	0.04	-3.10	-0.1394	-0.00058
9	<i>Euphoria didyma</i>	Alupag	3	0.03	-3.39	-0.1143	-0.00047
10	<i>Calophyllum blancoi</i>	Palomaria/Bitanghol	2	0.02	-3.80	-0.0853	-0.00035
11	<i>Arthrophyllum ahernianum</i>	Dokloi	2	0.02	-3.80	-0.0853	-0.00035
12	<i>Diospyrus</i> sp.	Tandikan	2	0.02	-3.80	-0.0853	-0.00035
13	<i>Canthium dicoccum</i>	Malakape	2	0.02	-3.80	-0.0853	-0.00035
14	<i>Magnolia grandiflora</i>	Magnolia	2	0.02	-3.80	-0.0853	-0.00035
15	<i>Planchonella foxworthyii</i>	Alalud	1	0.01	-4.49	-0.0504	-0.00021
16		Masok Masok	1	0.01	-4.49	-0.0504	-0.00021
17	<i>Alstonia macrophylla</i>	Batino/kurayan	1	0.01	-4.49	-0.0504	-0.00021
18	<i>Brakenridgea palustris</i>	Brakenridgea	1	0.01	-4.49	-0.0504	-0.00021
19	<i>Magnolia borneensis</i>	Maglandak/Palawan Patangis	1	0.01	-4.49	-0.0504	-0.00021
20	<i>Callophyllum pentapetalum</i>	Pamitoyen	1	0.01	-4.49	-0.0504	-0.00021
21	<i>Psychotria luzoniensis</i>	Suwakaw	1	0.01	-4.49	-0.0504	-0.00021
22	<i>Rothmania merilii</i>	Bagaay	1	0.01	-4.49	-0.0504	-0.00021
23	<i>Diospyrus philosanthera</i>	Kanomay/bolong-eta	1	0.01	-4.49	-0.0504	-0.00021
24	<i>Dillenia monantha</i>	Katmon Bugtong	1	0.01	-4.49	-0.0504	-0.00021
25	<i>Pittosporum pentandrum</i>	Mamalis	1	0.01	-4.49	-0.0504	-0.00021
Total			89	1.00	92.18	-2.7035	-0.01117

Table 20. Diversity Index of Site 2 – Kinurong Siltation Pond.

No.	Scientific Name	Common/Local Name	No. of Individuals	P _i	ln P _i	-(P _i * ln P _i)	
1	Swietenia macrophylla	Mahogany	26	0.271	-1.306	-0.3538	-0.0014
2	Cratoxylum formosum	Salingogon	14	0.146	-1.925	-0.2808	-0.0011
3	Artocarpus blancoi	Antipolo	9	0.094	-2.367	-0.2219	-0.0009
4	Alstonia macrophylla	Batino/kurayan	7	0.073	-2.618	-0.1909	-0.0007
5	Commersonia bartramia	Kakaag	5	0.052	-2.955	-0.1539	-0.0006
6	Eleaocarpus cumingii	Katap/Pasi pasi/Hunggo	3	0.031	-3.466	-0.1083	-0.0004
7	Acacia Auriculiformis	Japanese Acacia	2	0.021	-3.871	-0.0807	-0.0003
8	Canarium Asperum	Sahing/Pagsahingin	4	0.042	-3.178	-0.1324	-0.0005
9	Gmelina arborea	Gmelina/Yemane	2	0.021	-3.871	-0.0807	-0.0003
10	Arthrophyllum ahernianum	Dokloi	3	0.031	-3.466	-0.1083	-0.0004
11	Licania splendens	Amayan	3	0.031	-3.466	-0.1083	-0.0004
12	Canthium dicoccum	Malakape	1	0.010	-4.564	-0.0475	-0.0002
13	Macaranga tanarius	Binunga	1	0.010	-4.564	-0.0475	-0.0002
14	Vitex parviflora	Molave/Mulawin	1	0.010	-4.564	-0.0475	-0.0002
15	Albizia saponaria	Salingkugi	2	0.021	-3.871	-0.0807	-0.0003
16	Pittosporum pentandrum	Mamalis	1	0.010	-4.564	-0.0475	-0.0002
17	Palaquim luzonensis	Aripa/Nato	1	0.010	-4.564	-0.0475	-0.0002
18	Polyscias nodosa	Malapapaya	1	0.010	-4.564	-0.0475	-0.0002
19	Ficus sp.	Ficus ulmifolia	1	0.010	-4.564	-0.0475	-0.0002
20	Fagraea fragrans	Dulo/dolo	1	0.010	-4.564	-0.0475	-0.0002
21	Diospyrus sp.	Tandakan	1	0.010	-4.564	-0.0475	-0.0002
22	Intsia bijuga	Ipil	1	0.010	-4.564	-0.0475	-0.0002
23	Mezzettiopsis creaghii	Tabingalan	1	0.010	-4.564	-0.0475	-0.0002
24	Neolitea vidalli	Puso Puso	1	0.010	-4.564	-0.0475	-0.0002

Table 20 continued...

No.	Scientific Name	Common/Local Name	No. of Individuals	Pi	ln Pi	H'	J'
25	<i>Vitex pubescens</i>	Molawin mabuhok	1	0.010	-4.564	-0.0475	-0.0002
26	<i>Calophyllum blancoi</i>	Palomaria/dangkalan	1	0.010	-4.564	-0.0475	-0.0002
27	<i>Psychotria luzoniensis</i>	Tagpong Gubat	1	0.010	-4.564	-0.0475	-0.0002
28	<i>Syzygium aqueum</i>	Tambis	1	0.010	-4.564	-0.0475	-0.0002
Total			96	1.00	-109.39	2.6613	0.01020

Table 21. Diversity Index of Site 4 – Magas-Magas.

No.	Scientific Name	Common/Local Name	No. of Individuals	Pi	ln Pi	H'	J'
1	<i>Euphoria didyma</i>	Alupag	7	0.143	-1.946	-0.278	-0.002
2	<i>Eleaocarpus cumingii</i>	Katap/Pasi pasi/Hunggo	6	0.122	-2.100	-0.257	-0.002
3	<i>Buchannania microphylla</i>	Palinlin	3	0.061	-2.793	-0.171	-0.001
4	<i>Ochrocarpus ramiflorus</i>	Bitok	3	0.061	-2.793	-0.171	-0.001
5	<i>Maranthes corymbosa</i>	Liusin	1	0.020	-3.892	-0.079	-0.001
6	<i>Palaquim luzonensis</i>	Aripa/Nato	3	0.061	-2.793	-0.171	-0.001
7		Salingkugi	3	0.061	-2.793	-0.171	-0.001
8	<i>Canthium dicoccum</i>	Malakape	2	0.041	-3.199	-0.131	-0.001
9		Maglunawan	2	0.041	-3.199	-0.131	-0.001
10		Balinto	2	0.041	-3.199	-0.131	-0.001
11	<i>Arthrophyllum ahernianum</i>	Dokloi	2	0.041	-3.199	-0.131	-0.001
12	<i>Talauma villariana</i>	Patangis	2	0.041	-3.199	-0.131	-0.001
13	<i>Mimosa sp.</i>	Diklay	2	0.041	-3.199	-0.131	-0.001
14	<i>Syzygium</i>	Wild Tambis	3	0.061	-2.793	-0.171	-0.001
15	<i>Polyscias nodosa</i>	Malapapaya	1	0.020	-3.892	-0.079	-0.001

Table 21. continued...

No.	Scientific Name	Common/Local Name	No. of Individuals	P _i	ln P _i	H'	J'
16	<i>Achronesia pedunculata</i>	Marangkukutan	1	0.020	-3.892	-0.079	-0.001
17	<i>Protium connarifolium</i>	Marangub	1	0.020	-3.892	-0.079	-0.001
18	<i>Cinnamomum mercadoi</i>	Sinamoman/ Kalingag	1	0.020	-3.892	-0.079	-0.001
19	<i>Gymnacranthera paniculata</i>	Anuping	1	0.020	-3.892	-0.079	-0.001
20	<i>Eurycoma longifolia</i>	Tonkat Ali	1	0.020	-3.892	-0.079	-0.001
21	<i>Syzygium aqueum</i>	Tambis	1	0.020	-3.892	-0.079	-0.001
22	<i>Calophyllum blancoi</i>	Palomaria/Bitanghol	1	0.020	-3.892	-0.079	-0.001
Total			49	1.00	72.230	-2.888	-0.022

Table 22. Diversity Index of Site 5 – Mt. Bulanjao.

No.	Scientific Name	Common/Local Name	No. of Individuals	P _i	ln P _i	H'	J'
1	<i>Xanthostemon speciosus</i>	Palawan Mangkono	78	0.288	-1.245	-0.358	0.000
2	<i>Syzygium sp.</i>	Wild Tambis	26	0.096	-2.344	-0.225	0.000
3	<i>Dillenia Luzoniensis</i>	Malakatmon	19	0.070	-2.658	-0.186	0.000
4	<i>Protium connarifolium</i>	Marangub	19	0.070	-2.658	-0.186	0.000
5	<i>Gymnostoma rumphianum</i>	Mt. Agoho	15	0.055	-2.894	-0.160	0.000
6	<i>Arthrophyllum ahernianum</i>	Dokloi	15	0.055	-2.894	-0.160	0.000
7	<i>Calophyllum pentapetalum</i>	Pamitoyen	11	0.041	-3.204	-0.130	0.000
8	<i>Licania splendens</i>	Amayan	11	0.041	-3.204	-0.130	0.000
9	<i>Timonius arboreus</i>	Mabalod	10	0.037	-3.300	-0.122	0.000
10		Maglunawan	6	0.022	-3.810	-0.084	0.000
11	<i>Calophyllum blancoi</i>	Palomaria/Bitanghol	6	0.022	-3.810	-0.084	0.000
12	<i>Eleaocarpus cumingii</i>	Katap/Pasi pasi/Hunggo	7	0.026	-3.656	-0.094	0.000

Table 22 continued...

No.	Scientific Name	Common/Local Name	No. of Individuals	Pi	ln P _i	H'	J'
13	<i>Alstonia macrophylla</i>	Batino/kurayan	4	0.015	-4.216	-0.062	0.000
14	<i>Swintonia foxworthyi</i>	Apitong babui/Rimaraw	4	0.015	-4.216	-0.062	0.000
15		Talilisan	3	0.011	-4.504	-0.050	0.000
16		Salingkugi	4	0.015	-4.216	-0.062	0.000
17	<i>Buchanania arborescens</i>	Balinghasai	4	0.015	-4.216	-0.062	0.000
18	<i>Eurycoma longifolia</i>	Linatog/Tonkat Ali	3	0.011	-4.504	-0.050	0.000
19	<i>Mezzettiopsis creaghii</i>	Tabingalang	3	0.011	-4.504	-0.050	0.000
20	<i>Ficus Bataanensis</i>	Bataan Fig	2	0.007	-4.909	-0.036	0.000
21	<i>Achronesia pedunculata</i>	Marangkukutan	2	0.007	-4.909	-0.036	0.000
22	<i>Achidendron clypearia</i>	Tiagkot	2	0.007	-4.909	-0.036	0.000
23	<i>Colona discolor</i>	Magbanotan	2	0.007	-4.909	-0.036	0.000
24	<i>Buchannania microphylla</i>	Palinlin	2	0.007	-4.909	-0.036	0.000
25	<i>Garcinia sp.</i>	Malatambis	2	0.007	-4.909	-0.036	0.000
26	<i>Palaquim luzonensis</i>	Aripa/Nato	1	0.004	-5.602	-0.021	0.000
27	<i>Buchanania Macrophylla</i>	Bokanana	2	0.007	-4.909	-0.036	0.000
28	<i>Swintonia foxworthyi</i>	Dita	1	0.004	-5.602	-0.021	0.000
29	<i>Talauma villariana</i>	Patangis	1	0.004	-5.602	-0.021	0.000
30	<i>Magnolia borneensis</i>	Maglandak/Palawan Patangis	1	0.004	-5.602	-0.021	0.000
31	<i>Cinnamomum mercadoi</i>	Sinamoman/Kalingag	1	0.004	-5.602	-0.021	0.000
32		Magpango	1	0.004	-5.602	-0.021	0.000
33	<i>Mimosa sp.</i>	Diklay	1	0.004	-5.602	-0.021	0.000
34	<i>Pouteria micrantha</i>	Marapasi	1	0.004	-5.602	-0.021	0.000
35	<i>Premna depauperata</i>	Alagau	1	0.004	-5.602	-0.021	0.000
Total			271	1.00	-150.834	-2.760	0.004

Table 23. Diversity Index of Site 8 -TSF 3.

No.	Scientific Name	Common/Local Name	No. of Individuals	Pi	ln Pi	H'	J'
1	<i>Cratoxylum formosum</i>	Salinggogon	8	0.20	-1.63	-0.32	-0.003
2	<i>Licania splendens</i>	Amayan	5	0.12	-2.10	-0.26	-0.002
3	<i>Vitex parviflora</i>	Molave/Mulawin	5	0.12	-2.10	-0.26	-0.002
4	<i>Alstonia macrophylla</i>	Batino/kurayan	5	0.12	-2.10	-0.26	-0.002
5	<i>Glochidion coronulatum</i>	Kakaua	5	0.12	-2.10	-0.26	-0.002
6	<i>Ochrocarpus ramiflorus</i>	Bitok	3	0.07	-2.61	-0.19	-0.002
7	<i>Buchanania arborescens</i>	Balinghasai	2	0.05	-3.02	-0.15	-0.001
8	<i>Garcinia benthami</i>	Bunog	1	0.02	-3.71	-0.09	-0.001
9	<i>Eleaocarpus cumingii</i>	Katap/Pasi pasi/Hunggo	1	0.02	-3.71	-0.09	-0.001
10	<i>Buchanania microphylla</i>	Bokanana/Palinin	1	0.02	-3.71	-0.09	-0.001
11	<i>Fagraea fragrans</i> Roxb.	Dulo/Dolo	1	0.02	-3.71	-0.09	-0.001
12	<i>Achronesia pedunculata</i>	Marangkukutan	1	0.02	-3.71	-0.09	-0.001
13	<i>Callophylum pentapetalum</i>	Pamitoyen	1	0.02	-3.71	-0.09	-0.001
14	<i>Ardisia squamolosa</i>	Tagpo	1	0.02	-3.71	-0.09	-0.001
15	<i>Premna depauperata</i>	Alagau	1	0.02	-3.71	-0.09	-0.001
Total			41	1.00	-45.39	-2.41	0.022

Table 24. Summary of diversity Index for all sampling sites.

Sampling Station	Diversity Index, H'	Rating
1A - Ibelnan	2.703	Moderate
2 - Kinurong Siltation Pond	2.661	Moderate
4 - Magas-Magas	2.888	Moderate
5 - Mt. Bulanjao	2.760	Moderate
8 - TSF 3	2.409	Low
Overall	2.684	Moderate

G. EVENNESS INDEX FOR ALL SAMPLING SITES

Table 25 presents the summary of evenness index for all sampling sites. Evenness is the count of individuals of each species in an area. Evenness indices for Site 1A, Site 2, Site 4, site 5 and sampling site 8 TSF 3 had very low evenness at 0.011, 0.010, 0.022, 0.004 and 0.022. The overall evenness was estimated at 0.002 which is very low which means that the number of individual species are highly variable in the areas sampled. This further indicates that few species have high number of individuals.

Table 25. Summary of Evenness Index for all sampling sites.

Sampling Station	Evenness, J'	Rating
1A - Ibelnan	0.011	Very Low
2 - Kinurong Siltation Pond	0.010	Very Low
4 - Magas-Magas	0.022	Very Low
5 - Mt. Bulanjao	0.004	Very Low
8 - TSF 3	0.022	Very Low
Overall	0.068	Very Low

H. CONSERVATION STATUS

Shown in **Table 26** and in reference to PCSD resolution 15-521 on the updated list of terrestrial and marine wildlife in Palawan and their categories the tree species having >5 cm DBH were identified. Two of the 70 tree species were considered endangered, *E. longifolia* (Linatog/Tongkat Ali) and *V. parviflora* (Molave), four were considered vulnerable *C. pentapetalum* (Pamitoyen), *D. luzoniensis* (Malakatmon), *D. monantha* ((Katmon Bugtong), *D. philosanthera* (Bolong-eta) and the rest of the other species were considered as non-threatened.

The presence of threatened species in the areas studied implies that a careful management of the habitats where they are found should be done. Protection and conservation programs should be immediately crafted and implemented to avoid further damage on their population and habitat.

Table 26 Conservation status based on PCSD resolution 15-521.

Scientific Name	Local/Common Name	Categories
<i>Eurycoma longifolia</i>	Linatog/Tonkat Ali	Endangered
<i>Vitex parviflora</i>	Molave/Mulawin	Endangered
<i>Callophylum pentapetalum</i>	Pamitoyen	Vulnerable
<i>Dillenia luzoniensis</i>	Malakatmon	Vulnerable
<i>Dillenia monantha</i>	Katmon Bugtong	Vulnerable

Table 26 continued...

Scientific Name	Local/Common Name	Categories
<i>Diospyrus philosanthera</i>	Kanomay/bolong-eta	Vulnerable
<i>Acacia Auriculiformis</i>	Japanese Acacia	Non-Threatened
<i>Achidendron clypearia</i>	Tiagkot	Non-Threatened
<i>Achronesia pedunculata</i>	Marangkukutan	Non-Threatened
<i>Albizia saponaria</i>	Salingkugi	Non-Threatened
<i>Alstonia macrophylla</i>	Batino/kurayan	Non-Threatened
<i>Alstonia scholaris</i>	Palawan Dita	Non-Threatened
<i>Ardisia squamulosa</i>	Tagpo	Non-Threatened
<i>Arthrophyllum ahernianum</i>	Dokloi	Non-Threatened
<i>Artocarpus blancoi</i>	Antipolo	Non-Threatened
<i>Brakenridgea palustris</i>	Brakenridgea	Non-Threatened
<i>Buchanania arborescens</i>	Balinghasai	Non-Threatened
<i>Buchanania Macrophylla</i>	Bokanana/Palinlin	Non-Threatened
<i>Calophyllum blancoi</i>	Palomaria/Bitanghol	Non-Threatened
<i>Canarium Asperum</i>	Sahing/Pagsahingin	Non-Threatened
<i>Canthium dicoccum</i>	Malakape	Non-Threatened
<i>Cinnamomum mercadoi</i>	Sinamoman/Kalingag	Non-Threatened
<i>Colona discolor</i>	Magbanotan	Non-Threatened
<i>Commersonia bartramia</i>	Kakaag	Non-Threatened
<i>Cratoxylum formosum</i>	Salinggogon	Non-Threatened
<i>Diospyrus sp.</i>	Tandikan	Non-Threatened
<i>Drypetes sp.</i>	Ranta Ranta	Non-Threatened
<i>Eleaocarpus cumingii</i>	Katap/Pasi pasiHunggo	Non-Threatened
<i>Euphoria didyma</i>	Alupag	Non-Threatened
<i>Fagraea fragrans</i>	Dulo/dolo	Non-Threatened
<i>Ficus Bataanensis</i>	Bataan Fig	Non-Threatened
<i>Ficus sp.</i>	Ficus ulmifolia	Non-Threatened
<i>Garcinia benthami</i>	Bunog	Non-Threatened
<i>Garcinia sp.</i>	Malatambis	Non-Threatened
<i>Glochidion coronulatum</i>	Kakaua	Non-Threatened
<i>Gmelina arborea</i>	Gmelina/Yemane	Non-Threatened
<i>Gymnacranthera paniculata</i>	Anuping	Non-Threatened
<i>Gymnostoma rumphianum</i>	Mt. Agoho	Non-Threatened
<i>Intsia bijuga</i>	Ipil	Non-Threatened
<i>Licania splendens</i>	Amayan	Non-Threatened
<i>Macaranga tanarius</i>	Binunga	Non-Threatened

Table 26 continued...

Scientific Name	Local/Common Name	Categories
<i>Magnolia borneensis</i>	Maglandak/Palawan Patangis	Vulnerable
<i>Magnolia grandiflora</i>	Magnolia	Non-Threatened
<i>Maranthes corymbosa</i>	Liusin	Non-Threatened
<i>Mezzettiopsis creaghii</i>	Tabingalang	Non-Threatened
<i>Mimosa sp.</i>	Diklay	Non-Threatened
<i>Neolitea vidalli</i>	Puso Puso	Non-Threatened
<i>Ochrocarpus ramiflorus</i>	Bitok	Non-Threatened
<i>Palaquim luzonensis</i>	Aripa/Nato	Non-Threatened
<i>Pittosporum pentandrum</i>	Mamalis	Non-Threatened
<i>Planchonella foxworthyi</i>	Alalud	Non-Threatened
<i>Polyscias nodosa</i>	Malapapaya	Non-Threatened
<i>Pouteria micrantha</i>	Marapasi	Non-Threatened
<i>Premna depauperata</i>	Alagau	Non-Threatened
<i>Protium connarifolium</i>	Marangub	Non-Threatened
<i>Psychotria luzoniensis</i>	Tagpong Gubat /Suwakaw	Non-Threatened
<i>Rothmania merilii</i>	Bagaay	Non-Threatened
<i>Swietenia macrophylla</i>	Mahogany	Non-Threatened
<i>Swintonia foxworthyi</i>	Apitong babui/Rimaraw	Non-Threatened
<i>Syzygium aqueum</i>	Tambis	Non-Threatened
<i>Syzygium sp.</i>	Wild Tambis	Non-Threatened
<i>Talauma villariana</i>	Patangis	Non-Threatened
<i>Timonius arboreus</i>	Mabalod	Non-Threatened
<i>Vitex pubescens</i>	Molawin mabuhok	Non-Threatened
<i>Xanthostemon speciosus</i>	Palawan Mangkono	Non-Threatened
	Balinto	Non-Threatened
	Masok Masok	Non-Threatened
	Magpango	Non-Threatened
	Maglonawan	Non-Threatened
	Talilisan	Non-Threatened

Figure 3 shows the graphical presentation of the conservation status of all tree species in HPP site based on PCSD resolution no. 15-521. The study revealed that 3% of the total population was categorized as endangered, 6% were vulnerable and the remaining 91% were non-threatened.

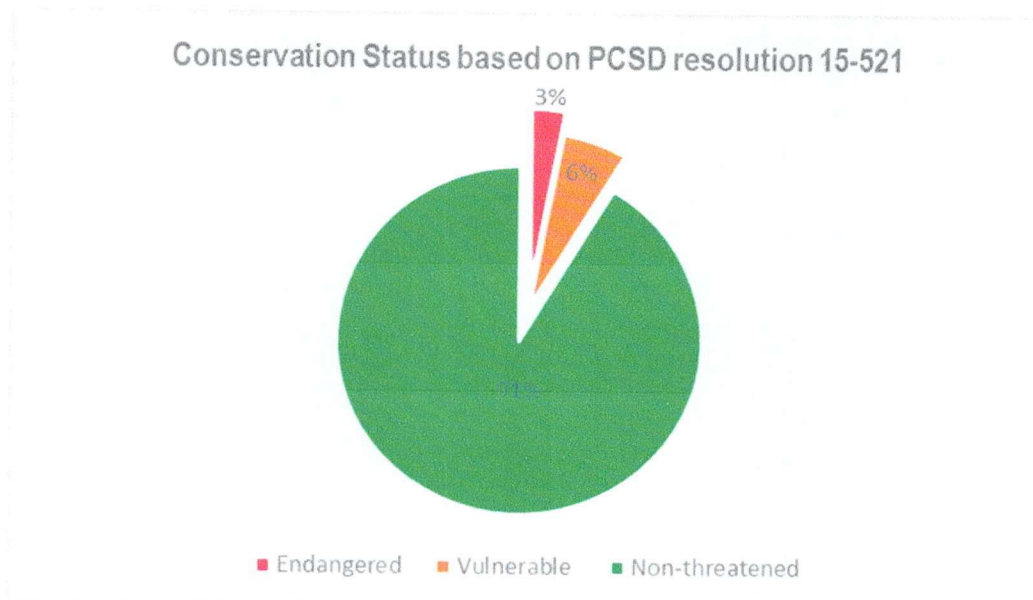


Figure 3. Graphical presentation on the conservation status of the tree species in HPP site.

IV. Conclusion

The sampling sites are generally second growth forest, grassland, and brushlands. Forested areas in Ibelnan and Mt. Bulanjao were mixed hardwoods. The presence of good vegetation in the area is an indication that it is still intact with preserved endemic and indigenous flora species. An example for this was the presence of the rare plants like *Microrhophium elmeranum*. Alteration in vegetation cover was minimal and the vegetated areas are still favorable as habitat for animals.

TSF 1 is a product of a progressive rehabilitation done by the CBNC management. It has effectively displayed a successful rehabilitation of mine tailings impoundment or mined out areas by converting them into stable manmade forest ecosystem. Monitoring site 3 (Nagoya Beach) also demonstrates an effort of reforestation is a good environmental initiative along the shoreline with thriving thick forest cover, indicating a healthy mangrove forest ecosystem.

Assessment results over Ibelnan, Kinurong Siltation Pond, Magas-Magas, Mt. Bulanjao, and TSF 3 monitoring sites showed 546 individuals recorded belonging to 70 different tree species and 34 families. At the understorey level, a total of 84 plant species were identified, belonging to 51 families. *Xanthostemon speciosus* commonly known as Palawan Mangkono is the most dominant tree species with recorded importance value of 47.27% followed by *G. rumphianum* (Mountain Agohe) with 23.14%. Sampling site 8 or TSF 3 had a low diversity index at 2.409 while sites 1, 2, 4 and 5 had moderate diversity index at 2.703, 2.661, 2.888, 2.760 and 2.409, respectively.

The overall diversity index of monitoring sites was estimated at 2.684 which is described as moderately diverse. The overall evenness on the other hand was estimated at 0.002, which is very low indicating that the number of individuals of tree species were highly variable with only few species having number of individuals dominating the monitoring areas. These results were attributed mainly to the soil characteristics of the sampling sites being ultrabasic, a soil deficient of essential minerals to support growth and development of plants/trees. Ultrabasic or ultramafic soil environment is dominated by elements which are toxic to most plants.

Based on PCSD resolution 15-521 there were 2 endangered species *E. longifolia* (Tongkat ali) and *V. parviflora* (Molave), 4 vulnerable species *C. pentapetalum* (Pamitoyen), *D. luzoniensis* (Malakatmon), *D. monantha* (Katmon bugtong) and *D. philosanthera* (Bolong-eta) and 64 others are non- threatened species.

V. Recommendations

Based on the findings of this study, the following are recommended:

1. Enrichment planting through assisted natural regeneration should be done in order to increase tree species evenness.
2. Identified endangered and vulnerable species should be prioritized as planting materials for enrichment planting and in rehabilitating mined out areas as measures to conserve them.
3. In case that portion of the forest cover are utilized for mining, a permanent conservation area must be designated that could allow the survival and reproduction of those identified threatened flora species for their protection and conservation must be implemented.
4. An enhanced monitoring system such as foot patrolling combined with frequent aerial drone coverage over existing forest cover within the MPSA including but not limited to Site 3 Nagoya Beach and Site 8 TSF 3 should be established to prevent encroachment by nearby communities.
5. Publish a miscellany of endemic flora at the HPP project site to further promote the biodiversity and preservation of species vis-à-vis of the on-going development and other related activities.

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ANNEX A. PHOTO-DOCUMENTATION OF SELECTED FLORA FOUND IN HPP VICINITY

**PHOTOGRAPHS OF SELECTED FLORA FOUND IN
CORAL BAY NICKEL CORPORATION (CBNC)
RIO TUBA, PALAWAN**