Final Evaluation Report

Your Details	
Full Name	Nguyen Dang Cuong
Project Title	Building ecological database and assessing suitable areas for *Madhuca pasquieri* (Dubard) H.Ja in Thai Nguyen province, Vietnam
Application ID	38559-1
Date of this Report	30.9.2023

1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
To build ecological database and a map of individual distribution in QGIS software				It took 7 months to finish this objective because it was raining in the study site
To train local forest rangers using QGIS software and handy GPS to update new individuals of species.				A training workshop was organised on May 17th , 2023
To identify habitat suitability of Madhuca pasquieri				Habitat suitability mapping indicated priority areas for targeted conservation actions of this species such as in-situ conservation activities

2. Describe the three most important outcomes of your project.

a). The ecological database of 90 individuals of *Madhuca pasquieri* and the map of individual distribution has been built and provided to the local forest rangers (Thai Nguyen Department of Forest ranger and Thai Nguyen special use and protection Forest Management Board) to support more effective species conservation of existing individuals in the study site.

b). A training workshop for 20 local forest rangers and management authorities using QGIS software and handy GPS to manage existing individuals and update new individuals of species was organised on May 17th , 2023 (in the office and forest survey).

c). A map of habitat suitability has been developed by using QGIS, which will be used to guide practical conservation intervention such as sapling planting for local management authority's planning in the next years.

A map of suitable habitat for M. pasquieri is predicted and represented in Figure. 2. The predictive results were regrouped and plotted into three classes including high suitable habitat, moderate suitable habitat and unsuitable environment with areas of 2934,91ha (0.8%), 159593.1ha (43.3%), 189668 ha (53.9%) respectively. The area of potential low suitable habitat is not recognized in the study area. The results suggest that M. pasquieri can be planted in suitable areas, especially under the forest canopy of closed forests, which is a very important scientific basis for local government and stakeholders to carry out in-situ and ex-situ conservation activities of species, contributing to biodiversity conservation and sustainable forest management.

Figure. 1. Training workshop on QGIS software and handy GPS in the office and in the field

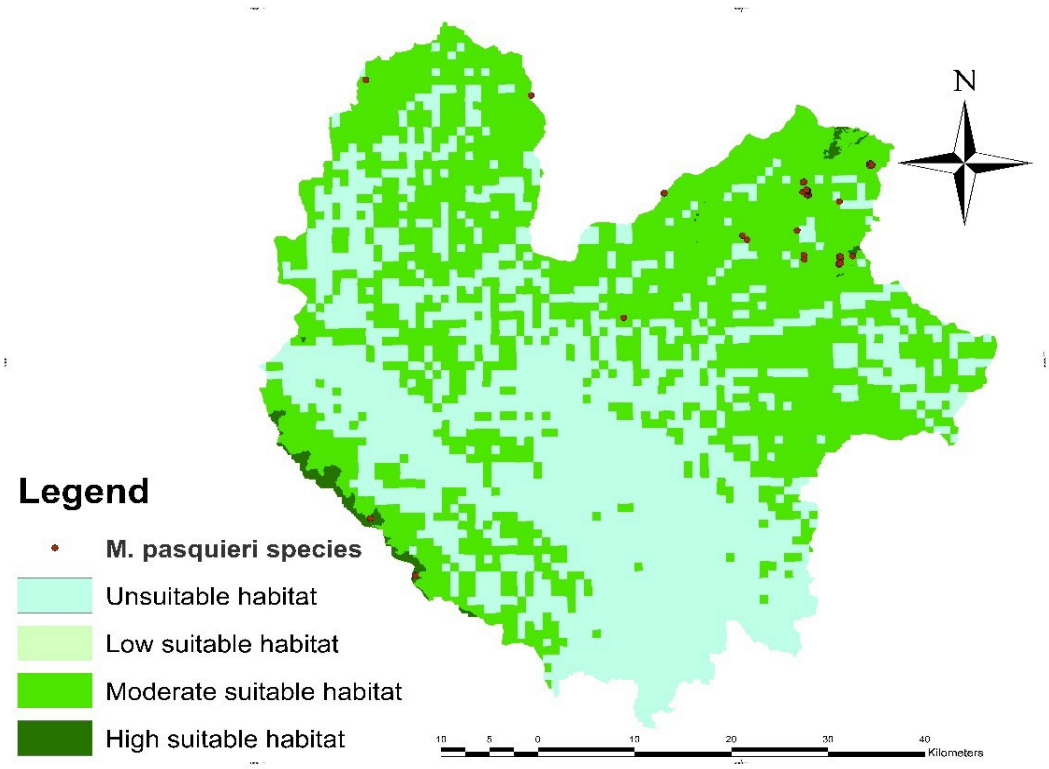


Figure. 2. Map showing suitable habitat for *M. pasquieri*

3. Explain any unforeseen difficulties that arose during the project and how these were tackled.

Madhuca pasquieri is mainly distributed at altitudes above 300 m asl, steep slopes exceeding 20 degrees, when it rains, the terrain becomes very slippery, making it difficult for forest surveys. Therefore, it took a lot of time to survey the distribution of the plant species and the forest structure in the area where the plant species is distributed.

4. Describe the involvement of local communities and how they have benefitted from the project.

- With the participation of local forest rangers and local communities in Thai Nguyen province, they have information of spatial and ecological distribution characteristics of 90 individuals of *Madhuca pasquieri*. This is a basic for selecting a location to build an in-situ conservation model.

- 20 local forest rangers and management authorities took part in the training workshop on applying QGIS and GPS technology. According to the plan, only five officials were supposed to be trained. However, during the project implementation process, the province of Thai Nguyen requested training for more staff. These staff will be responsible for gathering information about other rare and endangered plant species distributed in Thai Nguyen for conservation purposes.

5. Are there any plans to continue this work?

We are looking for funds for in-situ and ex-situ conservation activities:

1. Building an in-situ conservation model:
    - Monitoring of growth parameters such as diameter at breast height (D), total height (H), canopy diameter, and pest infestations.
    - Monitoring the natural regeneration potential around the mother tree within a 20 m radius

2. Ex-situ conservation activities:
    - During the forest survey, it was observed that the regeneration rate of *Madhuca pasquieri* is low, as this species has a small population. Therefore, there is a need for a project on propagation techniques from seeds or cuttings to produce offspring plants.
    - Building an ex-situ conservation model:
      Using the map of suitable habitat for *Madhuca pasquieri* has been analysed. Based on the map, 1 ha (600 trees) may be planted in in Vo Nhai district, Thai Nguyen province/ suitable areas, and monitor growth (D, H) of planted species periodically every 6 months (D, H and pests).

6. How do you plan to share the results of your work with others?

The ecological species and distribution database, and the map of suitable habitat for *Madhuca pasquieri* has been submitted to the Forest Protection Department and the Special-Use and protection Forest Management Board, which are responsible for forest resource management in Thai Nguyen Province, as well as the specialised agency for promoting forestry law and forest resource management. The Forest Protection Department and the Special-Use and protection Forest Management Board will share information about species and the essentiality of species conservation with local residents to enhance awareness of the conservation of rare and endangered species.

A seminar will be organised, the project's results will be shared with colleagues and students from the Forestry Faculty, Thai Nguyen University of Agriculture and Forestry in November 2023 after the paper published.

7. Looking ahead, what do you feel are the important next steps?

This is an endangered species with a limited number of individuals and low natural regeneration. Meanwhile, occasional illegal logging of rare species, including the *Madhuca pasquieri*, still occurs. Therefore, conservation activities, both in-situ and ex-situ, need to be carried out. These activities are addressed in Section 5, such as species propagation and planting under the canopy of natural forests/ suitable areas.

8. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?

The Rufford Foundation logo was used on the cover of technical manual of applying QGIS and GPS technology will be provided to forest rangers of Forest Protection Department and the Special-Use Forest Management Board.

While implementing the project, I have informed stakeholders such as the Forest Protection Department, the Special-Use Forest Management Board and local people about the research on *Madhuca pasquieri* funded by the Rufford Foundation, which is a grant organisation supporting nature conservation.

9. Provide a full list of all the members of your team and their role in the project.

Dr. Nguyen Dang Cuong, a leader of this project. My tasks include developing the project implementation plan, assigning responsibilities and tasks to team members, conducting forest surveys with team members, monitoring team members' work, analysing results, building the map and writing reports.

Dr. Nguyen Tuan Hung, a member of this project. He is primarily responsible for informing with stakeholders to conduct species distribution surveys, conducting forest surveys and for the primary report writing.

Dr. Do Hoang Chung, a member of this project. He participates in forest surveys and is primarily responsible for building the ecological species database in QGIS.

Mrs. Nguyen Thi Thuy, a member of this project. She is primarily responsible for organizing the training workshop, sharing the research project's results with stakeholders, managing the project's finance, and writing reports.

10. Any other comments?

It is necessary to conduct research to develop the propagation, planting, and appropriate care instruction for Madhuca pasquieri species, contributing to endangered species conservation.

Annex:														
No	**Location**	**Lon**	**Lat**	**X_VN2000**	**Y_VN2000**	**Perimeter**	**DBH**	**Height**	**Quality**	**Altitude**	**Slope**	**Crown diameter**	**Forest status**	**Forest cover**
1	Nghinh Tuong, Vo Nhai	106.04	21.86	451983	2418542	32	10.2	25	Good	631	45	7.4	Poor secondary evergreen broadleaved forest on rocky mountain	0.8
2	Nghinh Tuong, Vo Nhai	106.04	21.86	451932	2418505	25.4	8.1	18	Good	661	45	4.8	Poor secondary evergreen broadleaved forest on rocky mountain	0.65
3	Nghinh Tuong, Vo Nhai	106.03	21.86	451774	2418578	22.9	7.3	16.5	Good	793	45	4.8	Poor secondary evergreen broadleaved forest on rocky mountain	0.65
4	Nghinh Tuong, Vo Nhai	106.03	21.86	451769	2418638	17	5.4	16	Good	600	45	4.9	Poor secondary evergreen broadleaved forest on rocky mountain	0.6

5	Nghinh Tuong, Vo Nhai	106.03	21.87	451373	2418866	17	5.4	14	Medium	600	45	7	Poor secondary evergreen broadleaved forest on rocky mountain	0.65
6	Nghinh Tuong, Vo Nhai	106.03	21.87	451341	2418847	33.8	10.8	25	Good	651	42	6.1	Poor secondary evergreen broadleaved forest on rocky mountain	0.7
7	Nghinh Tuong, Vo Nhai	106.04	21.87	451893	2418872	29.5	9.4	20	Good	632	43	7.8	Poor secondary evergreen broadleaved forest on rocky mountain	0.7
8	Nghinh Tuong, Vo Nhai	106.03	21.87	451866	2418956	51.9	16.5	23	Good	655	40	6.1	Poor secondary evergreen broadleaved forest on rocky mountain	0.68
9	Nghinh Tuong, Vo Nhai	106.03	21.87	451876	2419012	51.3	16.3	21	Good	672	40	4.2	Poor secondary evergreen broadleaved forest on rocky mountain	0.73

10	Nghinh Tuong, Vo Nhai	106.03	21.87	451850	2418993	23.4	7.5	14.5	Good	774	43	4.8	Poor secondary evergreen broadleaved forest on rocky mountain	0.5
11	Nghinh Tuong, Vo Nhai	106.03	21.87	451757	2419014	23.5	7.5	15.5	Good	700	43	6.2	Poor secondary evergreen broadleaved forest on rocky mountain	0.8
12	Nghinh Tuong, Vo Nhai	106.03	21.87	451732	2419062	33.8	10.8	21	Good	720	38	5.8	Poor secondary evergreen broadleaved forest on rocky mountain	0.7
13	Nghinh Tuong, Vo Nhai	106.03	21.87	451737	2419083	23.4	7.5	14.5	Good	722	40	5.8	Poor secondary evergreen broadleaved forest on rocky mountain	0.65
14	Nghinh Tuong, Vo Nhai	106.03	21.87	451727	2419083	17.2	5.5	12.5	Good	722	40	5.8	Poor secondary evergreen broadleaved forest on rocky mountain	0.65

15	Nghinh Tuong, Vo Nhai	106.03	21.87	451751	2419094	36.9	11.8	23.5	Good	725	40	7.5	Poor secondary evergreen broadleaved forest on rocky mountain	0.65
16	Nghinh Tuong, Vo Nhai	106.03	21.87	451712	2419077	49.2	15.7	19.5	Good	750	40	8.5	Poor secondary evergreen broadleaved forest on rocky mountain	0.65
17	Nghinh Tuong, Vo Nhai	106.1	21.89	458338	2421937	13.4	4.3	11.3	Good	340	30	5.2	Poor secondary evergreen broadleaved forest on rocky mountain	0.7
18	Nghinh Tuong, Vo Nhai	106.1	21.89	458318	2421920	47.8	15.2	16	Good	348	35	6.8	Poor secondary evergreen broadleaved forest on rocky mountain	0.7
19	Nghinh Tuong, Vo Nhai	106.1	21.89	458418	2421723	9.6	3.1	12.5	Good	409	35	6.2	Poor secondary evergreen broadleaved forest on soil mountain	0.7

20	Nghinh Tuong, Vo Nhai	106.1	21.89	458467	2421720	33.1	10.5	25	Good	424	35	6.2	Poor secondary evergreen broadleaved forest on soil mountain	0.67
21	Nghinh Tuong, Vo Nhai	106.1	21.89	458462	2421736	35.9	11.4	25	Good	453	35	7.8	Poor secondary evergreen broadleaved forest on soil mountain	0.67
22	Nghinh Tuong, Vo Nhai	106.1	21.89	458473	2421708	7.3	2.3	7	Good	428	37	6.2	Poor secondary evergreen broadleaved forest on soil mountain	0.7
23	Nghinh Tuong, Vo Nhai	106.1	21.89	458460	2421688	11.1	3.5	7.5	Good	437	37	6.2	Poor secondary evergreen broadleaved forest on soil mountain	0.7
24	Nghinh Tuong, Vo Nhai	106.1	21.89	458510	2421717	37.9	12.1	18	Good	435	37	7.5	Poor secondary evergreen broadleaved forest on soil mountain	0.7

25	Nghinh Tuong, Vo Nhai	106.1	21.89	458322	2421710	8.4	2.7	8.5	Good	422	37	5.8	Poor secondary evergreen broadleaved forest on soil mountain	0.7
26	Nghinh Tuong, Vo Nhai	106.1	21.89	458328	2421700	6.8	2.2	8.5	Good	419	37	6	Poor secondary evergreen broadleaved forest on soil mountain	0.7
27	Nghinh Tuong, Vo Nhai	106.1	21.89	458304	2421693	7.2	2.3	9.2	Good	419	37	5.4	Poor secondary evergreen broadleaved forest on soil mountain	0.7
28	Nghinh Tuong, Vo Nhai	106.1	21.89	458488	2421761	30.2	9.6	18	Good	425	37	7.2	Poor secondary evergreen broadleaved forest on soil mountain	0.7
29	Nghinh Tuong, Vo Nhai	106.1	21.89	458512	2421759	52.1	16.6	25	Good	432	45	8	Poor secondary evergreen broadleaved forest on soil mountain	0.7

30	Nghinh Tuong, Vo Nhai	106.1	21.89	458536	2421790	54.3	17.3	25	Good	415	45	8	Poor secondary evergreen broadleaved forest on soil mountain	0.7
31	Nghinh Tuong, Vo Nhai	106.1	21.89	458518	2421766	53.6	17.1	25	Good	429	45	8	Poor secondary evergreen broadleaved forest on soil mountain	0.7
32	Sang Moc, Vo Nhai	106.03	21.88	451480	2419976	170	54.1	45	Good	344	25	7	Poor secondary evergreen broadleaved forest on soil mountain	0.65
33	Sang Moc, Vo Nhai	106.03	21.88	451476	2419980	130	41.4	34	Good	345	28	5	Poor secondary evergreen broadleaved forest on soil mountain	0.65
34	Sang Moc, Vo Nhai	106.03	21.88	451401	2419956	75	23.9	22	Good	375	31	5.5	Poor secondary evergreen broadleaved forest on soil mountain	0.65

35	Sang Moc, Vo Nhai	106.03	21.88	451419	2419936	118	37.6	30	Good	409	20	7.5	Poor secondary evergreen broadleaved forest on soil mountain	0.65
36	Sang Moc, Vo Nhai	106.03	21.88	451438	2419938	60	19.1	18	Good	413	22	5.4	Poor secondary evergreen broadleaved forest on soil mountain	0.65
37	Sang Moc, Vo Nhai	106.03	21.88	451447	2419940	100	31.8	24	Good	413	27	5.5	Poor secondary evergreen broadleaved forest on soil mountain	0.65
38	Sang Moc, Vo Nhai	106.03	21.88	451420	2419934	120	38.2	28	Good	422	28	5.9	Poor secondary evergreen broadleaved forest on soil mountain	0.7
39	Sang Moc, Vo Nhai	106.03	21.88	451415	2419924	32	10.2	12	Good	424	30	5	Poor secondary evergreen broadleaved forest on soil mountain	0.65

40	Sang Moc, Vo Nhai	106.03	21.88	451412	2419926	52	16.6	17	Good	427	30	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.65
41	Sang Moc, Vo Nhai	106.03	21.88	451413	2419919	81	25.8	20	Good	425	30	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.65
42	Sang Moc, Vo Nhai	106.03	21.88	451404	2419927	16	5.1	8	Good	427	30	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.65
43	Sang Moc, Vo Nhai	106.03	21.88	451398	2419927	17	5.4	9	Good	424	30	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.65
44	Sang Moc, Vo Nhai	106.03	21.88	451398	2419932	17	5.4	9	Good	425	30	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.65

45	Sang Moc, Vo Nhai	106.03	21.88	451400	2419932	122	38.9	32	Good	424	30	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.65
46	Sang Moc, Vo Nhai	106.03	21.8	451396	2411936	75	23.9	26	Good	420	30	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.65
47	Than Sa, Vo Nhai	105.89	21.87	437033	2418853	64	20.4	14.5	Good	460	25	6.5	Poor secondary evergreen broadleaved forest on rocky mountain	0.6
48	Than Sa, Vo Nhai	105.89	21.87	437031	2418856	76	24.2	13.5	Good	461	25	6.5	Poor secondary evergreen broadleaved forest on rocky mountain	0.65
49	Than Sa, Vo Nhai	105.89	21.87	437033	2418865	43	13.7	9	Good	462	25	6.5	Poor secondary evergreen broadleaved forest on rocky mountain	0.65

50	Than Sa, Vo Nhai	105.89	21.87	437006	2418872	42	13.4	11	Good	470	25	6.5	Poor secondary evergreen broadleaved forest on rocky mountain	0.65
51	Than Sa, Vo Nhai	105.89	21.87	437003	2418890	117	37.3	21.5	Good	480	27	6.5	Poor secondary evergreen broadleaved forest on rocky mountain	0.65
52	Than Sa, Vo Nhai	105.89	21.87	437002	2418892	26	8.3	8	Good	488	27	6.5	Poor secondary evergreen broadleaved forest on rocky mountain	0.65
53	Than Sa, Vo Nhai	105.89	21.87	437003	2418892	58	18.5	12.5	Good	477	27	6.5	Poor secondary evergreen broadleaved forest on rocky mountain	0.6
54	Than Sa, Vo Nhai	105.89	21.87	436994	2418887	125	39.8	27	Good	462	27	6.5	Poor secondary evergreen broadleaved forest on rocky mountain	0.6

55	Than Sa, Vo Nhai	106.07	21.8	455174	2410967	36	11.5	8.5	Good	397	27	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.65
56	Than Sa, Vo Nhai	106.07	21.79	455099	2410891	54.6	17.4	13.5	Good	425	27	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.65
57	Than Sa, Vo Nhai	106.07	21.79	455001	2410853	69	22.0	16	Good	417	22	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.65
58	Than Sa, Vo Nhai	106.07	21.79	455003	2410879	165	52.5	24.5	Good	414	26	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.65
59	Than Sa, Vo Nhai	106.07	21.86	455118	2417749	64.5	20.5	13.3	Good	424	30	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.65

60	Than Sa, Vo Nhai	106.07	21.8	455124	2411737	31	9.9	3.8	Good	445	30	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.65
61	Vu Chan, Vo Nhai	106.07	21.8	455156	2411462	76	24.2	14	Good	449	35	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.65
62	Vu Chan, Vo Nhai	106.07	21.8	455144	2411451	100	31.8	24.5	Good	437	28	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.7
63	Vu Chan, Vo Nhai	106.07	21.8	455070	2411447	76	24.2	10.4	Good	420	30	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.68
64	Vu Chan, Vo Nhai	106.02	21.83	450724	2414641	55	17.5	11.5	Good	415	25	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.68

65	Vu Chan, Vo Nhai	105.89	21.87	437034	2418899	78	24.8	12	Good	436	25	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.68
66	Vu Chan, Vo Nhai	106.03	21.88	451480	2419976	170	54.1	45	Good	400	23	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.68
67	Vu Chan, Vo Nhai	106.03	21.8	451449	2411452	31	9.9	3.8	Good	430	23	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.7
68	Vu Chan, Vo Nhai	106.07	21.8	455156	2411462	64.5	20.5	13.5	Good	446	25	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.6
69	Vu Chan, Vo Nhai	106.07	21.8	455124	2411737	165	52.5	24.5	Good	448	25	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.6

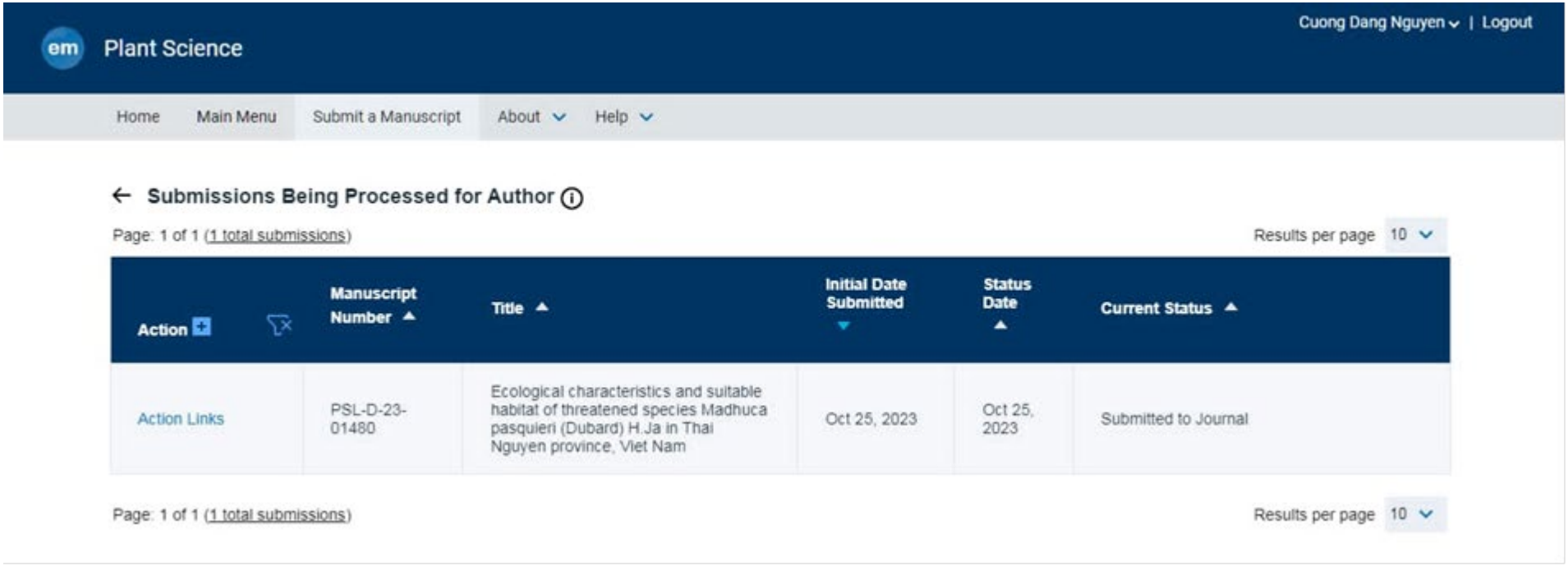
70	Vu Chan, Vo Nhai	106.08	21.8	456419	2411748	69	22.0	16	Good	445	25	7.5	Poor secondary evergreen broadleaved forest on soil mountain	0.6
71	Vu Chan, Vo Nhai	106.07	21.8	455118	2411749	54.6	17.4	13.5	Good	451	25	7	Poor secondary evergreen broadleaved forest on soil mountain	0.6
72	Vu Chan, Vo Nhai	106.07	21.8	455187	2411748	36	11.5	8.5	Good	456	25	7	Poor secondary evergreen broadleaved forest on soil mountain	0.6
73	Vu Chan, Vo Nhai	106.07	21.79	455000	2410877	65	20.7	14.5	Good	411	25	7	Poor secondary evergreen broadleaved forest on soil mountain	0.6
74	Vu Chan, Vo Nhai	106.07	21.79	455001	2410859	80	25.5	18.5	Good	415	25	7	Poor secondary evergreen broadleaved forest on soil mountain	0.6

75	Vu Chan, Vo Nhai	106.07	21.79	455100	2410892	67	21.3	15.5	Good	450	25	7.5	Poor secondary evergreen broadleaved forest on soil mountain	0.6
76	Vu Chan, Vo Nhai	106.07	21.8	455174	2410967	55	17.5	12.5	Good	425	25	7.5	Poor secondary evergreen broadleaved forest on soil mountain	0.6
77	Thuong Nung, Vo Nhai	105.64	21.49	445557	2413669	42.3	13.5	9.5	Good	190	35	6	Very poor secondary evergreen broadleaved forest on rocky mountain	0.6
78	Thuong Nung, Vo Nhai	105.76	21.96	445557	2413669	41.2	13.1	12	Good	190	35	5	Poor secondary evergreen broadleaved forest on soil mountain	0.6
79	Thuong Nung, Vo Nhai	105.59	21.98	445557	2413669	40.4	12.9	9.5	Medium	190	35	5.5	Poor secondary evergreen broadleaved forest on soil mountain	0.6

80	Thuong Nung, Vo Nhai	105.97	21.82	445091	2414141	29.2	9.3	9	Medium	190	25	6	Poor secondary evergreen broadleaved forest on rocky mountain	0.6
81	Thuong Nung, Vo Nhai	105.97	21.82	445091	2414141	40.4	12.9	10	Good	190	25	7	Poor secondary evergreen broadleaved forest on rocky mountain	0.6
82	Hoa Binh, Dong Hy	105.97	21.82	432688	2405214	55.6	17.7070064	12	Medium	290	35	6.5	Poor secondary evergreen broadleaved forest on rocky mountain	0.6
83	My Yen, Dai Tu	105.97	21.82	406281	2383381	210	66.8789809	40	Good	907	25	7.8	Poor secondary evergreen broadleaved forest on soil mountain	0.6
84	My Yen, Dai Tu	105.97	21.82	406287	2383370	17	5.41401274	7	Medium	910	25	4	Poor secondary evergreen broadleaved forest on soil mountain	0.6

85	My Yen, Dai Tu	105.85	21.74	406281	2383379	40	12.7388535	14	Medium	909	25	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.6
86	My Yen, Dai Tu	105.6	21.54	406312	2383400	195	62.1019108	26	Good	902	28	6.5	Poor secondary evergreen broadleaved forest on soil mountain	0.6
87	My Yen, Dai Tu	105.6	21.54	406314	2383406	83	26.433121	20	Good	906	28	6	Poor secondary evergreen broadleaved forest on soil mountain	0.6
88	Quan Chu, Dai Tu	105.6	21.54	410897	2377067	36.7	11.6878981	12.5	Medium	410	20	5.3	Poor secondary evergreen broadleaved forest on soil mountain	0.6
89	Tan Thinh, Dinh Hoa	105.6	21.54	423352	2429759	28.7	9.14012739	10.5	Medium	340	15	5	Poor secondary evergreen broadleaved forest on soil mountain	0.6

90	Quy Ky, Dinh Hoa	105.6	21.54	404957	2432390	25.5	8.12101911	10	Medium	190	20	4.5	Poor secondary evergreen broadleaved forest on soil mountain	0.6




ĐẢNG CỘNG SẢN VIỆT NAM QUANG VINH MUÔN NĂM
BAN QUẢN LÝ KHU BẢO TỒN THI


BAN QUẢN LÝ KHU BẢO TỒN THIÊN NHIÊN THẦN SA


vTools Survey
VN-2000 / THÁI NGUYÊN
X: 435514.668 m
Y: 2408707.639 m
WGS 84 - EPSG:4326
21.77401542°, 106.07172689°
Sai số: 10.41 m
Độ cao: 492.95 m
Hướng chụp: Đông Bắc (28°)
2022/10/11 13:14:43


vTools Survey
VN-2000 / THÁI NGUYÊN
X: 455842.116 m
Y: 2408048.121 m
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21.76806689°, 106.07491073°
Sai số: 9.94 m
Độ cao: 316.43 m
Hướng chụp: Tây Bắc (313°)
2022/10/11 10:00:58


vTools Survey
VN-2000 / BẮC KẠN
X: 450723.332 m
Y: 2414635.781 m
WGS 84 - EPSG:4326
21.82743073°, 106.02522044°
Sai số: 10.87 m
Độ cao: 415.26 m
Hướng chụp: Tây Nam (220°)
2023/05/05 12:22:09


vTools Survey
VN-2000 / BẮC KẠN
X: 439314.863 m
Y: 2413249.381 m
WGS 84 - EPSG:4326
21.81455493°, 105.91491712°
Sai số: 3.79 m
Độ cao: 224.62 m
Hướng chụp: Nam (170°)


vTools Survey
VN-2000 / BẮC KẠN
X: 455173.088 m
Y: 2410969.238 m
WGS 84 - EPSG:4326
21.79443330°, 106.06836282°
Sai số: 3.79 m
Độ cao: 397.62 m
Hướng chụp: Tây Bắc (333°)