



ASSESSMENT OF PROTECTION FORESTS FOR ENVIRONMENTAL PROTECTION AND NATURE RESERVES WITH AN AREA OF LESS THAN 5,000 HA



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ABBREVIATIONS

MB	Management Board
MARD	Ministry of Agriculture and Rural Development
DARD	Department of Agriculture and Rural Development
VNFOREST	Vietnam Administration of Forestry
ND-CP	Prime Minister's Decree
QD-TTg	Prime Minister's Decision
SUF	Special Use Forest
PF	Protection Forest
NP	National Park
PC	People Committee



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I. PREFACE

The forestry sector is developing the National Forestry Planning in accordance with the Law on Planning and the Law on Forestry. Accordingly, the Development of Special-use and Protection Forest Management is assigned by the Ministry of Agriculture and Rural Development (MARD)⁽¹⁾ to undertake the following tasks:

- i. To assess the implementation of the planning for special-use forest system (Decision 1976), including the status and challenges.
- ii. To propose the plan for special-use and protection forest development to include into the planning in the period 2021-2030, with a vision to 2050 which covers the main contents including new establishment, class upgrade and conversion, and expansion of special-use and protection forests, etc.

⁽¹⁾ Decision No.5051 of MARD dated December 30, 2019 assigning the Department of Planning and Finance under VN-FOREST to collaborate in developing the National Forestry Planning and Vietnam Forestry Development Strategy, the period of 2021-2030, with a vision to 2050.

To do these tasks, the Department of Special-use and Protection Forest has sent the provincial Department of Agriculture and Rural Development (DARD) the questionnaire to collect the necessary information. As a result, 28 provinces filled in the questionnaire and sent it back to the Department of Special-use and Protection Forest. This has been aggregated as one of the inputs for orientation of planning special-use and protection forests under the National Forestry Planning, that assess the satisfaction of forest classification criteria of the above mentioned forests in accordance with current regulations.

According to the Law on Forestry, especially the Decree 156/2018/ND-CP dated November 16, 2018 of the Government on enforcement of a number of articles of the Law on Forestry (hereinafter referred to as Decree 156) which takes effect from January 1, 2019, there are a number of differences from the Law on Forest Protection and Development (2004) and its by-law documents at that time. In which, the nature reserves (under the special-use forest system) has a change in area criteria (must reach an area of more than 5,000 ha); Protection Forest (PF) for environmental protection is changed in the forest classification system (identified as one of the forest types in the Landscape Protected Area of the SUF system).

Based on the Decision No.1994 and the Decision No.536⁽²⁾ of MARD approving the development of the National Forestry Planning and the tasks of planning forestry sector in accordance with the Law on Planning, the consistent classification criteria and systems for special-use and protection forests to be included into the National Forestry Planning is one of the assigned tasks.

With support of the Bio project (GIZ), the consultant group has conducted a case study in a protection forest for environmental protection and the nature reserves with an area of less than 5000 ha within the special-use forest system. On this basis, the consultant group proposed the orientation to adjust the protection forest for environmental protection and the nature reserves to be in line with the forest classification criteria and system specified under the Law on Forestry and the Decree 156. These are also recommendations for planning two these classes in the systems of special-use and protection forests under the National Forestry Planning.

⁽²⁾ This task is considered as an planning proposal which describes perspectives, principles and approach in identifying objectives, requirements for the main contents, as well as methodology, expected outcomes and necessary financial resources, etc.



II. OBJECTIVES, METHODS AND PROCESS OF THE STUDY

1. Objectives and tasks

Overall objective: the protection forests for environmental protection (under the previous protection forest system) and the nature reserves (under the special-use forest system) which have an area of less than 5000 ha shall be assessed and proposed for classification/arrangement in accordance with the Law on Forestry 2017.

Main tasks:

- To synthesize and assess the status of the protection forest for environmental protection and the nature reserves with the area of less than 5000 ha nationwide.
- To conduct an in-depth assessment of some protection forests for environmental protection and the nature reserves with an area of less than 5000 ha regarding the adjustment or conversion of forest types in accordance with current regulations.
- To propose criteria and orientation for adjusting the protection forest for environmental protection and the nature reserves

2. Methods and process

This study is implemented by the experts in special-use and protection forests and mainly based on the experts' experience.

The main methods are as follows:

- To aggregate information about the protection and special-use forests that provinces/cities have sent to the Department of Special-use and Protection Forest Management, and to collect available information related to special-use and protection forests from VNFOREST, Forest Inventory and Planning Institute (FIPI), Department of Natural Conservation and Biodiversity, and other agencies. Then, to analyze, assess, and compare the collected information to identify the scope and objects of special-use and protection forests to be upgraded/converted the class according to forest classification criteria specified under the Law on Forestry and the Decree 156/2018/ND-CP. To develop a matrix for analyzing the forest class upgrade/conversion to be the base for developing the list of class-upgraded/converted special-use and protection forests. Accordingly, information about area, location, management units, status, and satisfied forest classification criteria of the individual forests are provided.
- Field survey: To prepare for the survey in localities and at special-use and protection forest areas mainly via discussion with the following target groups in order to collect information:
 - + Local state management agencies, specifically Department of Forest Protection (FPD)
 - + Management Boards (MB) of Special-use Forest that are less than 5000 ha;
 - + Management Boards of Protection Forest for Environmental Protection
 - + The discussions focused on the ability of class upgrade/conversion of special-use and protection forests which do not satisfy the criteria specified under the Decree 156.
 - + (Time of the field survey and interviewees are attached in the Annex)
- To collect additional information to assess the values of to-be-upgraded/converted forests, especially the nature reserves with an area of less than 5000 ha. Based on that, to propose sub-criteria for converting forest classes/types or keeping the same classes of special-use and protection forests, especially for the protection forests for environmental protection and the nature reserves with an area of less than 5000 ha.
- To use the forest status map and the forest inventory map to review all protection forests for environmental protection on the basis of the criteria for reviewing the protection forests for environmental protection; to aggregate information and propose to convert types/classes of the protection forests for environmental protection.
- To consult stakeholders, including Department of Special-use and Protection Forest Management, experts in natural conservation, and experts in protection forest, etc to develop the criteria and identify justification for class/type conversion of the special-use and protection forests, including justification for keeping the same classes (especially for the nature reserves with an area of less than 5000 ha).

- To frequently/periodically discuss with the Department of Special-use and Protection Forest as well as the Working Group and consultants of National Forestry Planning in order to ensure the consistency and coherence of inputs for developing the National Forestry Planning.

Criteria of special-use and protection forests used in this report include:

- According to item c, clause 2, article 6, Decree No.156/2018/ND-CP, Special-use forests (SUF) for environmental protection shall satisfy the criteria: *“Forests protecting environment of urban areas, industrial zones, export-processing zones, economy zones and hi-tech zones that protect environment and landscape and are planned associated with urban areas, industrial zones, export-processing zones, economy zones and hi-tech zones”*
- According to clause 2, article 6, Decree 156, nature reserves shall satisfy the following criteria:
 - Have a natural ecosystem that is nationally or internationally significant or features or represents a natural eco-region;*
 - House at least 5 species on the list of endangered and rare forest animals and forest plants;*
 - Have a special significance to science, education or ecotourism, hospitality and entertainment services;*
 - Have inter-regional area of at least 5,000 ha, 90% of which is forest ecosystem.*
- According to item d, clause 3, Article 6, the Decision No.17/2015/QD-TTg promulgating the regulation on protection forest (PF) management, *“a protection forest for environmental protection is considered conformable to the determination standard when the effects of air-pollution prevention and climate regulation have been activated, creating a fresh landscape and environment for industrial zones, urban zones, tourism and resort zones.”* (Although it is no longer valid, this is the clearest criteria for PF for environmental protection).

The implementation process of the study consists of 2 main following stages:

- Stage 1: to review the entire system of SUF and PF according to the plans so far. The outputs of this stage are preliminary findings on forest classification criteria and constraints of forest planning that need to be discussed with stakeholders.
- Stage 2: To conduct field trips to meet and discuss with stakeholders in the areas of SUF and PF, and forestry management agencies. The outputs of this stage are records that continue to detect difficulties in planning in terms of class classification for the PF for environmental protection and the nature reserves with an area of less than 5,000 ha, recommendations and proposals for forest type conversion of these SUFs and PFs.
- Stage 3: To prepare documents and reports for the group discussions with different consultants of the National Forestry Planning related to SFU and PF planning. The outputs of this stage are findings on and recommendations for challenges in SUF and PF planning under the National Forestry Planning.

- Stage 4: To develop the study report, including recommendations and proposals for planning the FP for environmental protection and the nature reserves with an area of less than 5000 ha.
- Stage 5: To continue to provide recommendations for the National Forestry Planning.



Picture 1. Discussion with Quy Nhon Forestry Company



III. ASSESSMENT OF THE PLANNING STATUS AND REGULATIONS FOR SUF AND PF

1. Status of the PF system and related regulations

1.1. Status of the overall PF planning

Protection forests have been developed in some mountainous and coastal provinces since 1975, but it was not until issuance of the first forestry law as Law on Forest Protection and Development (1991) that the PF system was officially established. Going through the planning and establishment process, by 2020 Vietnam had about 4.64 million ha of protection forests, including 3.95 million ha of natural forests and 0.69 million ha of plantation forests according to the Decision 1423/QĐ-ND-CP. BNN-TCLN dated April 15, 2020 of MARD announcing the national forest status in 2019. In the view of the protection forest types, the watershed protection forests cover 3.84 million ha of natural forests and 0.54 million ha of plantation forests; wind/sand shielding protection forests cover an area of 20,640 ha, including 4,469 ha of natural forests and 16,180 ha of plantation forest; Tide shielding protection forests cover an area of 66,350 ha, including 22,810 ha of natural forests and 43,540 ha of plantation forests; and environmental protection forests cover an area of 101,792 ha, including 48,774 ha of natural forests, 53,019 ha of plantation forests.

In general, the total area of protection forests as natural forests has gradually decreased from 4.3 million ha in 2010 down to 3.95 million ha in 2019. And the area of protection forests as plantation forests has increased slightly from 0.61 million ha in 2010 up to 0.69 million ha in 2019. While there are some small changes in the area of timber natural forests and a slight decrease of the area of bamboo forests, the area of mixed forests, mangrove forests and limestone forests have increased that are the results of natural regeneration zoning and mangrove plantation.

Up to now, data on the quality of protection forests is very limited, only shown through the announcement of forest status after the 2016 national forest inventory of VNFOREST. According to this, the area of protection forests as rich and medium natural timber forests is over one million ha, accounting for 29.8% of the natural protection forest. It can be seen that the quality of natural forests has not met the protection requirements, therefore, the forestry sector and the whole society must invest more to maintain and develop forests so that they can meet the protection requirements.

Table 1. The protection forest system by 2017

No	Types of protection forest	Total area of land, PF	Forest-covered area (ha)			Land planned for forest development
			Total	Natural forest	Plantation forest	
	Total	5,950,479	4,500,756	3,890,775	593,802	1,383,373
1	Watershed protection	5,573,703	4,378,315	3,837,532	540,783	1,195,388
2	Wind/sand shielding	38,263	20,649	4,469	16,180	17,614
3	Tide shielding	118,207	66,350	22,810	43,540	51,858
4	Environmental protection	220,306	101,792	48,774	53,019	118,513

Source: VNFOREST, 2017

The protection forest system is managed by many focal points from the grassroots to provincial level. Currently, the whole country has 231 protection forests with management boards, of which 5 forests are managed by the provincial People's Committee (PPC), 153 forests are managed by the Department of Agriculture and Rural Development (DARD), 55 forests are managed by the district People's Committee (DPC), and 18 forests are managed by the Sub-Forest Protection Development (FPD) (VNFOREST 2019). In addition, communities, households, armed forces and other actors are managing more than 330,000 ha (VNFOREST, 2017).

1.2. Status of the protection forests for environmental protection

1.2.1. Area and distribution of the protection forests for environmental protection

The area planned for protection forests for environmental protection is very small and scattered throughout the country. Up to now, it is only 260,073 ha, accounting for 4.4% of the total protection forest area. However, protection forests for environmental protection play an important role because they focus on environmental protection for key areas. PFs for environmental protection are mainly distributed in cities, towns, hydropower zones, industrial parks and large factories in the provinces. Below is the area of protection forests for environmental protection nationwide and by ecological regions:

Table 2. Area of the PFs for environmental protection by ecological regions⁽³⁾

	Northwest	Northeast	Red River Delta	North Central	South Central Coast	Central Highlands	Southeast	Southwest	Nationwide
Environmental protection	66,005	23,491	28,183	12,896	25,239	36,298	45,162	22,799	260,073

Source: Department of SUF and PF Management, 2021

Overall, the area of PFs for environmental protection is quite large but scattered, and there are only City) with over 34,000 ha, Long Thanh Environmental Protection Forest (in Dong Nai) with over 7,000 ha, or Nui Coc Lake Environmental Protection Forest (in Thai Nguyen) with nearly 4,000 ha, etc. Hundreds of remaining forests have an area of less than 100 ha; even many of them have an area of less than 01 ha.

1.2.2. Management status of the environmental protection for forest management

Currently, the management of the PF system in general and the PFs for environmental protection in particular is not consistent across the country. Many different management models are being applied of which many forests are managed by DARD; the others are managed by PPCs or directly under the District FPD while many areas are assigned to other forest owners. PFs for environmental protection are managed by diversified owners but few of them have their own management boards. Only a number of inter-regional PFs for environmental protection with high environmental, ecological and biodiversity values have their own management boards such as the Can Gio Environmental Protection Forest Management Board, or the Nui Coc Lake Environmental Protection Forest Management Board. Many areas are assigned to other PF or SUF management boards, State-owned forestry companies/enterprises, etc for management. Most of the remaining PFs for environmental protection are assigned to the Commune People's Committees (CPC), armed forces, organizations, enterprises, individuals, households and communities for management.

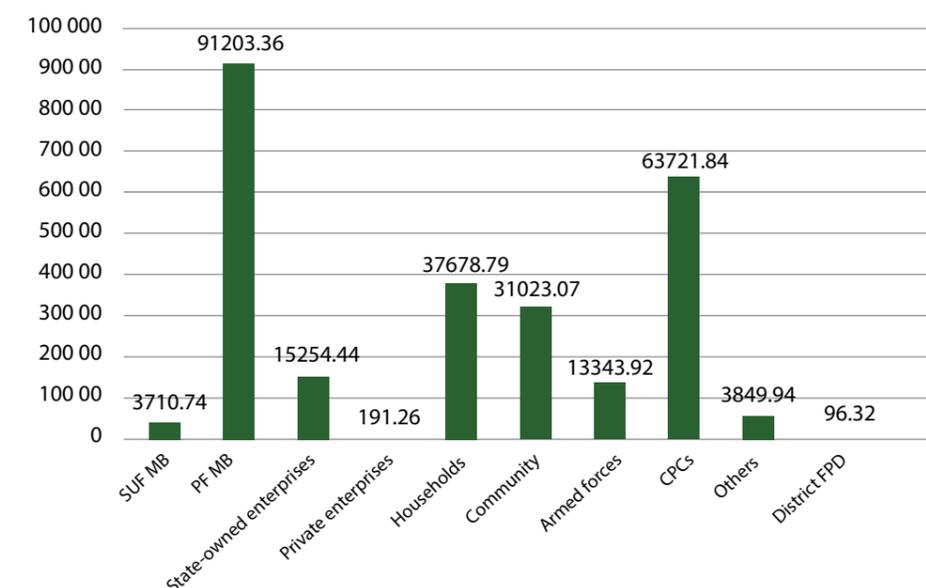


Figure 2. Management status of PF for environmental protection nationwide

Only about one third of the environmental protection forest area is allocated to the protection forest management boards (MB). More than 63,000 ha have been temporarily allocated to the CPCs for management (it is considered as no forest owner because CPC is not recognized as the forest owner under the Forestry Law). It is noteworthy that over 31,000 ha are allocated to the communities and more than 37,000 ha are allocated to households, of which most households are managing from less than 1 ha to 10 ha (eg the North Central has more than 1,000 households managing PF for environmental protection with an area of 0.1 ha - 5 ha). State-owned enterprises are also assigned an area of more than 15,000 ha (typically in Binh Dinh) to manage in the form of public services. Another remarkable point is that SUF management boards are managing about 4,000 ha but normally they only manage the extra of environmental protection PFs.

Thus, the management system of environmental protection forest is not consistent nationwide. Only the Can Gio Environmental Protection FMB (which is also a World Biosphere Reserve) is quite strong and is prioritized for big investments. Most of the remaining PFs for environmental protection are still loosely managed. Many areas have not had their own forest owners but are assigned to the CPCs, and other small areas are assigned to households for management.

⁽³⁾ Report on reviewing the PF system until 2020 with an orientation to 2030

1.3. Regulations on criteria for protection forest classification

The Decree 156 specifies 5 groups of criteria for protection forests; the Decision 17/2015/QĐ-TTg dated June 9, 2015 of the Prime Minister issuing Regulation on PF management (replacing the expired Decision 17) specifies 4 types of protection forests and criteria for determining the importance of each protection forest type. Below is the summary on criteria for protection forest classification according to two above mentioned documents:

Table 3. Summary on criteria for PF classification

Decree 156	Decision 17
<p>Article 7. Criteria applied for protection forests</p> <ol style="list-style-type: none"> 1. Watershed protection forests are forests in the basin of rivers or reservoirs 2. Forests used for protection of water sources of the community 3. Bordering protection forests 4. Wind/sand shielding protection forests 5. Protection forests for tide shielding or sea encroachment prevention 	<p>Article 4. Classification of protective forests</p> <ol style="list-style-type: none"> 1. Watershed protection forests 2. Wind/sand shielding protection forests 3. Protection forests for tide shielding or sea encroachment prevention 4. Protection forest for environmental protection

Thus, the protection forest for environmental protection is not specified under the Decree 156 but the Decision 17/2015/QĐ-TTg while this Decision has expired. However, according to the Decree 156, the forests that protect environment and landscape are specified as one of the SUF types.

1.3.2. Criteria for Environmental PF

As described in the sections on status of PF and SUF, due to a change in the provisions of the Forestry Law regarding the criteria for PF, the type of the environmental protection forest according to the Decision 17 is not specified as the protection forest but in line with the landscape protection area of the special-use forest system according to Decree 156.

Box 1. Regulations on PF for environmental protection under the Decree 156

Article 6. Criteria applied for SUFs

4. Landscape protection areas including:

- a) Forests used for preservation of historical and cultural heritage and landscape that has environmental scenery or unique feature of nature; historical and cultural heritage or landscape classd by the competent regulatory agency or subjects on the list of heritage stocktaking as per provisions of the law on culture; and has a value to science, education, ecotourism, hospitality and entertainment services;
- b) Holy forests that has environmental scenery or unique feature of nature and is associated with beliefs and customs of the forest-dependent community;
- c) Forests protecting environment of urban areas, industrial zones, export-processing zones, economy zones and hi-tech zones that protect environment and landscape and are planned associated with urban areas, industrial zones, export-processing zones, economy zones and hi-tech zones.

It can be understood that PFs for environmental protection were formerly a forest type in the protection forest system, and now are one of the criteria of the landscape protection area under the special-use forest system according to the Decree 156.

2. Status of the SUF system

2.1. Status of the SUF system planning

In 1962, the first special-use forest established in the North of Vietnam was Cuc Phuong Forbidden Forest (now Cuc Phuong National Park). In 1965, the South Vietnam Government decided to establish a number of protection areas, including Con Dao and Bach Ma. After the liberation day, the Prime Minister issued Decision No. 41/TTg on January 24, 1977, establishing 10 more forbidden forests with a total area of 44,310 ha. By 1986, according to the Decision 194/CT dated August 9, 1986 of the Chairman of the Ministers Council (now the Prime Minister), Vietnam's special-use forest system was relatively complete with 73 areas belonging to 3 classes of National Parks, Nature reserves and Cultural - Historical - Environmental Forests.

In 2003, the strategy of landscape protection areas management was approved by the Prime Minister under the Decision 192/2003/QĐ-TTg. According to this, the Cultural - Historical - Environmental Forest was changed to Landscape Protection Forest. According to the Law on Forest Protection and Development in 2004, the special-use forest system consists of 3 classes, namely I - National Park, II - Nature Conservation Area (including 2 sub-catagories of IIa - Nature Reserves and IIb – Species-habitat Conservation areas) and III - Landscape Protection Area. According to Decision 1976/QĐ-TTg dated October 30, 2014 of the Prime Minister approving the planning for special-use forest system across the country to the year 2020, and a vision to 2030, special-use forests still keep the same the above classes but were added the category of the forests used for scientific research and experiment.

According to the Decision 218/QĐ-TTg dated February 7, 2014 of the Prime Minister approving Strategy for management of special-use forests, marine protected areas and inland water protected areas in Vietnam until 2020 and vision to 2030, “By 2020, to put area of special-use forests, marine protected areas and inland water protected areas attain to 9% of area of terrestrial territory and 0.24% of area of Vietnam sea areas”. Thus, special-use forests are still being prioritized for new establishment or expansion, because the terrestrial conservation areas are mainly special-use forests.

Table 4. The SUF system by 2017

No.	Class	Q'ty	Area (ha)
1	National Parks	33	1,152,462.43
2	Nature Reserves	57	1,026,085.00
3	Species-habitat Conservation areas	12	34,820.40
4	Landscape Protection Areas	53	86,365.75
5	Forests used for scientific research and experiment	9	10,838.16
	Total	164	2,310,571.74

(Source: VNFOREST, 2017)

In addition, the Decree 156/2018/ND-CP also describes two more criteria for the special-use forest system, including National Botanical Garden and National Seed Forest. However, because the Decree is still new, the quantity and area of these classes have not been reviewed and inventoried by localities.

The SUFs are managed by different levels. The forests which are located in 2 or more provinces shall be managed by the central agencies of which 06 National Parks (NP) are under the management of VNFORETS - MARD. The remaining SUFs are managed by the provincial level via different models. Most of the SUFs in the provinces are directly managed by DARD, but by provincial or district FPD in some provinces (Tuyen Quang) or by DPCs in other provinces (Quang Nam). Similarly, the national parks are under the management of PPCs in some provinces (Lam Dong, Quang Nam), but under the management of DARD in other provinces (Hai Phong).

2.2. Status of the nature reserves with an area of less than 5000 ha

According to the Decision No.1976/QĐ-TTg dated October 30, 2014 of the Prime Minister approving the planning for special-use forest system across the country to the year 2020, and a vision to 2030, there are 06 nature reserves with an area of less than 5000 ha, in particular:

Table 5. The Nature Reserves (NR) with an area of less than 5000 ha according to the Decision 1976

No.	The NR	Location	Area	Establishment purposes	Remark
1	Bà Nà - Núi Chúa	Quảng Nam	2,440.19	Preserve forest resources and biodiversity.	Transition planning
2	Son Tra Peninsula	Da Nang	2,591.00	Protect natural forests, biodiversity, landscape, environment.	Transition planning
3	Chi San	Ha Giang	4,518.30	Protect natural forest, environmental landscape, rare and precious species.	Planning for new development
4	Láng Sen	Long An	2,156.00	Preserve eco-system of submerged lands in Mekong Delta.	Transition planning
5	Lung Ngọc Hoàng	Hau Giang	2,805.00	Preserve eco-system of mangrove forest and habitats for birds and fish.	Class transition planning
6	Vân Long	Ninh Bình	2,235.00	Protect limestone forests, habitats for Delacour's langurs.	Transition planning

Source: Decision 1976/QĐ-TTg

04 out of the 06 above mentioned nature reserves were established before 2014 and are planned for transition, and one of them as Chi San (Ha Giang) is planned for new establishment. On March 5, 2015, the PPC issued the Decision No. 372/QĐ-UBND approving the project of establishing Chi San - Meo Vac - Ha Giang nature reserve. According to this project, Chi San is under the class of nature reserves and has an area of more than 5,000 hectares that fully meet the criteria of a nature reserve as prescribed in Decree 156.

Ba Na - Nui Chua Nature Reserve is located in 2 compartments of Quang Nam province and adjacent to the Ba Na - Nui Chua Nature Conservation Area of Da Nang. Ba Na - Nui Chua of Quang Nam was planned as a nature reserve before 2014 and for transition according to the Decision No. 1976/QĐ-TTg. However, up to now, this area has not been officially considered as a SUF but a watershed PF in Quang Nam province. It is currently assigned to FP FMBs for temporary management.

Son Tra Peninsula was established in 1977 according to the Decision No. 41-TTg of Prime Minister Pham Van Dong, covering almost the entire natural area of Son Tra Peninsula. However, due to the advantages of geographic location and landscape, Son Tra is considered as one of the hot tourism development spots in Vietnam and has become a national tourist area according to Decision No. 2163/QĐ-TTg of the Prime Minister approving the master

plan of Son Tra national tourism area in the city of Da Nang (hereinafter referred to as Son Tra National Tourism Area) by 2025, with a vision towards 2030. Therefore, the planned area of the Son Tra Peninsula Nature Reserve is only 2,591.1 ha. The establishment of Son Tra Peninsula Nature Reserve aims to protect natural forests, biodiversity and landscape and environment. However, Son Tra Peninsula is famous for preserving the gray-shanked douc langour with a very large density and quantity ⁽⁴⁾. Son Tra Peninsula Nature Reserve is currently managed by the sub-FPD. .

Lang Sen and Lung Ngoc Hoang nature reserves are two important wetlands which are established with the aim of preserving wetland ecosystems, water birds and fishes. The forests in this area are mainly natural or plantation Melaleuca forests.

Van Long Nature Reserve in Ninh Binh Province was established with the aim of preserving the limestone natural forest which is the habitat of the Delacour's langur species.

2.3. Regulations on criteria for SUFs classification

2.3.1. Overall regulations

The Law on Forestry in 2017 and the Decree No.156/2018 dated November 16, 2018 of the Government on the enforcement of a number of articles of the Law on Forestry stipulate some different regulations on SUFs to the Law on Forest Protection and Development, as follows:

Table 6. Summary on criteria for SUFs classification

The Law on Forest Protection and Development (2004)	The Law on Forestry (2017)
<p>Article 4.- Forest classification 2. Special-use forests, which are used mainly for conservation of nature, specimens of the national forest ecosystems and forest biological gene sources; for scientific research; protection of historical and cultural relics as well as landscapes; in service of recreation and tourism in combination with protection, contributing to environmental protection, including: a/ National parks; b/ Nature conservation zones, including nature reserves and species-habitat conservation zones; c/ Landscape protection areas, including forests of historical or cultural relics as well as scenic landscapes; d/ Scientific research and experiment forests.</p>	<p>Article 5. Forest classification 2. Special-use forests shall be mostly used to conserve natural forest ecosystems, genetic resources of forest organisms, carry out scientific research and preserve historical - cultural relics, beliefs, places of scenic beauty associated with ecotourism; hospitality and entertainment except for strictly protected sub-zones of reserve forests; and provide forest environmental services including: a) National parks; b) Natural reserves; c) Species – habitat reserves; d) Landscape protection areas including forests used for preserving historical - cultural relics and places of scenic beauty; belief forests; forests protecting environment of urban areas, industrial parks, export-processing zones, economic zones and high-tech zones; dd) Forests used for scientific research or experiment purposes; national botanical gardens; national forest nurseries.</p>

⁽⁴⁾According to GreenViet, there are about 1000 individuals of Gray-shanked Douc in Son Tra Peninsula (2017)

The Decree 156 stipulates 07 criteria groups for SUFs, including (1) National Park, (2) Nature Reserve, (3) Species-habitat Conservation Area, (4) Landscape Protection Area, (5) Forests used for scientific research and experiment, (6) National botanic gardens, and (7) National forest nurseries.

The difference in SUFs under the Law on Forestry is that the Law supplements the criteria of National Botanic Garden and National Forest Nurseries. Besides that, “holy forests” and “environmental protection forests” are added into the criteria of landscape protection forests. Especially, “environmental protection forests” is one of the criteria of the special-use forest system, which is similar to the type of protection forest for environmental protection according to the Decision 17.

2.3.2. Criteria for nature reserves classification

As mentioned in the Preface, there is a change in the criteria for the area of nature reserves in the SUFs system when the Forest Law and its by-law documents come into effect. According to Clause 2, Article 6 of the Decree 156, the criteria for natural reserves are as follows:

Box 3. Criteria applied for the nature reserves according to the Decree 156

Article 6. Criteria applied for reserve forests

2. Natural reserves satisfying the following criteria:

- a) Have a natural ecosystem that is nationally or internationally significant or features or represents a natural ecoregion;
- b) House at least 5 species on the list of endangered and rare forest animals and forest plants;
- c) Have a special significance to science, education or ecotourism, hospitality and entertainment services;
- d) Have inter-regional area of at least 5,000 ha, 90% of which is forest ecosystem..

Consequently, according to Decree 156, a nature reserve must have inter-regional area of at least 5,000 ha. However, in fact some nature reserves have an area of less than 5,000 hectares. This is one of the troubles in re-planning such areas according to the criteria for the SUFs classification in the National Forestry Planning.



IV. CHALLENGES IN THE NATIONAL AND PROVINCIAL PLANNING OF PFs AND SUFs

1. Challenges in planning PFs for environmental protection

1.1. Overall challenges

In terms of the area and distribution of the PFs for environmental protection:

In fact, PFs for environmental protection is very scattered and fragmented in all ecological regions and distributed in almost provinces in the country. Many of them only have an area of less than 5 ha, or even 1-2 hectares. If being converted into special-use forests, they will be very fragmented and cannot be in the same area.

In terms of management organization:

- PFs for environmental protection are currently managed by different owners (10 ones as described in the status section), of which many forest owners are households and individuals (up to thousands of forest owners in each ecological region such as Northeast, Northwest, and North Central). They are managing the very small and scattered areas of forest; most of them are forest plots with an area of less than 05 ha, even less than 01 ha. Therefore, these forests cannot be converted into the SUFs in accordance with current regulations. According to the provisions of the Law on Forestry and the Decree 156, the SUFs are not allowed to be assigned to households and individuals that makes the forest appropriation difficult if any.

- Most of the forests are adjacent to residential areas, industrial parks and very scattered that impossible to establish the management boards as prescribed in the Decree 156. Many areas have been allocated to households for many years, thus it is very difficult to appropriate for centralized management.
- Most of them are the plantation forests with the low biodiversity value that does not meet the criteria of the SUFs.
- Except some forests with the high biodiversity value or cultural and historical value, most provinces do not want to convert this forest type into the SUF because of challenges in management regulations which are stricter than the ones for PFs. In practice, it is unfeasible to apply the regulations on SUFs management to these fragmented forests.

1.2. Findings in some surveyed forests

1.2.1. Nui Coc Lake Protection forest

Current situation:

Nui Coc Lake has been included in the special-use forest system under the category of with an 6.000 hectare area of Cultural - Historical - Environmental Forest since 1986 as prescribed Decision 94/CT of the Chairman of the Council of Ministers. However, in 2003, Nui Coc Lake was removed from the planning of the special-use forest system until 2010 under Decision 192/2003/QD-TTg. In 1991, the Protection Forest Management Board of Nui Coc Lake was established, under the former Bac Thai Forestry Department. At that time, with an area of about 10.000 ha of protection forest, it stretched nearly to the top of the Tam Dao storm.

Nui Coc Lake has been included in the special-use forest system under the category of Cultural - Historical - Environmental Forest since 1986 with an area of 6.000 ha according to Decision No. 94/CT of the Chairman of the Council of Ministers. However, in 2003, Nui Coc Lake was removed from the planning of the special-use forest system until 2010 under Decision No. 192/2003/QD-TTg. In 1991, the Management Board for Forestry of Nui Coc Lake was established, under the former Bac Thai Forestry Department. At that time, with an area of about 10.000 ha of protection forest, it stretched nearly to the top of the Tam Dao storm.

When Bac Thai province was split into two provinces (Thai Nguyen and Bac Can), Thai Nguyen province directed the construction of a project to establish a protection forest for environmental protection in Nui Coc Lake and was approved under Decision No. 3467/QD-UBND dated December 28, 2009 of Thai Nguyen Provincial People's Committee.

According to the Management Board for Forestry, by 2012, the area of protection forest is only 3.453 ha. However, the area of protection forest is not contiguous and overlaps with the forest area of people and businesses. Currently, more than 1.000 hectares of the above area have been granted to people and businesses with land use right certificates. Currently, the Management Board for Forestry has only been granted red books of about 400 hectares, which were issued in 2013.

According to the decision to establish protection forest in 2009, the total area of protection forest is 3.453 ha, of which forest area is 3.206,7 ha, accounting for 92,9% of protection forest area; the area of land without forest accounts for only 7,1%.

Table 7. Forest land area by function

Type of soil/forest	Distribution by commune (ha)						
	Total	Phuc Triu	Phuc Xuan	Phuc Tan	Tan Thai	Luc Ba	Van Tho
Total protection forest	3.453,0	359,0	487,0	1347,0	740,0	320,0	200,0
- Land with forest	3.206,7	334,4	480,4	1.213,8	678,6	311,0	188,5
- Land without forest	246,3	24,6	6,6	133,2	61,4	9,0	11,5

Source: Environmental protection Forest Management Board of Nui Coc Lake, 2020

According to the results of the project on establishment of protection forest for environmental protection in Nui Coc Lake, the current status of forest land is: 3.453,0 ha, classified according to the following managers:

- The management board of protection forest for environmental protection of Nui Coc Lake manages 2.395,4 ha, accounting for 69,37%. This is an area located in the lakebed area, the Management Board contracted to households to plant forests under the project 661. However, at present, this area has only been issued by the Management Board with a certificate of the right to use 470 hectares of land, the rest have not been granted land use right certificates, this limits the initiative of the Board in the protection and sustainable development of forests.
- Households of the communes manage: 999,39 ha, accounting for 28,94% of the total area of forestry land.

However, this area of protection forest is very overlapping with many other managers as mentioned above. Most of the forest plots are small, fragmented and in a state of dispute over land use rights and land plants between households and the Nui Coc Lake Environmental Protection Forest Management Board.

Management organization:

- Currently, the Protection Forest Management Board of Nui Coc Lake includes: 01 Forest Protection Department with 4 forest protection stations: Phuc Xuan, Phuc Tan, Van Tho and Dao Co; Technical Department; administrative offices
- The assigned payroll is 21, but currently the payroll is 18 (6 civil servants, the rest are public employees), there are 3 other contract people. General information:
- From 2021, Nui Coc Lake Environmental Protection Forest will be merged with Than Sa - Phuong Hoang Nature Reserve to become the Management Board of Special-Use Forests and Protection Forests of Thai Nguyen Province, under the Department of Agriculture and Rural Development of Thai Nguyen Province.

Some problems related to changing the type to Special-use Forest:

- According to Decision No. 1976/2014/QĐ-TTg dated October 30, 2014 of the Prime Minister approving the master plan on national special-use forest system to 2020, vision to 2030, Nui Coc Lake is planned as a nature reserve with an area of 6.000 hectares.
- In 2019-2020, Thai Nguyen Provincial Forest Protection Department has reviewed and prepared a dossier for the establishment of a new Special-use Forest in Nui Coc Lake, that is, converting the environmental protection forest into a special-use forest, which is expected to be classified as a landscape protection zone. However, after reviewing the entire forest area in the area, nearly 90% of the area is Acacia plantations, natural forests, the rest is forest recovered after shifting cultivation, with little biodiversity value as well as landscape value. Therefore, the Department of Agriculture and Rural Development has proposed to the People’s Committee of Thai Nguyen province and the General Department of Forestry to keep it as a protection forest for environmental protection. This policy has been approved by Thai Nguyen Provincial People’s Committee and General Department of Forestry
- One of the problems is that, according to the provisions of Point d, Clause 2, Article 4 of the Forestry Law and Decree 156, the protection forest of Nui Coc Lake has become a special-use forest in the group of criteria for landscape protection area

Results of discussion on forest type change

- According to the provisions of Decree 156, this is one of the classifications of the Landscape Protection Area, but in the view of Thai Nguyen Forest Protection Department and Thai Nguyen Provincial Forest Protection and Forestry Management Board, the Nui Coc Lake area does not meet the criteria as a special-use forest. The main reason is:
 - Most of the forest area in the area is planted with imported trees (mainly Acacia);
 - The forest area is distributed in small numbers, scattered into 10 separate areas, where people live and cultivate agro-forestry interspersed in the forest;
 - Nui Coc Lake has a relatively beautiful landscape, but it is an artificial irrigation dam lake with little value for nature conservation;
 - The province needs an appropriate management mechanism to invest in exploiting and using aquatic resources of the lake bed as well as developing other types of tourism..
- Regarding the function of forests in the area, it is more suitable for watershed protection forest than special-use forest because most of the forest area is distributed in the sloping area around Nui Coc Lake. The forest here plays an important watershed protection role for Nui Co Lake, one of the large artificial lakes responsible for providing water for thousands of hectares of agricultural land and domestic water in the downstream area.



Figure 3. Landscape of Protection Forest for Environmental Protection Nui Coc Lake

1.4.2. Protection forest to protect the environment in Hanoi

Situation of protection forests for environmental protection:

Environmental protection forests of Hanoi city are scatteredly distributed with many different forest owners such as Hanoi Protection Forest-Special-Use Forest Management Board, Commune People's Committee, agencies, universities, enterprises, and households. ... with an area of 5856,78 hectares. In which, the largest and most concentrated areas are managed by the Management Board of Protection Forests - Hanoi Special-Use Forests.

For the Management Board of Protection Forests-Special-Use Forests in Hanoi, the area of environmental protection forests is concentrated mainly in Soc Son district (3.266,12 ha), the rest is scatteredly distributed in Thach That, Chuong My and Quoc Oai districts. Below is the current status of the area of environmental protection forest in Hanoi city:

Table 8. Current status of environmental protection forests under Hanoi Protection Forest-Special-Use Forest Management Board

Order	Forest type	Area
I	Area with forest	3.708,63
1	Natural forest	103,17
	Rừng nguyên sinh	0,00
	Rừng thứ sinh	103,17
2	Plantation forest	3.605,46
	Planted on land without forests	3.297,28
	Replanting after exploiting the existing forest	172,35
	Natural regeneration from harvested plantations	135,83
II	Area not yet forested	2.108,78
1	Areas that have been afforested but have not yet met the criteria for becoming forests	27,29
2	Area of zoning for regeneration	117,68
3	Other area	1.963,81
	Total	3.735,92

Source: Hanoi Forest Protection Department, Hanoi Protection Forest-Special-Use Forest Management Board

As for the scattered forest areas belonging to other forest managers listed in Appendix 1, in which there are a number of large forest managers including the People's Committee of Minh Tri commune (Soc Son) with more than 1.000 hectares, Nam Phuong Tien commune in Truc Son has more than 800 hectares, the remaining forest area is relatively small and fragmented. Protection forest for environmental protection of the Protection Forest Management Board - Hanoi Special-use Forest has 4 areas, of which the largest area is in Soc Son, the rest is in Chuong My, Quoc Oai and Thach That.

Forest characteristics: The main forest area of Hanoi's environmental protection forest is planted forest, the rest is only a very small part of natural forest, but it is only a recovering secondary forest. The main plant species are Acacia, Eucalyptus and Pine. However, some planted areas have been planted for a long time, so there are many other species of forest trees that naturally regenerate in the forest canopy, creating many mixed species of trees in the forest.

Soc Son area, it is a forested mountain part extending from Tam Dao mountain range to the Southeast, in the territory of Soc Son district, Hanoi city. This area is close to residential areas with a density of foxes at the foothills. Most of the forest area is natural plantation forest which has been strongly affected and is in the recovery period.

Current status of protection forest management in Hanoi city:

Previously, the area in Soc Son belonged to the Soc Son Forest School. By 1998, it was planned to become a protection forest according to Decision No. 2334/QD-UB of the City People's Committee approving the planning of Soc Son protection forest land. According to Decision No. 2100/QD-UBND dated May 29, 2008 of the People's Committee of Hanoi City approving the project "Adjusting forest planning in Soc Son district, Hanoi city" stating "Build and develop into a protection forest for environmental protection, combined with sustainable socio-economic development in Soc Son district and Hanoi capital" with an area of 4,557 ha, of which forest area is 4.360, 4 ha (mainly planted forest).

From 2017, the entire area of protection forests and special-use forests was merged according to the Decision No. 1611/QD-UBND dated March 18, 2017 of the Hanoi People's Committee on the establishment of the Hanoi Protection Forest - Special-Use Forest Management Board under the Hanoi Department of Agriculture and Rural Development on the basis of merging Huong Son special-use forest with Soc Son environmental protection protection forest and a number of small areas. of Chuong My, Thach That and Quoc Oai districts. The current area of environmental protection forest is 3.735,92 ha.

Some problems related to conversion into special-use forests:

- Located in a favorable geographical position, near Hanoi capital, convenient for transportation, many scenic spots (Dai Lai Lake), Giong Temple, terrain is not too steep, so the value of land use rights is high, leading to many violations of encroachment on protection forests since 2000. It is necessary to conduct a clear demarcation review between the protection forest area and other land areas.

- Hanoi city has not yet decided to assign land and forest use rights to the Protection and Special-use Forest Management Board, so the boundary is not clear, overlapping between forest land and other types of land; The implementation of protection forest management activities still has some problems with the locality.
- The environmental protection forest plan in 2008 includes a number of reclaimed areas and people's residential land since the 1980s (Minh Tan village, Minh Tri commune), which has not been reviewed and clarified until now.
- There are 5 overlapping plannings in the area of environmental protection forests, including: forest planning, tourism planning, defense land use planning, construction planning, and rural land planning . In addition, there are some areas of protection forest that overlap with the forest use area of households in the area. These overlapping plans need to be harmonized when implementing the National Forestry Plan.
- There are many service activities organized on the area of protection forest land, but a plan to pay for forest environmental services has not yet been developed for protection forests, specifically: experiential education with the natural environment, forest-based ecotourism, etc

Results of discussion on forest type change

- Soc Son environmental protection forest is the object that needs to be considered to change the forest type according to the classification of Decree 156 (belonging to the landscape protection area). However, according to the opinion of the Hanoi Forest Protection Department and the Hanoi Protection and Special-Use Forest Management Board, it is not suitable according to the criteria of special-use forests for the following reasons:
 - Up to now, this area has never been a special-use forest, formerly it belonged to the production forest of the forestry farm, later it was converted into a protection forest;
 - The protection forest area is divided, many disputed areas have not yet been clarified;
 - Biodiversity values as well as other natural conservation values are not high, mainly planted forests, not suitable for special-use forest criteria;
 - In fact, the forest is not a protection forest for the environment but a watershed protection forest in the area
 - Problems in the regulation of special-use forest management in forest development in combination with socio-economic development and tourism development.
- Regarding the function of forests in the area, it is more suitable for watershed protection forests than special-use forests because the forest area is located on the mountain range of watersheds to protect dozens of reservoirs, dams, important landscape lakes of Hanoi capital as well as providing water for domestic and production activities in the downstream area

1.4.3. Environmental protection forest in Binh Dinh province

Situation of protection forests for environmental protection

According to Decision No. 110/QD-UBND dated February 28, 2018 of the People's Committee of Binh Dinh province approving the results of reviewing and planning 3 types of forests in Binh Dinh province, the environmental protection forest has the following area: Environmental and landscape protection forest: 7,177 ha (Forest land: 3,664 ha, non-forested land: 3,513 ha). This area includes the following areas: (i) environmental protection forest in Quy Nhon city and (ii) environmental protection forest in the scenic area and historical site of Nui Ba. After many reviews, Nui Ba environmental protection forest was converted into a special-use forest according to the criteria of landscape protection area. Currently, the area of protection forest protecting the landscape of Binh Dinh province is only left in Quy Nhon city.

Table 9. Current status of environmental protection forests in Quy Nhon city

Order	Status	Area
1	Forests planted with wood trees	1804,19
2	Other plantation forests	136,95
3	Area of grasslands and shrubs that have not yet become forests	334,88
4	The area of scattered timber trees has not yet become a forest	21,49
5	Forest land	372,99
6	Other area	9,21
	Total	2679,71

Source: Quy Nhon Forestry single share-holder limited company, 2020

Protection forest to protect the environment in Quy Nhon has no natural forest. This is the result of forest resource exploitation and land use for many years making the land degraded. According to Quy Nhon Forestry single share-holder limited company, from the 2000s onwards, the forest has been replanted with some main species of trees, namely Acacia, Eucalyptus and Pine. According to the Company's assessment, the land in the area is very sloping, dry and exposed to many rocks, so in the immediate period, it is not possible to plant native species, it needs to be gradually improved.

The area of environmental protection forest is distributed in a scattered manner in the mountain ranges around Quy Nhon city and the mountain ranges near the sea, interspersed with production forests and watershed protection forests. In addition to the environmental protection forest in Quy Nhon city, in the area there is also the Quy Hoa - Ghenh Rang landscape protection zone with an area of 2,163 ha. This is the forest of the cultural and historical relic of Han Mac Tu.

About the management organization. Currently, the area of Quy Nhon environmental protection forest is assigned to Quy Nhon Forestry single share-holder limited company to manage. The company implements protection forest management activities in the form of public service tasks of a state-owned enterprise. The company established a project management board of protection forests and special-use forests to organize the implementation of forest management. This committee has only 4 people to carry out contracted forest protection activities through contracts for people and for the forest protection force. The project management board is entitled to 3% of the management fee of the contracted fund for forest protection to pay for 04 staff.

Some issues related to adjustment/conversion to special-use forest

- Binh Dinh province has quite complex forest management models. Quite a few protection forests and special-use forests do not have their own management boards. According to Decision No. 1562/QĐ-UBND dated April 27, 2020 approving the results of forest monitoring in Binh Dinh province, it shows that:
 - i. Nui Ba cultural and historical protection forest is assigned partly to the Phu Cat Protection Forest Management Board and partly to the Commune People's Committee.
 - ii. Landscape and Cultural Historical Forest Nguyen Hue Orange Garden and Quy Hoa - Ghenh Rang Landscape Historical Forest with part of these two zones is assigned to an enterprise, Quy Nhon Forestry single share-holder limited company, to manage, the rest is assigned to the People's Committees of neighboring communes for management.
- This is a model of protection forests and special-use forests managed by enterprises. Enterprises set up protection forest project management boards and special-use forest project management boards to implement protection and special-use forest management activities. However, these management boards are only temporary, with the funding to pay salaries to the management staffs coming from the Company's business and 3% of management fees from contracted forest protection. Regulations on management, investment policies, and investment support for protection forests of enterprises are still limited and have not been applied like protection forest management boards, except for contracted forest protection.
- The results of monitoring forest resource changes show that the forest area in the environmental protection forest is mainly planted forest with very low timber reserves, or low scrubland and unforested area. The protection function of the forest needs to be improved, but the Company cannot afford to plant native trees on very difficult site conditions, sloping land, thin soil layer, mixed with rocks.
- In nominal terms, the Company's protection forest is located around Quy Nhon city and Phu Tai industrial park, so it is considered as a protection forest for environmental protection. However, the forest in the area has low biodiversity value, mainly distributed on slopes and tops with a slope of over 200, so it plays the role of protecting watersheds of streams flowing to Ha Thanh river; Bau Lac and Phu Hoa lakes flow into Ha Thanh River.

Results of discussion on forest type change

- As a protection forest for environmental protection of Quy Nhon city and Phu Tai industrial park, this is the subject to change the forest type into a special-use forest in the classification of landscape protection zones according to the provisions of Article 6 of Decree 156. However, after studying the topography in the area, and discussing with the Forest Protection Departments and Quy Nhon Forestry One Member Limited Liability Company, this area is not suitable for special-use forest for the following reasons:
 - i. The forest area is mainly planted and restored forest with low biodiversity value;
 - ii. The forest is distributed on very steep mountain slopes (over 20 degrees), in fact, this is a forest responsible for protecting the watersheds of streams flowing to the Ha Thanh River; Bau Lac lake, Phu Hoa lake flowing into Ha Thanh River;
 - iii. Forestry sector of Binh Dinh province has also conducted surveys to merge this environmental protection forest with the Ghenh Rang landscape protection forest, but it is not suitable because it is not adjacent to the area, adjacent to the landscape protection area.
- Considering the protective role of forests, this area is more suitable for watershed protection forests for the stream basin flowing to Ha Thanh river; Bau Lac and Phu Hoa lakes flow into Ha Thanh River. These are basins that provide water sources for daily life and production of Quy Nhon city and surrounding areas.
- Other problems need to be solved in management: because protection forests are managed by many different owners, including temporary forest owners such as People's Committees of communes and The Forestry Company is also only a temporary owner, so in the long term, there needs to be a common management board to manage the protection forests in the area.

2. Problems when planning a nature reserve with an area of less than 5,000 hectares

2.1. Common problems

According to the provisions of Point d, Clause 2, Article 6 of Decree 156, the Nature Reserve has an area of at least 5,000 hectares. There are 05 nature reserves according to the previous planning as described in the status section that no longer fit this criterion and during the transitional planning process in the provincial planning and the National Forestry Plan, there are some problems as follows:

- Most of these nature reserves are no longer capable of expanding the area to meet the criteria of at least 5,000 hectares, specifically as follows:
 - + For Ba Na - Nui Chua Quang Nam cannot expand the area towards Quang Nam and also cannot expand the area towards Da Nang province except for the case of expanding Ba Na - Nui Chua Da Nang nature reserve.
 - + Nature reserve Son Tra Peninsula is a relatively independent peninsula, if it wants to expand, there is only the option of linking with neighboring marine conservation areas.

- + For Lang Sen Nature Reserve with the goal of preserving the wetland ecosystem in the Mekong Delta but isolated around agricultural land, it is no longer possible to expand
- + Similarly, Lung Ngoc Hoang has the goal of preserving the Melaleuca forest and wetland ecosystems, but is also isolated and cannot be expanded.
- + Van Long Nature Reserve can be expanded towards Hoa Binh, but it is not enough to meet the minimum criteria of 5,000 ha.
- The conservation objectives of these natural reserves in the planning according to Decision 1976, are often general, such as: conservation of ecosystems, conservation of forest resources, conservation of wetlands, difficult to orient for the adjustment of planning to other classifications.
- Information on biodiversity is often not detailed, information on natural conservation values, socio-cultural conservation values is also general, making it difficult to orient to adjust the planning to another classification.
- If the planning is not adjusted to other classifications in the protected area system, the area does not meet the classification criteria according to current regulations of law.
- Up to now, there have not been any guidelines to adjust/transfer nature reserves to other groups of classification criteria of special-use forests

2.2. Findings in the Surveyed Area

2.1.1. Van Long Nature Reserve

Situation of Van Long Nature Reserve

Van Long was established under Decision No. 2888/QD-UB, dated December 18, 2001 of Ninh Binh Provincial People's Committee with an area of 2,643 ha and named Van Long Wetland Nature Reserve. Although it is called a wetland conservation area, Van Long is still in the special-use forest system of Vietnam.

On January 26, 1916, Ninh Binh Provincial People's Committee issued Decision No. 223/QD-UBND approving the planning for conservation and sustainable development of special-use forests managed by Ninh Binh until 2020, Van Long Wetland Nature Reserve has an adjusted area of 2,736 ha. This area has deviations from the Government's planning according to Decision 1976/QD-TTg, but it is still a nature reserve with an area of less than 5,000 hectares.

According to the Sustainable Forest Management Plan which is being submitted to the competent authorities for approval, the current special-use forest area is 2,483.2 hectares with the types of land listed in the following table:

Table 10: Current status of soil types in Van Long Reserve Area

Order	Type of soil/forest	Area according to developments in 2019	Forest area after actual review 2020	Increase (+), decrease (-)
Total		2.351,5	2.482,3	130,8
I	Area with forest	2.328,8	2.017,8	-311,1
1	Natural forest	2.223,8	1.925,3	-298,5
	Evergreen forest, rocky mountains	2.223,8	1.882,9	-340,9
	Evergreen forest and rocky mountains recover		42,4	42,4
2	Plantation forest	105,0	92,4	-12,5
	Newly planted on land without Forest	73,1	74,8	1,7
	Land for afforestation but not yet forest	31,8	17,6	-14,2
II	Land without forest		33,5	33,5
	Unused hilly land		9,5	9,5
	Hilly land with regenerated wood trees		24,0	24,0
	Rocky mountains without trees			
III	Area of agricultural land	0,5		-0,5
IV	Wetland area		425,5	425,5
V	Other area	22,2	5,5	-16,7

Source: Ninh Binh Forest Protection Department, Van Long Special-use Forest Management Board, 2020

Van Long Wetland Nature Reserve has two main habitats: limestone mountains and wetlands. The forest of Van Long Nature Reserve is mainly poor stony evergreen forest, but there is still a relatively high diversity here. According to the assessment results of the Institute of Forest Investigation and Planning, in Van Long, 722 species of vascular plants, 63 species of mammals, 148 species of birds, 45 species of reptiles and amphibians, and 43 species of fish were recorded. Among them, there are 23 species of plants, 61 species of animals are threatened with endangered and rare in Vietnam Red Book, IUCN Red List and Decree 06/2019/ND-CP of the Government on the management of endangered, precious and rare forest plants and animals and implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

The area of limestone mountains accounts for about $\frac{3}{4}$ of the reserve area, which is the main habitat of the white-breed langur *Trachypithecus delacouri*, which is also the main conservation target for the establishment of a special-use forest. This is a primate species endemic to Vietnam with a very small number and a narrow distribution, only found in a few spots in Ha Nam, Ninh Binh and Thanh Hoa. Therefore, this species is threatened as critically endangered (CR) in the Vietnam Red Book 2007, IUCN Red List, Decree 06/2019/ND-CP. In 2001, the Institute of Forest Investigation and Planning conducted an investigation

to establish an investment project in Van Long Reserve, and there were 43 individuals of the langur. Up to now, due to good conservation work along with the active participation of local authorities and communities, the population of Langur has increased to about 150 individuals (according to information from Van Long Special-use Forest Management Board).

The area of wetlands accounts for about ¼ of the area of the natural reserve, formed from a flood prevention dyke built in 1960. This is one of the typical submerged ecosystems of the Northern Delta with many species of fish and water birds, including migratory birds such as *Fulicra atra*.

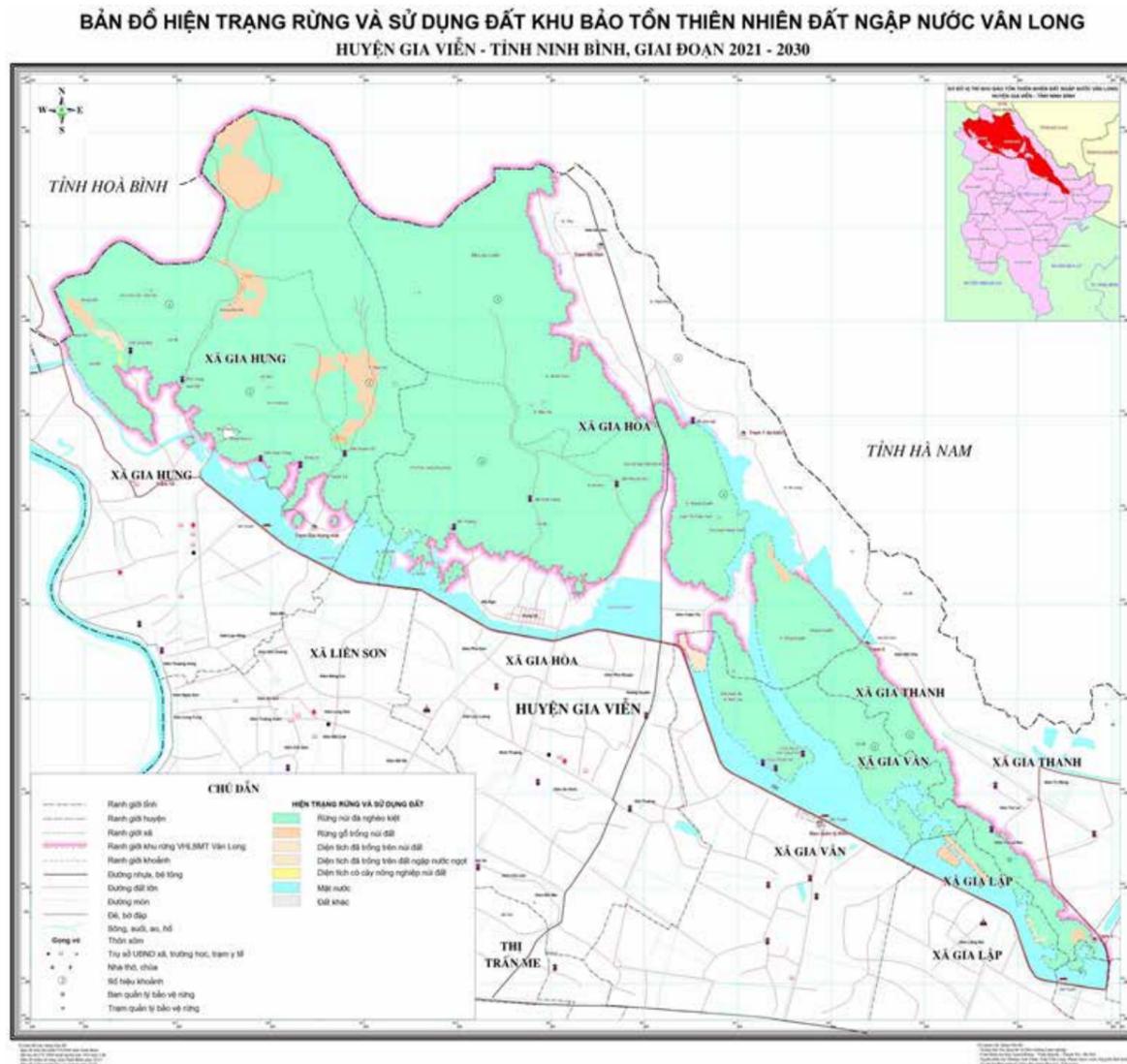


Figure 4. Current status map of Van Long Wetland Nature Reserve 2020

In addition to biodiversity values, Van Long wetland is also home to an attractive landscape. The ink painting clearly reflects each strong carving of limestone massifs bearing the shape of their names such as Meo Cao mountain, Mam Xoi mountain, Hom Sach mountain, Da Ban mountain, Nghiem mountain, Mo Coi mountain, and Co Tien mountain. In the limestone area, there are many caves of tourist value such as Ca Cave, Ball Cave, Turtle Cave, Chanh Cave, etc. Therefore, Van Long is one of the most attractive tourist destinations, especially for international tourists in the tourist force of Van Long, Cuc Phuong, Tran An, Bai Dinh, Hoa Lu, Bich Dong...



Figure 5. Landscape of Van Long

Issues discussed on criteria for nature reserves:

- As mentioned above, according to the criteria of special-use forests specified in Clause 2, Article 6 of Decree 156, Van Long does not satisfy the area (greater than 5,000 ha) as a nature reserve according to Decision No. 1976 /QĐ-TTg.
- The Forest Protection Department and the Van Long Special-use Forest Management Board do not yet know which classification of special-use forest Van Long should be classified in the provincial planning. They believe that, although the criteria for special-use forests have been specified in Decree 156, there are no specific guidelines for the conversion of unqualified special-use forests.
- The purpose of establishing Van Long Nature Reserve is to preserve the natural forest on limestone mountains that is the habitat of the langur species.
- According to a study by the Institute of Forest Investigation and Planning (2001), the forests on limestone mountains in the area are mainly low-lying or poor shrubs recovering from over-exploitation and recovering after shifting cultivation in the foothills and limestone ravines of low biodiversity value.
- After working with the Forest Protection Department and Van Long Special-use Forest Management Board, both think that the area is suitable for the classification of Species and Habitat Conservation Area in the special-use forest system.

2.1.2. Son Tra Peninsula Nature Reserve

This is one of the author's studies with the Center for People and Nature (PanNature) on the proposed management model in Son Tra peninsula presented at the conference of the provincial departments. The main proposed results are as follows:

Management status of Son Tra special-use forest:

Son Tra peninsula has an important position in terms of national defense and security, forest protection, biodiversity conservation, tourism development. Therefore, Son Tra has been protected by the state since the day of reunification. According to Decision 41-TTg dated January 24, 1977 of the Prime Minister on regulations on forbidden forests, Son Tra is specified as one of the 10 forbidden forests of Vietnam. In the list of prohibited forests attached to Decision 41, Son Tra Peninsula covers an area of about 4,000 hectares with the purpose of protecting landscapes. The range described is the entire Son Tra peninsula and the area around the foot of the mountain extends to 500m.

On October 2, 1992, the Ministry of Forestry (now the Ministry of Agriculture and Rural Development) issued Decision No. 447/LN-KL approving the technical and economic justification for the construction of Son Tra nature reserve, Da Nang city. According to this Decision, Son Tra forbidden forest is named Son Tra Nature Reserve with an area of 4,439 ha, including: strict protection zone of 2,595 ha and ecological restoration subdivision of 1,844 ha .

Results of the review of 3 types of forests of Da Nang city (according to Directive 38/CT of the Prime Minister) and approved according to Decision 6758/QĐ-UBND dated August 20, 2008 of the People's Committee of Da Nang City on approving the planning of 3 types of forests in the area of Da Nang city for the period 2008 - 2020, Son Tra special-use forest has an area of 2,591,1. This area coincides with the area in Decision 1976/QĐ-TTg on the National Planning of Special-Use Forest System (as mentioned above).

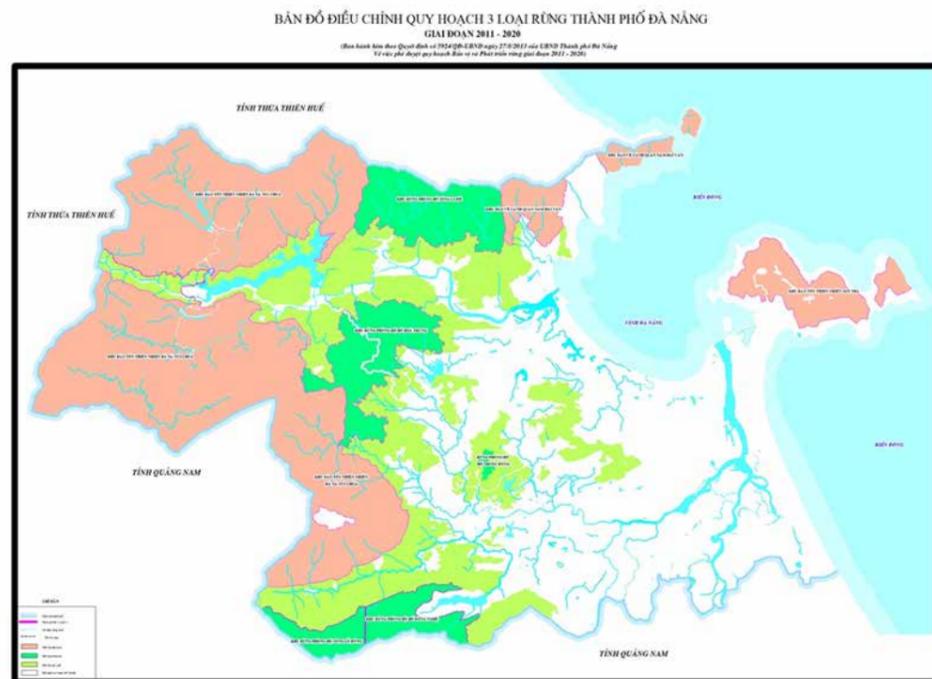


Figure 6. Planning map of 3 types of forests in Da Nang city

Although there was a decision to establish in 1977, it was not until 1992 that Quang Nam - Da Nang province decided to establish a special-use forest management board of Son Tra Peninsula according to Decision No. 447/LN-KL dated October 2, 1992 of the Ministry of Forestry (now the Ministry of Agriculture and Rural Development) approving the economic and technical justification for the construction of Son Tra nature reserve in Da Nang city.

In 2009, the People's Committee of Da Nang City decided to establish the Son Tra - Ngu Hanh Son inter-district Forest Protection Department and join the Son Tra Special-use Forest Management Board in the Forest Protection Department. In which, forest area and forest protection and development activities are mainly concentrated in Son Tra Peninsula, while Ngu Hanh Son area has only a very small and insignificant forest area on Ngu Hanh Son mountain and some forest product processing activities.

Previously, the Special-use Forest Management Board had two forest protection stations, namely Bai Nam Lighthouse Station and Suoi Da Tien Sa Station. After merging with the Forest Protection Department, there is only one station left, that is the Son Tra Ranger Station, which monitors the mobile rangers and forest fire prevention and fighting.

Overview of landscape values:

With a total area of more than 4,000 hectares, covered mostly by tropical moist evergreen closed forests, in one of the unique locations, only 10 km from the city center, Son Tra Peninsula is considered "natural forest in the heart of the city". Son Tra Peninsula is considered "natural forest in the heart of the city". Moreover, the topography of the Peninsula is very diverse. This is one of the rare features of nature that is not found in any city in the world.

The peninsula's topography is quite diverse, from an altitude of 0 m to a peak of 696 m above sea level. The peninsula consists of a massif (with different elevations and low peaks) extending up to 13 km long and 1.5 - 5 km wide as the crow flies, 3/4 of the peninsula's boundary line with the sea. This is considered one of the most majestic peninsulas along the coastline of Vietnam.

Landscape of Son Tra Peninsula is also connected to the sea and other areas of great landscape value such as Hai Van, Son Cha island, Cu Lao Cham island, and beyond, the Hoang Sa archipelago of Vietnam. This is a beautiful landscape connecting circuit that has the potential to develop the seafood economy, attract tourism, and is also extremely important for national defense and security.

Overview of the value of biodiversity:

The forest ecosystem in the area is mainly closed evergreen tropical lowland rainforest. This is a type of forest with the highest biodiversity value in tropical Asia. At the same time, this is also a sensitive and vulnerable forest type because they are distributed in lowland areas, near residential areas, and are easily accessible. This type of forest is often impacted through forest product exploitation, animal hunting or conversion to other land uses. Therefore, this type of forest is considered to have become rare not only in Vietnam in particular but also in Asian countries in general. Forests in the area have been affected, some places have become secondary forests and planted forests, but the flora and fauna composition is still very diverse.

According to research by Dinh Thi Phuong Anh and colleagues (1997) recorded 985 species of higher vascular plants; 287 species of terrestrial vertebrates, including 36 species of mammals, 106 species of birds, 23 species of reptiles, 9 species of amphibians, and 113 species of invertebrates, mainly insects.

According to the research results of Dr. Luu Hong Truong and colleagues (2014), Son Tra Peninsula is home to 1010 species of higher vascular plants, 21 species of large fungi, 38 species of mammals, 160 species of birds, 18 species of amphibians, 52 reptile species, 19 fish species and 79 insect species. Of which, there are 43 species listed in the Vietnam Red Book (2017) and the World Red List (IUCN).

Survey results of reptiles - amphibians in Son Tra nature reserve recently recorded 70 species including 18 amphibians (belonging to 6 families, 1 order) and 52 species of reptiles (belonging to 13 families, 2 orders), adding 30 species to Son Tra Nature Reserve (Pham Thi Hoa and nnk, 2014).

According to research by Dang Ngoc Phai and the authors on the investigation of medicinal plants in Da Nang city, 974 species and plants with medicinal uses, belonging to 607 genera, 205 families, of 7 branches of higher vascular plants and large groups of fungi have been identified. In particular, Son Tra Peninsula is also one of the places where many species of medicinal plants are present in this survey.

A number of intensive conservation studies of the brown-shanked douc (*Pygathrix nemaeus*) are also carried out here. Lippold and Vu Ngoc Thanh (2008) recorded the population of brown-shanked douc in Son Tra Nature Reserve consisting of about 12 groups with at least 171 individuals. Up to now, due to good protection, the population of the Red-shanked Douc langur can increase both in herd and in number of individuals.

Recently, GreenViet and animal experts organized a fairly systematic and comprehensive study of the brown-shanked douc langur in Son Tra Peninsula. At the Workshop "Conservation and Sustainable Development of Natural Ecosystems of Son Tra Peninsula" in July 2017, this organization announced the research results of the current status of the Red-shanked Douc population in Son Tra Peninsula with The total number of individuals is estimated at 1,335 in about 237 herds, they are distributed mainly in the North of Son Tra Peninsula. This study also pointed out that the main risks leading to impacts on the brown-shanked douc populations in the area include: reduction of living area due to tourism development planning; dividing living areas due to infrastructure construction; increased risk of hunting due to tourism development; lack of human control activities to the Peninsula; risk of human-to-human transmission.

For marine ecosystems, according to the results of research on coral reefs and related ecosystems in the waters from Hon Chao - Nam Hai Van and Son Tra peninsula, 104.6 ha of coral reefs were reported, 26.2 hectares of seaweed mats, 10 hectares of seagrass beds. Initially, 179 species of reef-building hard corals were identified, belonging to 46 genera, 15 families and 3 soft coral varieties, 162 reef fish species, 81 benthic species, 3 seagrass species and 72 seaweed species. The southern region of Son Tra peninsula has a coral reef width of 200m but the coral coverage is low, only 8.1-45.9%. Seagrass consists of 3 species *Halophila decipiens*, *Halophila ovalis* and *Halodule pinifolia* distributed about 10ha in Bai

Nom with a coverage of 15-30% (Nguyen Xuan Hoa, 2005; Phan Kim Hoang, 2005; Vo Si Tuan and nnk, 2005). The number of hard coral species found at locations south of Son Tra are Bai Nom (52 species), Bai But, Mui Gio (47 species), Huc Lo 1,2 and Mui Gun (39-46 species). species). Next is Bac Son Tra area, the number of species ranges from 19 to 50 species, the location with the highest number of species in this area is Vung Cay Bang with 50 species.

Some cultural and spiritual characteristics:

Surveys in the area show that in addition to its landscape and biodiversity values, Son Tra Peninsula is also known for other cultural, historical and spiritual values. Here are some of the highlights in the area:

- Linh Ung Pagoda, Bai But, Son Tra is the largest temple in Da Nang city both in terms of scale (about 20ha wide). People in Son Tra peninsula recounted that, in the reign of King Minh Mang (Nguyen Dynasty, 19th century) there was a Buddha statue that drifted from nowhere to the sand here. Taking it as a good omen, they set up a temple to worship and since then the whole area and the sea has been calm, fishermen have been doing business peacefully for a long time. The sandy area from which the Buddha image has drifted is named Bai But (meaning Buddha's Realm in the middle of the world) is also the place where Linh Ung Pagoda was built today.
- The Y Pha Nho grave and cemetery area from the French period is a point that the Department of Culture and Interest needs to preserve, currently being managed by the border guard unit, and has not been exploited for tourism.
- Two radar columns, broadcast masts and the airport on the top of the mountain are historical sites that can also be exploited for tourism development.
- The great banyan tree, which has been honored as a Vietnamese Heritage tree, is now also one of the favorite spots of tourists.
- Dong Dinh Museum: The exhibition space here consists of four main areas: antique display area, fine art display area, fishing village memory house, ethnography gallery. Each area has its own characteristics that bring deep impressions to visitors when coming here.
- The shrine at the down of Than Tai mountain is considered by the locals as a spiritually valuable spiritual spot

Some conflicts and problems in planning

- The special-use forest (SUF) on Son Tra Peninsula is relatively well protected. In addition to the conversion of special-use forest landuse, threats to forests and biodiversity have been minimized.
- The forest management and biodiversity conservation activities on Son Tra Peninsula have only focused on forest protection, protection of wild animals and plants. To date, there have not been any activities relating to forest biodiversity conservation such as: lack of in-depth research on biodiversity, monitoring and tracking of biodiversity, etc.

- There is an overlap in the management of Son Tra Peninsula. Currently, there are four main stakeholders involved in the management of the Peninsula including the Inter-District Forest Protection Department of Son Tra - Ngu Hanh Son, the People's Committee of Tho Quang Commune, the military, the Son Tra Peninsula Management Board and the beaches of Da Nang. Currently, the boundary marking in the field have not been clearly defined among these management units. The cooperation between these parties is still very limited, like "do it yourself without taking care of the others". This is a limitation, hindering the promotion of landscape, biodiversity and historical cultural values on the Peninsula.
- Tourism industry has developed strongly in recent years. The number of visitors is being increased, the revenue from tourism also increases in the area, tourism service agencies also develop suddenly. However, most of the tourism activities in the area only focus on two main types of resort tourism and sightseeing tourism. There are very few activities that are truly called the "ecotourism".
- The current biggest conflict arising in management mission is between nature conservation and tourism development in the area. This conflict concerns the space of using resources on the Peninsula. This conflict has ever been a very hot issue and requiring the intervention of the central Government. Currently, the City People's Committee also has some ideas on solutions, but there is no solution on harmonizing this conflict and promoting the advantages of Son Tra Peninsula in parallel.



V. RECOMMENDATIONS FOR RECLASSIFICATION OF THE ENVIRONMENTAL PROTECTION FORESTS AND THE NATURE RESERVES WITH AN AREA OF LESS THAN 5,000 HA.

1. Recommendation for reclassification of the environmental protection forests

Because of the resources and research time reasons, it is not possible to pilot all types of environmental protection forests in the localities, so the recommendations are focused on: recommendations for forest adjustment/change in areas where forests were consulted directly; and proposed criteria for conversion of the environmental protection forests nationwide.

1.1. Recommendation for conversion of the environmental protection forests that have gone through the consultation process

1.1.1. Environmental protection forest in Ho Nui Coc

This forest has been thoroughly surveyed by the Forest Inventory and Planning Institute (FIPI) together with the Provincial Forest Protection Department on the current status of the forest and biodiversity to prepare a scheme on converting the protection forest into special use forest. However, after surveying, developing the scheme, making evaluation and comparison in accordance with the criteria specified in the Decree 156, the Ho Nui Coc area did not meet such requirements, due to the fragmented forest area and 90% of the area is acacia plantation. On that basis, the Provincial People's Committee (PPC) and Thai Nguyen Department of Agriculture and Rural Development (DARD) consulted with the

Vietnam Administration of Forestry (VNForest) and agreed to remove Ho Nui Coc area from the Vietnam's special-use forest system planning.

However, with the title "protection forest for environmental protection of Ho Nui Coc", according to Clause 2, Article 6 of Decree 156, Ho Nui Coc is included in the special use forest system (in the group of landscape protected areas). In fact, most of the forest area distributed in the sloping area surrounding Ho Nui Coc is planted forest, which plays an important role in watershed protection for Ho Nui Coc and agriculture farming areas in the downstream.

After consulting with the Provincial Forest Protection Department, the Management Board of Thai Nguyen SUFs and Protection Forest unanimously proposed to convert the environmental protection forest of Ho Nui Coc into a "watershed protection forest of Ho Nui Coc".

1.1.2. The environmental protection forest in Soc Son

Soc Son is the end of Tam Dao mountain range to the southwest, belonging to the administrative boundary of Hanoi capital. Although located on the same Tam Dao mountain range, the forest in Soc Son is completely different from that in Tam Dao National Park. Almost 100% of Soc Son protection forest area is perennial plantation forest. Some planted forest areas have changed in species composition due to the growing of some naturally regenerated trees mixed with planted forests.

Forests in Soc Son area play a main function of watershed protection for many surrounding lakes and dams that provide irrigation water for farming and cultivation activities, as well as other non-agricultural activities. The key dams depend on water resources in the area including Dong Do Lake, Ban Tien Lake, Phu Nghia Lake, Dong Quan Lake, Dong Den Lake, Khanh Thuan Tri Lake, and Temple Thuong Lake. Most of the agricultural production, floriculture and vegetable growing in Soc Son district rely on water resource from Soc Son forest.

Right after the Decree 156 came into effect, the Hanoi Forest Protection Department listed the area of Soc Son protection forest under the classification of water resource protection. However, water resource protection forest under Decree 156 is one of the types of community forests that are not suitable for the protection role of forests in Soc Son.

Upon the practical conditions, and the role of watershed protection of the protection forests in Soc Son, and basing on the results of discussions with the Hanoi Forest Protection Department, the Forest Protection and Management Board proposes: to convert the environment protection forest into the watershed protection forest because the forest area is located on the upstream mountain range to protect dozens of reservoirs and dams for irrigation, provide water resources for daily life and production activities downstream

1.1.3. Environmental protection forest in Quy Nhon

The environmental protection forests are located in the belt of mountain ranges near Quy Nhon city, Binh Dinh province. These are mainly planted forests, low shrublands, or recovered forests after deforestation, with low biodiversity value. These protection forests are not connected to the Ghenh Rang Landscape protected area, so it is not possible to expand the

Ghenh Rang Landscape Protected Area. These forests are scattered in the watershed areas of streams flowing to Ha Thanh river; Bau Lac and Phu Hoa lakes flow into the Ha Thanh River, providing water resources for daily life and irrigation of Quy Nhon city and surrounding areas.

The role of forests is suitable for watershed protection rather than environmental protection. Therefore, instead of converting them into special-use forests, these forests should be converted into watershed protection forest. This forest fully meets the watershed protection forest criteria, specifically as follows:

- a. Topography: has hilly, mountainous terrain and with the slope of 15 degrees and above;
- b. About the rainfall: with an average annual rainfall of 2,000 mm or more or 1,000 mm or more, but mainly falling in about 2-3 months;
- c. About the mechanical composition and thickness of the soil layer: medium or thin sandy or sandy soil with a soil layer thickness of less than 70 cm; if it is a light or medium soil, then the soil layer thickness is less than 30 cm.

In terms of management, it is proposed to establish a separate management board to manage the scattered protection forests in the province, of which many are being allocated to the People's Committees of communes for management.

1.2. Proposed criteria for reclassifying the environmental protection forests nationwide

1.2.1. Key features of the environmental protection forest

It is the fact that, the environmental protection forests are featured by the followings:

- i. The forest area is very fragmented, very few large areas are adjacent to each other. If any, then it is only concentrated in the mountain ranges with high slope and located in the upstream of rivers, streams, lakes and dams.
- ii. The forest area is mainly planted forest, with very few areas of natural forest, or if it is a natural forest then often be a secondary forest that has been strongly impacted or restored on deforested land with low value of biodiversity.
- iii. Forests are often interspersed with residential areas, urban areas and construction works, so the stability is not high; in many places the boundary is not clearly defined, often overlapping with other land use boundaries; In many places, there are still disputes over the use and management.
- iv. Many different forest owners are managing the environmental protection forests, mostly the local authorities, households and communities; only about one third of the forest area is managed by the protection forest management boards. The number of forest owners is very huge, especially with thousands of households allocated forests. Meanwhile, there are still many problems remained in benefits sharing with communities and households when allocating protection forest for management.

1.2.2. Proposed criteria for forest adjustment/ conversion

On the basis of in-depth survey and assessment in a number of environmental protection forests, and upon the characteristics of the environmental protection forests, it is found out that most of the forests do not meet the criteria applicable for the special use forest. The forestry sector and provincial government both have the same understanding that it is not necessary to convert all these areas into the special use forest. Moreover, when converting into the special use forest, the current management arrangement is not consistent with the Forestry Law and the Decree 156 (not allowing to allocated the special use forests to households and private management). Therefore, the provinces are confused in integrating this type of forest into the provincial planning, at the same time, the agency in charge of national forestry planning also gets trouble with classifying and planning the environmental protection forests.

In support of the National Forestry Planning as well as the integration of the environmental protection forests into the Provincial Planning, some criteria for converting forest types are proposed as follows:

Table 11. Proposed criteria for adjusting/ converting the environmental protection forest

Conversion	Criteria for adjusting/ converting forest types				
	Location	Area	Origin	Ownership	Forest features
Watershed protection forest	In the basin of river, lake or adjacent to an existing protection forest	Contiguous forests covering over 5 ha	Watershed protection forest	Not applicable (NA)	Meet the criteria specified in Clause 1 Article 7 of Decree 156
Protection forest for wind breaks and flying sand blocks	Coastal sandy region or adjacent to the coastal protection forest	NA	Mangrove	NA	Meet the criteria specified in clause 4 Article 7 of Decree 156
Protection forest for wave breaks and sea encroachment	Coastal wet land/ or adjacent to the protection forest for wave breaks and sea encroachment	NA	Forest on sand or in coastal communes	NA	Meet the criteria specified in clause 5 Article 7 of Decree 156
Frontier protection forest	Located in the border belt	NA	Located in the frontier protection forest belt	NA	Meet the criteria specified in clause 3 Article 7 of Decree 156

Special use forest-landscape protection area	Certified cultural and historical zone, industrial zone	NA	Natural or plantation forests	Forest management board, economic entity, military force	Meet the criteria specified in clause 4 Article 6 of Decree 156
Special use forest – nature reserve	Adjacent to the existing nature reserve	Contiguous natural forest area of more than 10 ha	Natural forest has similar nature with the adjacent nature reserve	Forest management board	Meet the criteria specified in clause 2 Article 6 of Decree 156
Production forest	Not meet the above criteria, adjacent to the production forest	Contiguous area of less than 5 ha	Plantation forest	NA	Plantation or natural forest meeting the criteria specified in article 8 of Decree 156.
Require further reviewing	Small and scattered	Area less than 5 ha	All types of forests	All forest owners	Plantation and natural forest

Particularly for the Can Gio Environmental Protection Reserve, which is not included in the above criteria, but proposed to be transformed into a National Park. Can Gio completely meets the criteria of a national park specified in Clause 1, Article 6 of Decree 156. Moreover, Can Gio also has global ecosystem values recognized by UNESCO as a World Biosphere Reserve. Can Gio has a typical mangrove ecosystem in the Mekong Delta, which has been repeatedly proposed by scientists and specialized agencies to become a national park. If it becomes a national park, Can Gio has particularly important values in scientific research activities, nature conservation education and ecotourism, becoming one of the three typical national parks on mangroves namely Xuan Thuy, Can Gio and Mui Ca Mau.

For small and scattered forest areas managed by households and private enterprises it requires for further reviewing and in the case of not meeting the protection forest or special use forest criteria then they can be considered to convert into production forest purpose.

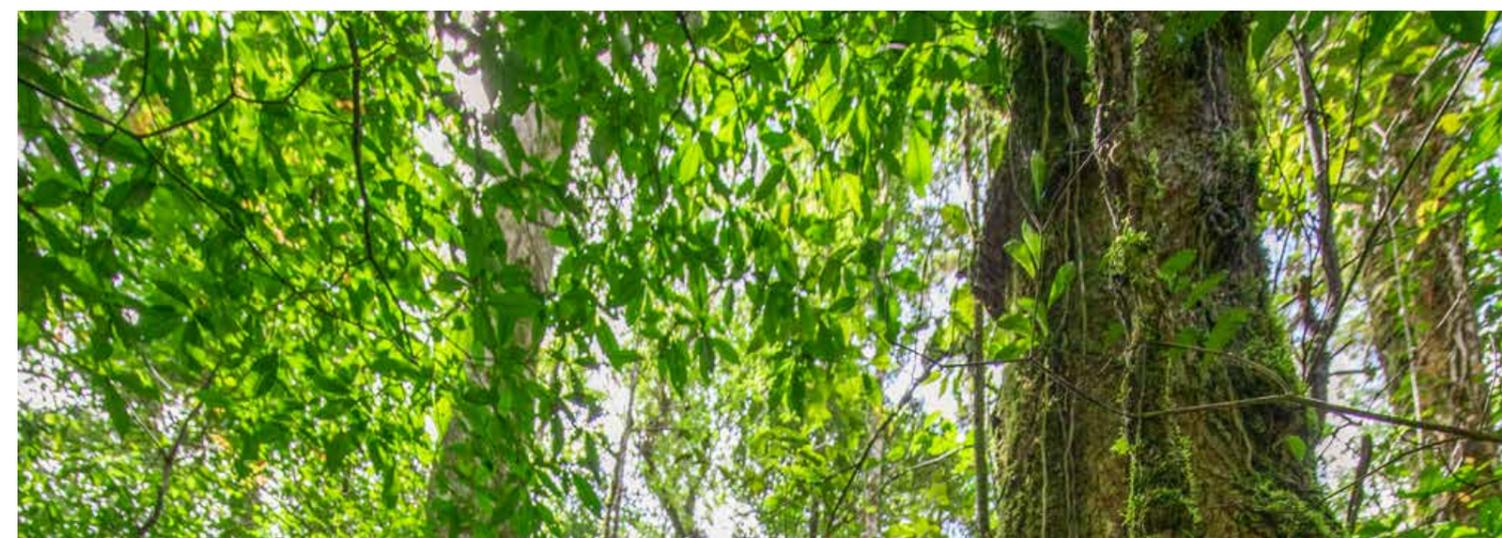


Table 12. Analysis of the options to reclassify the Ba Na - Nui Chua Nature Reserve in Quang Nam province

Options	Advantages	Disadvantages
Option #1: Expand Ba Na - Nui Chua Nature Reserve in Da Nang to Quang Nam province to form an inter-provincial SUF that is directly under the VNForest, MARD	<ul style="list-style-type: none"> - Expand the habitat of Ba Na - Nui Chua Nature Reserve for intact preservation of tropical natural forest ecosystems in 02 provinces and cities. - No need to establish more SUF management board, no increase in number of agency and staff. 	<ul style="list-style-type: none"> - Ba Na - Nui Chua is not in the planning to become a national park, so it is difficult to convert it into a SUF under the VNForest. - Located in two provinces, but the Management Board is under one province, it will be difficult to implement the management activities.
Option #2: Establishment of a Nature Reserve/ or other SUF classifications under Quang Nam province	<ul style="list-style-type: none"> - In line with the SUF system planning under Decision No. 1976/QD-TTg. - Forest resources and biodiversity are preserved according to planning objectives. 	<ul style="list-style-type: none"> - Failing to meet the criteria for area of a nature reserve as prescribed in Clause 2, Article 6 of Decree 156. - Failing to meet the criteria of other SUFs as prescribed in Article 6 of Decree 156. - Quang Nam province itself has 8 SUFs with an area of nearly 100 thousand ha (excluding Ba Na - Nui Chua), accounting for about half of the number and area of SUF in the South Central Coast, of which some large SUFs including Song Thanh National Park, Elephant Species Conservation Area, Sao La Species Conservation Area, Ngoc Linh Nature Reserve. Quang Nam province has no policy to establish Ba Na - Nui Chua SUF.
Option #3: Convert Ba Na - Nui Chua Nature Reserve into a watershed protection forest	<ul style="list-style-type: none"> - Currently, the area is still listed as a watershed protection forest, with the function of watershed protection for the Vu Gia tributary, a major river in the Central region. - The forest in the area can still be identified as a forest of high conservation value, located in the buffer zone of Ba Na - Nui Chua Nature Reserve to preserve forest habitat and biodiversity. - In line with the forest management conditions and policies of Quang Nam province. 	<ul style="list-style-type: none"> - Need to be reviewed before removing it from the Vietnam's SUF system planning. - Protection forest is often only concerned with protection functions, without due attention to biodiversity conservation, may be affected by forest degradation and biodiversity if there is lack of target-based good management plan.

Selected option: Option # 3 is the most feasible and optimal option for the following reasons:

- Although it has potential impacts on biodiversity, if it is planned to be a forest of high conservation value, being both a protection forest and a buffer zone of Ba Na - Nui Chua SUF, it is possible to overcome the weaknesses in management.
- Converting to watershed protection forest would be more suitable to the forest management conditions of Quang Nam province, one of the provinces with the largest area and number of SUFs.
- Having consulted with leaders of the forestry sector in Quang Nam province, they all think that the area is suitable for watershed protection. At the same time, in consideration of the Resolutions of the Provincial People's Council, other policies related to SUF, this area has been listed as a watershed protection forest.

2.2. Sơn Trà Peninsula nature reserve

Son Tra Peninsula is considered as one of the SUFs with the largest population of Red-shanked Doucs (*Pygathrix nemaeus*) in Vietnam. This is also one of the SUFs with great advantages because it is located next to Da Nang city, a dynamic city and the best tourism development destination in Vietnam. This area is being managed by many units such as the Forest Protection Department, the military, and the tourism management board.

Surrounding Son Tra Peninsula, there are also areas with high biodiversity value such as the marine area with rare and precious coral reefs and seagrass beds that are threatened with extinction; Nam Hai Van SUF area; and Son Tra Con Island. Therefore, Son Tra area is being proposed by the local authorities and ministries/sectors as a World Biosphere Reserve.

Upon the analysis of the current status and practical conditions of the area, there are 02 reclassification options proposed for Son Tra Peninsula Nature Reserve that were presented at the workshop and supported by the Da Nang' departments/sectors, specifically as follows:

Table 13. Analysis of options for reclassifying Son Tra Peninsula Nature Reserve

Options	Advantages	Disadvantages
<p>Option# 1: Expand the area covering Son Tra Peninsula, Marine Protected Area, Son Tra Con Island, Nam Hai Van to form a National Park</p>	<ul style="list-style-type: none"> - Create a large landscape area and turn it into the first national park of Da Nang city, upscaling at national and international levels; - Maximize the potential of forest, sea and island conservation, ensuring the sustainability of resources, especially this is an unique opportunity to preserve coral reefs and seagrass beds; - Maximize the exploitation of eco-tourism, facilitate connection with other landscape areas such as Cu Lao Cham, even the Hoang Sa archipelago, ensure long-term benefits from tourism development; - Reduce impacts on natural resources, ensure sustainable development; - Ensure the functions of environmental protection and national defense and security in a better manner; - The state management tasks can be unified, hence eliminating overlap, reducing conflict between conservation and development, promoting professionalism in state management; - New policies on environmental leasing and payment for forest environmental services can be applied, harmonizing the interests of conservation and tourism development; - A favorable condition for recommending to be a world biosphere reserve 	<ul style="list-style-type: none"> - Large area covering many mainlands, sea and islands requiring higher level of management; - Need consensus of many stakeholders, especially enterprises that have been authorized with investment projects; - Require the tourism development organization at a higher level to enable the combination of natural resource values preservation while ensuring benefits; - Higher requirements for building the environmental friendly infrastructure, wisely using natural resources, planting native trees;

<p>Option# 2: Convert into a Gray-shanked Douc Species and Habitat Reserve</p>	<ul style="list-style-type: none"> - Meet the target of conserving one of the largest populations of brown-shanked doucans in Vietnam and in the world. - Do not expand the area of SUF; - Easy to manage separately, without changing the structure of land use, organizational structure of management; - More favorable for the exploitation and development of tourism forms because the management regulations are not as strict as "Nature Reserve". 	<ul style="list-style-type: none"> - Reduce the value of landscape, biodiversity value due to fragmented, small landscape, only few opportunities to preserve coral reefs and seagrass meadows (in the future, these two ecosystems may be no longer existed); - Restriction in promoting natural values for tourism development, which is therefore not commensurated with the area's advantages; - Reduce the functions of environmental protection, national defense and security; - Natural resources are more vulnerable and easily impacted due to small-scale management, and in a long-term run, it is difficult to preserve resources sustainably; - Many management focal points, while they are not specialized in conservation work; - The conflicts in the management of the Peninsula are still overlapping and difficult to resolve, not able to share the benefits between conservation and development, which, in the long run, can create a situation of increasing conflicts; - It is difficult to propose Son Tra to become a world biosphere reserve.
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Selected option:

If choosing option #1, this is a safe solution and easy to implement. Similarly, it is possible to choose the option of keeping the “Nature Reserve” classification and the area unchanged.

In the case of selecting option# 2, then may face with difficulties as analyzed in the above table. In addition, in order to implement the option# 2, it requires a longer-term roadmap, and at the same time to have a strategic vision at a higher level in nature conservation and a strategy for sustainable tourism development, especially ecotourism. For national parks, the conservation goals often go hand-in-hand with tourism development goals, with priority given to ecotourism development.

However, to make a leap in promoting the advantages commensurate with this area, option# 2 is a better choice. This option will maintain long-term stability in the peninsula, sea and islands in terms of nature conservation, defense and security protection, while maximizing sustainable tourism forms in the area. Selecting this option also means reducing the management focal points, reducing overlaps and conflicts in management.

Once be reclassified as a National Park, and proposed to be a World Biosphere Reserve, then the future development trend and scale of tourism development must certainly be commensurated. The tourism management model will then be jointly coordinated in the way of benefits going hand-in-hand with obligations to ensure long-term and sustainable obligations and interests of stakeholders. In particular, tourism businesses will be identified more clearly when applying new State policies on leasing forest environment and payment for forest environmental services. At that time, the National Park Management Board also has a source of revenue to invest back in nature conservation and attract more participation of the communities.

Assess the level of response of the proposed option in view of the National Park criteria specified in the Law on Forestry and the Law on Biodiversity as follows:

Table 14. Son Tra’s level of response to the National Park criteria

Decree 156	Law on biodiversity
<p>Article 6. Criteria for SUF</p> <p>1. A national park meets the following criteria</p> <p>a) Have at least 01 typical natural ecosystem of a region or of the country or internationally, or having at least 01 endemic species of Vietnam, or having more than 5 species on the List of endangered, precious and rare forest plants and animals: including typical forest ecosystems on the peninsula, typical coral reef marine ecosystems; at least 01 endemic species is Gray-shanked Douc; more than 05 species on the List of endangered and rare species.</p> <p>b) Have special scientific and educational value; has environmental landscape, unique beauty of nature, valuable for ecotourism, resort and entertainment: being a very good site for scientific research and environmental education as closed to Da Nang city; The fresh environmental landscape, with the majestic beauty of the mountains and forests combined with the wild beauty of the beaches is becoming the leading eco-tourism, resort and entertainment destination in Vietnam and in the world.</p> <p>c) Have a contiguous area of at least 7,000 ha, of which at least 70% of the area is forest ecosystems: failing to meet this criterion as the forest ecosystem is only about 30%.</p>	<p>Article 17. National park</p> <p>A national park must have the following key criteria:</p> <ol style="list-style-type: none"> 1. Have a natural ecosystem of national or international importance, typical to or represent a natural ecological region: including a typical forest ecosystem on the peninsula, a coral reef marine ecosystem characteristics of national and international importance with the presence of the global endangered Gray-shanked Douc and many other species on the IUCN Red List. 2. Being a regular or seasonal natural habitat of at least one species on the List of endangered precious and rare species prioritized for protection: the place with the largest population and also the most successful conservation of Gray-shanked douc in Vietnam as well as in the world, this species is also on the list of endangered precious and rare species prioritized for protection; there are many other species on the list of endangered precious and rare species prioritized for protection. 3. Have special value in science and education: being a very good site for scientific research and environmental education as closed to Da Nang city. 4. Have environmental landscape, unique beauty of nature, valuable for eco-tourism: the area has fresh environmental landscape, majestic beauty of mountains and forests combined with wild beauty of nature. The beach is a leading ecotourism, resort and entertainment destination in Vietnam and in the world.

Hence, although it fails to meet Point c, Clause 1, Article 6 of Decree 156 guiding the implementation of a number of articles of the Law on Forestry, it is fully consistent with Article 17 of the Law on Biodiversity.

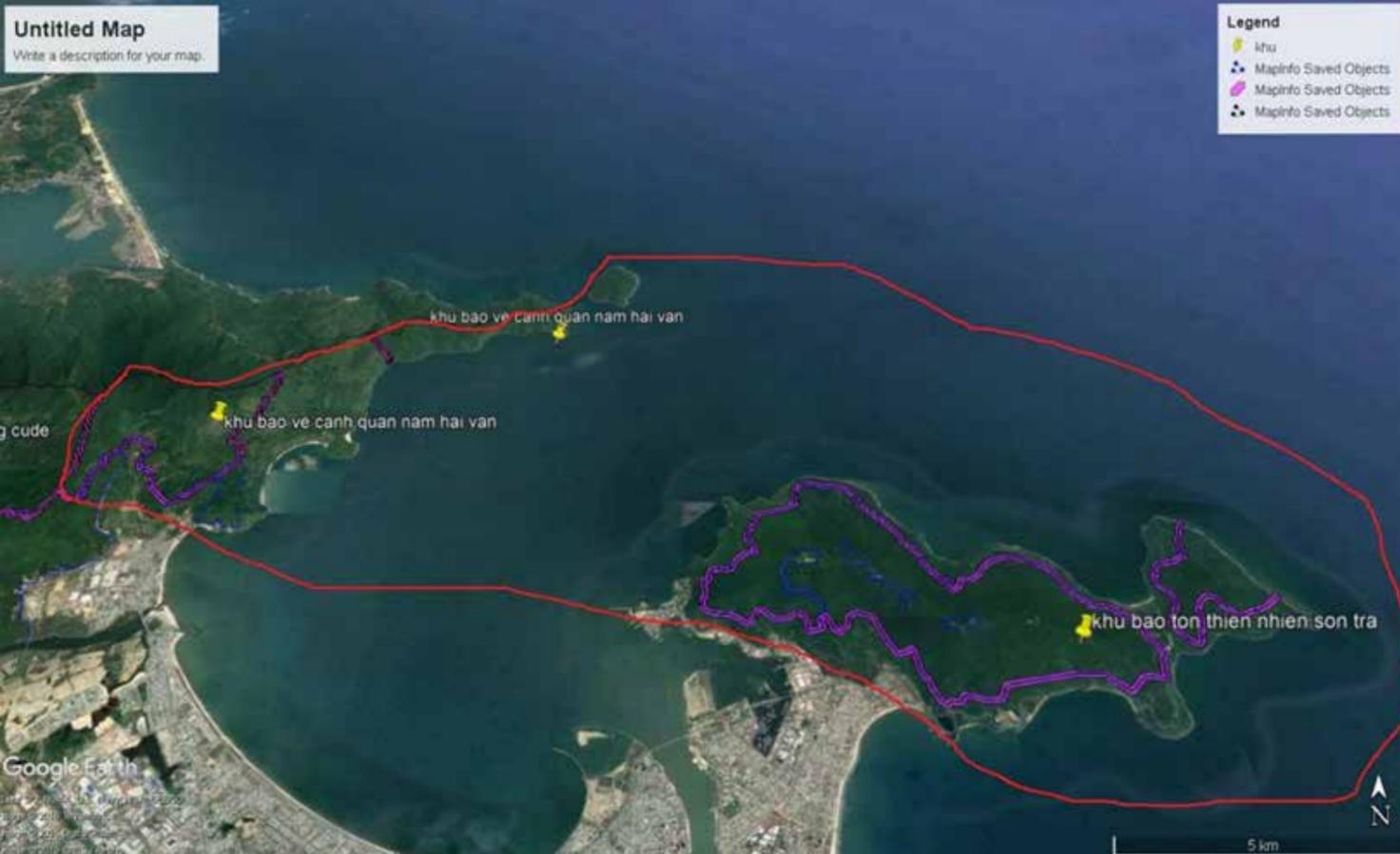


Figure 8. Map combining forest, sea and island conservation (Source: GoogleEarth and map of 3 forest types in Da Nang city)

2.3. Van Long Wetland Nature Reserve

The case study analysis shows that Van Long is a continuous conservation area combining the values of forests and wetlands. The name of this area itself is “Van Long Wetland Nature Reserve” when it was first established. Van Long is also the SUF area that preserves the largest population of the Delacour’s langur in Vietnam and globally, meanwhile preserving water birds, fish species, as well as the aesthetic landscape of limestone mountains and wetland.

In 2010, the Vietnam Record Book Center recorded “The place with the biggest number of Delacour’s langurs”. The langur population is well protected by the SUF Management Board and the community and the number of individual has grown from 43 individuals (in 2021) to about 150 individuals.

This is one of the most successful models of species conservation combined with tourism development in Vietnam. Along with the successful conservation in increasing the white-breed langur population it is the success of eco-tourism and community-based tourism activities. At the same time, this is also one of the most successful models of participatory nature conservation with a combination of many forms such as: (i) benefit sharing from using the wetlands by combining waterfowl conservation and fish conservation; (ii) benefit sharing from ecotourism, tour guide, homestay tourism; (iii) propaganda to raise public awareness of stakeholders about the habitat of the langur and migratory waterfowl.

Upon the analysis, there are 2 options proposed for reclassification of Van Long Nature Reserve as follows:

Table 15. Analysis of options proposed for reclassification of Van Long Nature Reserve

Option	Advantages	Disadvantages
Option# 1: Reclassified as Van Long Species and Habitat Conservation Area	<ul style="list-style-type: none"> - meet the main target of conserving the largest population of Langurs in Vietnam and in the world. - Preserve the area of limestone forest that is the habitat of the Delacour’s langur, and preserve the wetland habitat at the same time. - Keep the SUF area as it is, without changing the management structure. - Still promote the landscape values and develop the strengths of eco-tourism. - Completely consistent with the criteria of Species and Habitat Conservation Area according to Clause 3, Article 6 of the Decree 156. 	<ul style="list-style-type: none"> - Focus on conserving a few target species rather than conserving all the values of forests and biodiversity
Option# 2: Converted into Van Long Wetland Reserve under the Law on Biodiversity.	<ul style="list-style-type: none"> - In line with the Biodiversity Planning under Decision No. 45/QĐ-TTg with the goal of wetland conservation. - Conservation and promotion of wetland values (even artificial wetlands) 	<ul style="list-style-type: none"> - Do not focus on conserving the main target species- Delacour’s langurs and their habitat. - Limestone mountain habitat occupies the largest area, up to 2/3 of the area, is the target in need of protection. - In addition to the wetland landscape, the outstanding landscape is limestone mountains with Delacour’s langur as an attractive object for tourists. - Change the management structure and focal point.

Selected option: Converting Van Long Nature Reserve into Van Long Species and Habitat Conservation Area is in line with the target of conserving the largest population of Delacour's langurs on the planet. The landscape and aesthetic values of the limestone forest and wetlands, as well as the important water birds and fish species, are preserved. Reclassification to species and habitat conservation area is also consistent with the orientation of management, development of SUF, development of eco-tourism of Ninh Binh province.

If assessed against the criteria specified in Clause 3, Article 6 of Decree 156 on species and habitat conservation areas, Van Long is completely suitable, specifically:

- Criterion a) It is a regular or seasonal natural habitat of at least 01 endemic species or species on the list of endangered, precious and rare species of forest fauna and flora: *in addition to the Delacour's langurs that is both endemic and critically endangered species, the area also has endangered and rare 23 flora species and 61 fauna species listed in the Vietnam Red Book, IUCN Red List and Decree 06/2019/ND - CP.*
- Criterion b) Must ensure living, food and reproductive conditions for sustainable conservation of endemic species or species on the list of endangered, precious and rare species of forest fauna and flora: *limestone habitat which is the natural habitat of the Delacour's langurs. Along with wetlands, forest habitats on limestone mountains are also the natural habitats of endangered, precious and rare species in the area.*
- Criterion c) With special scientific and educational values: *the area is an important field site for scientific research, education, and experience in nature conservation, landscape and environmental protection.*
- Criterion d) With an contiguous area meeting the requirements of sustainable conservation of species on the List of endangered, precious and rare species of forest flora and fauna: *This is considered the most successful conservation site for Delacour's langurs globally.*

2.4. For Lang Sen and Lung Ngoc Hoang nature reserve areas

Lang Sen Nature Reserve is located in Tan Hung district (Long An province), in the ecological area of Dong Thap Muoi wetland, with typical features of alum wetland and typical wetland resources such as Melaleuca forest and seasonal flooded grasslands.

Lung Ngoc Hoang Nature Reserve is located in Phung Hiep district (Hau Giang province), in the wetland ecological area of West Hau River, with typical features of the intermingling wetland between Mekong river water and salt water from the West Sea. Typical wetland resources are Melaleuca forests and seasonal flooded swamps that are home to many reptile species.

The Mekong Delta is the largest river delta wetland in Vietnam. In the Mekong Delta, there are wetland ecological areas with different ecological features depending on different geomorphological and hydrological conditions. Lang Sen and Lung Ngoc Hoang areas are two SUFs distributed in two different wetland ecological zones, the Dong Thap Muoi wetland and the Mekong Delta wetland with the features of habitat and biodiversity of fauna and flora species typical of each region.

The main objective of the establishment of these two areas is to preserve the Melaleuca forest and the biodiversity value of the typical wetland area of the Mekong Delta. However, considering the total area and proportion of forest area, both of these areas are no longer matching with the criteria of nature reserves according to Clause 2, Article 6 of Decree 156.

Two options are proposed for reclassifying these two areas as follows:

Table 16. Analysis of reclassification of the Lang Sen and Lung Ngoc Hoang nature reserves

Options	Advantages	Disadvantages
Option# 1: Reclassify both sites as Species and Habitat Conservation Areas	<ul style="list-style-type: none"> - Meet the main objective of preserving Melaleuca forests, water birds and fishes in these two areas. - Lung Ngoc Hoang is in line with the Biodiversity Planning according to Decision No. 45/QD-TTg because it has been planned as a species and habitat conservation area. - Biodiversity values 02 typical lowland areas of the Mekong Delta are still preserved. - Keep the SUF area as it is, without changing the management structure. - The landscape values are still promoted and the strengths of eco-tourism are developed. 	<ul style="list-style-type: none"> - More focus on species conservation, with less interest in biodiversity in general. - Need to review prior to reclassify to Species and Habitat Conservation Area.
Option # 2: Convert both sites to Wetland Reserves under the Biodiversity Law.	<ul style="list-style-type: none"> - In line with the Biodiversity Planning under Decision No. 45/QD-TTg with the goal of wetland conservation. - Typical wetland values of the Mekong Delta are preserved and promoted. 	<ul style="list-style-type: none"> - For Lang Sen, it is completely suitable; for Lung Ngoc Hoang, the area of terrestrial Melaleuca forest accounts for a large proportion and wetlands only account for a minor part. - Change the management structure and the focal point.

Selected option: According to option 1, both these nature reserves are converted into Species and Habitat Conservation Areas under the SUF system, meeting the criteria of area as well as the conservation target of birds, especially migratory birds and aquatic species. These two areas are both SUFs and at the same time wetland conservation areas under the Law on Biodiversity, managed by DARDs.



CONCLUSION AND RECOMMENDATION

Conclusion

Decree 156 stipulates the protection forest classification criteria in Article 7, then the environmental protection forest is one of the classifications of the SUF (previously falling under one of the classifications of the protection forest system under the Law on Forest Protection and Development). Also according to the provisions of Clause 2, Article 6 of Decree 156, the nature reserve area must be larger than 5,000 ha. This change leads to a review of the environmental protection forest system and the Nature Reserve (RDD) for arrangement for matching with the National Forestry Planning.

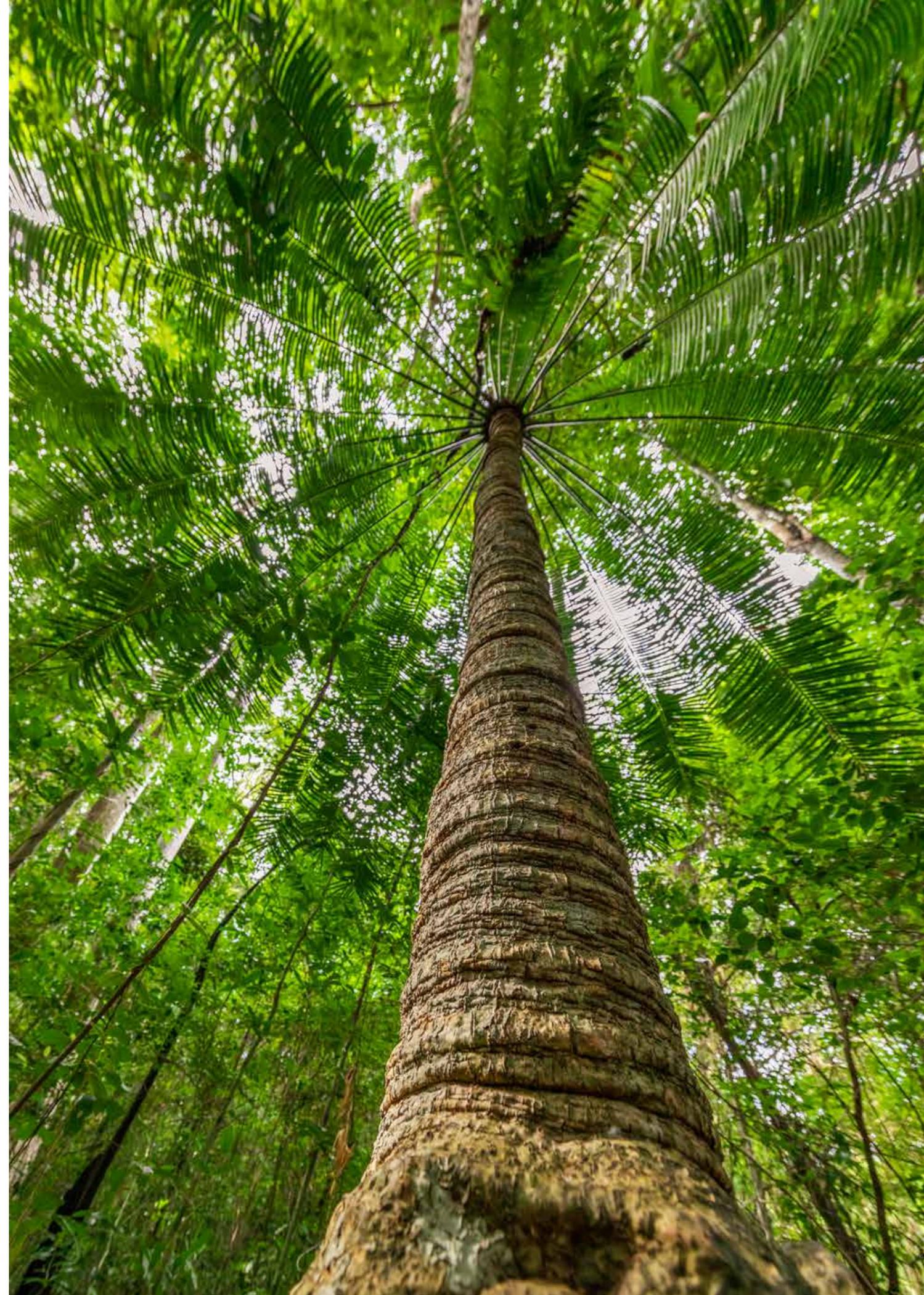
The results of the protection forest review reveal that there are 160,073 ha of environmental protection forest nationwide, but many of them with small areas and scattered throughout the country and managed by various different forest owners, of which the majority is managed by households and communities. In this report, a number of environmental protection forests have been analyzed for reclassification, and a set of criteria for forest reclassification has been proposed to support the National Forestry Planning.

The SUF review results demonstrate that there are 05 nature reserves with an area of less than 5,000 ha, namely: Ba Na - Nui Chua in Quang Nam, Son Tra Peninsula, Van Long, Lang Sen and Lung Ngoc Hoang. This report has analyzed and evaluated the criteria and proposed the reclassification/ conversion: Ba Na - Nui Chua Nature Reserve changed into watershed protection; Van Long, Lang Sen and Lung Ngoc Hoang Nature Reserves become Species and Habitat Conservation Areas; Son Tra Peninsula Nature Reserve combining with the sea, Son Tra and Hai Van islands to form a national park.

Recommendations

During the review and research process, one of the most difficult forest classifications to review and analyze is the environmental protection forest because they are too small, scattered, and managed by many different forest owners. The follow up tasks of the National Forestry Planning are recommended as follows:

1. Take into account the proposals of reclassification of the environmental protection forest and nature reserve with an area of less than 5,000 ha for inclusion in the National Forestry Planning.
2. Guide the localities and the forest owners to review the entire environmental protection forest area in accordance with the criteria applicable for reclassification stipulated in the Decree 156.
3. In the case that the environmental protection forest are converted to landscape protection areas in the SUF, it is necessary to have a solution of allocating to appropriate forest owners in accordance with the provisions of the Forestry Law, such as in the case the forest owner is the People's Committees of communes, households, and private sector.
4. Propose solutions in the National Forestry Planning for the review of the entire environmental protection forest area, clear demarcation, settlement of disputes, forest encroachment.
5. Recommend management solutions suitable for scattered and small areas of the environmental protection forest, ensuring high efficiency.





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