

ESTABLISHING ECOTOURISM TRAIL AND ENVIRONMENTAL INTERPRETATION AT THE FRENCH PERIOD SUMMER CAMPING ROUTE IN BA VI NATIONAL PARK FOR SUSTAINABLE DEVELOPMENT

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SUMMARY

Ecotourism is one of the tourism types that is growing in popularity and attracting both domestic and international visitors. It is seen as a viable option for ecological and environmental conservation in the pursuit of long-term growth. The French period summer camping route in Ba Vi National Park has significant potential for establishing an ecotourism route due to its richness of natural resources, sceneries, and historical remains. However, this potential worth has not been marketed and as a result, few visitors have visited. It is critical to construct ecotourism and environmental interpretation for the French period summer camping route. With the inheriting historical documents of the route, we combined to survey plant and animal resources, interview tourists about the need for route establishment, assess natural and tourism resources and build an environmental interpretation on the route to carry out the research. Besides, this research identifies and evaluates common and endemic flora and fauna, as well as tourist resources, that are frequently seen along the French period summer camping route. Meanwhile, we recommend not only developing environmental interpretation on the route's indigenous flora and fauna resources, French ruins, and other notable aspects (leaf coloration, terrain), but also developing environmental interpretation plans, maps, and messaging. As a consequence, various recommendations for human resources, methodologies, environmental education programs, and communication to aid in the administration, operation, and sustainable development of the route have been made.

Keywords: Ba Vi National Park, Ecotourism, environmental interpretation, French period summer camping route.

1. INTRODUCTION

Tourism has traditionally been seen as a "clean industry" with no negative environmental impact compared to other sectors and economic activities (Duim & Caalders, 2002). According to the United Nations World Tourism Organization (UWTO), "Tourism is one of the fastest growing industries making the biggest contribution to sustainable development and poverty reduction. In 2007, the total number of international visitors reached 900 million and the World Tourism Organization United Nations predicts that this number will increase to 1.6 billion visitors by 2020".

Ecotourism is a type of tourism that requires the implementation of environmentally responsible recreational activities within designated natural areas. It also establishes a policy to encourage the protection of the natural area contributing to the socio-economic development of the local population

(Ceballos-Lascurain, 1996). The term "ecotourism" was coined in the 1980s to describe a method of regulating tourism and its negative impacts on natural regions (United Nations Environment Programme, 2002).

Ecotourism has only recently been explored in Vietnam as a tourism type since the 1990s, despite the country's significant potential for ecotourism resources, biodiversity, indigenous cultural values, and a vast network of national parks and protected areas. Ba Vi National Park (NP) is one of 34 national parks in Vietnam (Vietnam Administration of Forestry, 2021) and is known as one potential place for ecotourism with a variety of spiritual tourism. In addition, this place has a former military training range and a church between 600m and 800m above sea level, as well as hundreds of antiquities going back a century or more to the French colonial era. As a result, visitors flock to the place not only for the pure air and ecological aspects, but also for the historical and cultural aspects. Furthermore, Ba Vi NP has

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experienced a growth of ecotourism, with five spiritual tourism routes, three French ruins discovery routes, and four environmental discovery routes drawing attention from both domestic and international visitors. Although there are numerous advantages of ecotourism development, it is obvious that many visitors to Ba Vi NP are unaware of this path. Furthermore, the resource's significance has not been recognized and promoted to its full extent. The route's unique qualities have not been properly described or introduced to tourists. Thus, it is critical to construct an ecotourism route and environmental interpretation for the French era summer camping route. The goal is to increase the values of natural and tourism resources along the route by leveraging potential assets to attract tourists. It also helps students and visitors get a better understanding of biodiversity, instilling in them a sense of responsibility for ecosystems, natural resources, and environmental conservation.

2. RESEARCH METHODOLOGY

2.1. Study site

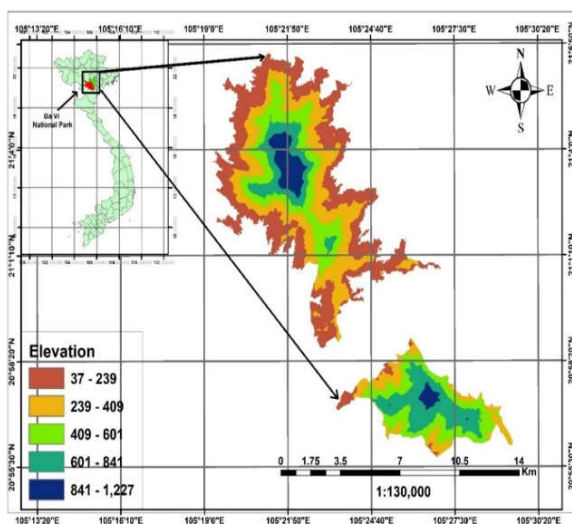


Figure 1. Topography map of Ba Vi NP (Dinh, 2019)

2.1. Field survey

Field survey route of the French period summer camping was conducted not only to determine the diversity and distribution of plants and animals in the ecotourism route, but

The study was carried out at Ba Vi NP located in the Ba Vi mountain range in Ba Vi district, Hanoi, and two districts of Luong Son, Ky Son, Hoa Binh province with a total area of 12,023 hectares. Habitat of Ba Vi NP is characterized by evergreen forest and mixed forest of coniferous and broadleaf at elevations above 600m (Vietnam Administration of Forestry, 2021). Ba Vi mountain is unevenly distributed, topography and altitude are the two main factors leading to climate differentiation, clearly shows the amplitude of day and night temperature and rainfall regime at different elevations. According to the Vietnam Administration of Forestry in 2021, there are 341 animals and 2,181 plant species recorded here. As for tourism's aspect, the number of tourists to Ba Vi NP increased sharply in recent years, with an average growth rate of 104.9%, in the period 2015- 2019. Alongside the growth of domestic tourists, the data on foreign travellers visiting Ba Vi NP soared up from 2594 people in 2015 to 5740 people in 2019 (Ecotourism service center in Ba Vi NP, 2020).

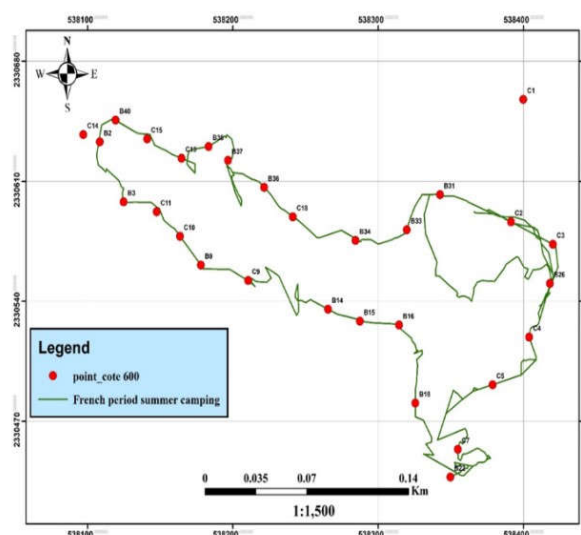


Figure 2. Map of French period summer camping route in Ba Vi NP

also statistical endemic resources appear on the route. This stage included some baby steps, namely defining the name, determining the location and the statistical quantity of flora and fauna found on the ecotourism route.

2.2. Interviewing

Conducting a tourist survey was carried out to build an eco-tourism route at the French period summer camping, Ba Vi NP. The aim of the survey was to assess the needs of domestic and foreign tourists when visiting Ba Vi NP; to build an ecotourism trail at the French period summer camping; and to provide practical basis for the construction of the route. The Microsoft forms with the interview questions were set up and 62 travellers were targeted to be interviewed, including 59 domestic and 3 foreign tourists. After that, the result was input into the Excel software in order to draw charts, interpret the data collected to process the quantitative information in the questionnaire.

2.3. Tourism resource assessment method

There were two aspects being focused on evaluating, namely flora and fauna on the route, humanities resources. As for assessing of key flora and fauna resources, a various criteria are used such as the vegetation (rich, unique, and typical); the typical species in the region (endemic species, rare species); some typical

animals (mammals, birds, reptiles, amphibians, insects, etc.). In terms of humanities resources, there were human-created objects and phenomena in the process of existence and had value serving tourism needs. Some striking criteria were used to evaluate humanities resources (on the French period summer camping route, there are still historical ruins) including the ruins which were associated with either places, accommodation, human activities and important political events in history. Besides, the ruins marked memories as well as the architectural artworks of regional calibers were also considerable.

2.4. Building environmental interpretation at the French period summer camping route

Based on the factors of topographical, climate, transportation, and resources available in the French period summer camping route. The positions and features on the route have been completed penetration from the starting point to the ending point. The build method was applied according to the theoretical basis of the tourist route construction.

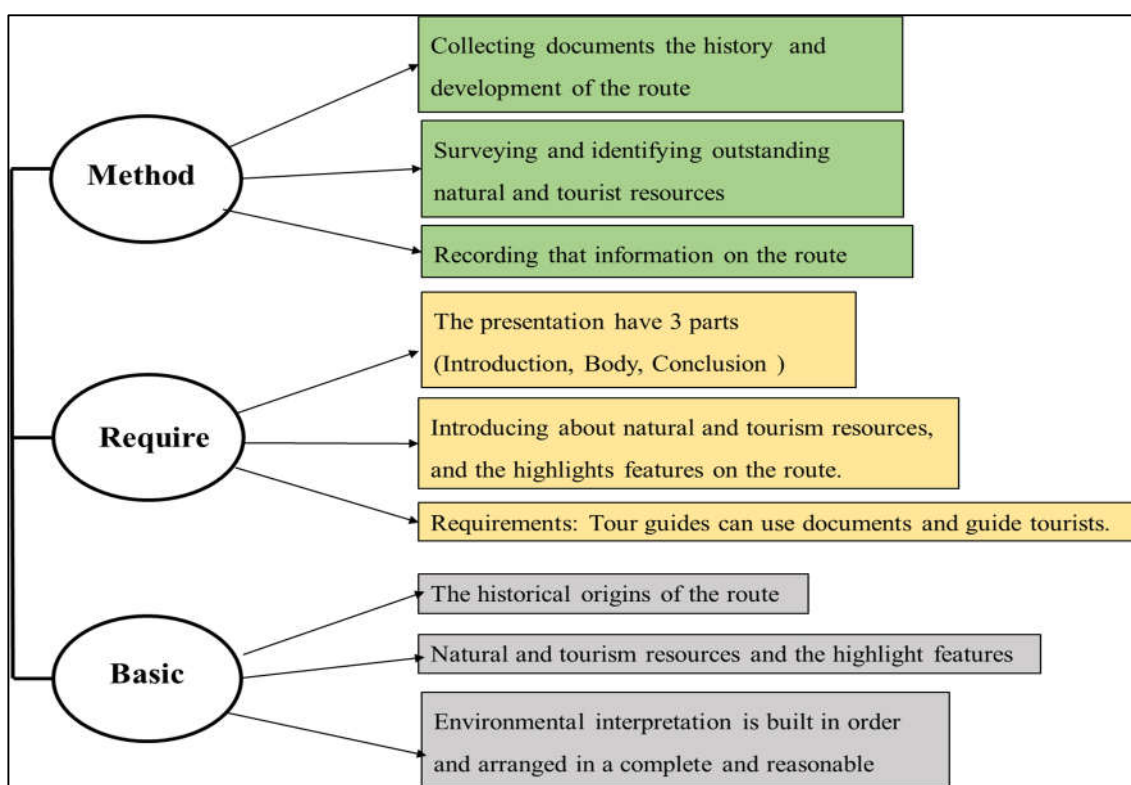


Figure 3. Establishing ecotourism and environmental interpretation on the route

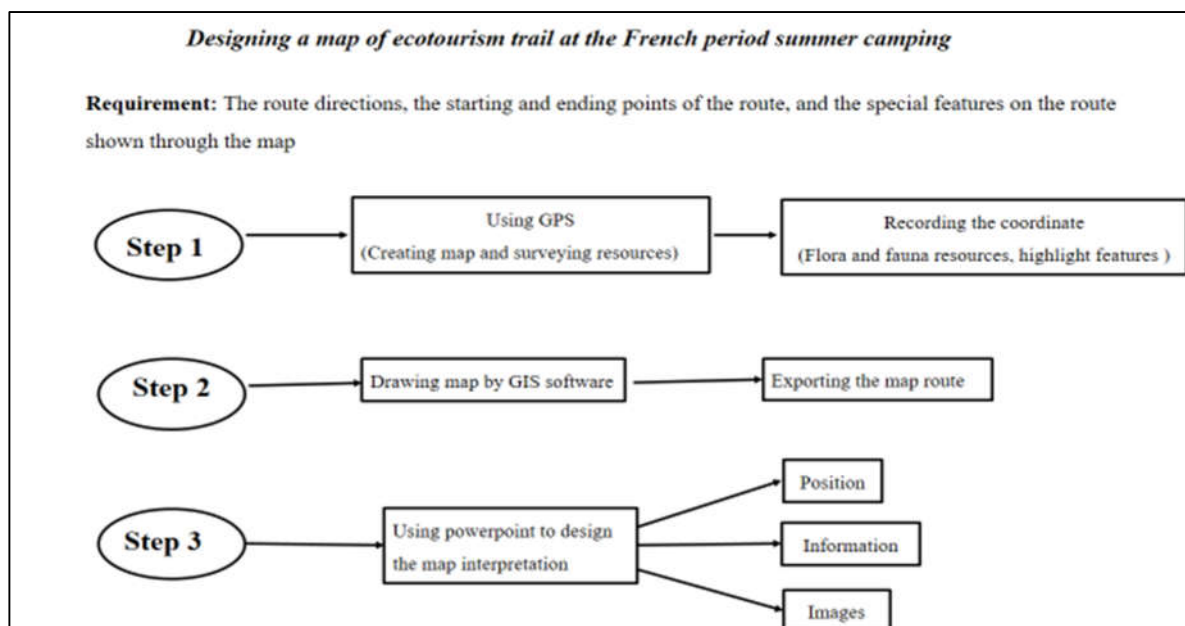


Figure 4. Designing a map of ecotourism trail at the French period summer camping

3. RESULTS AND DISCUSSION

3.1. Tourism activities and tourists' demand for the establishment of ecotourism trail and environmental interpretation at the French period summer camping route in Ba Vi NP

Most tourists visited Ba Vi NP many times or at least once. The data shows that the number of visitors who have visited Ba Vi NP with

frequency many times accounted for 56%. Moreover, the satisfaction of landscapes, nature, and tourism resources has attracted tourists to visit and create a highlight for visitors who want to return to experience many types of tourism here. The number of visitors for the the first time and the second time made up 28% and 16%, respectively.

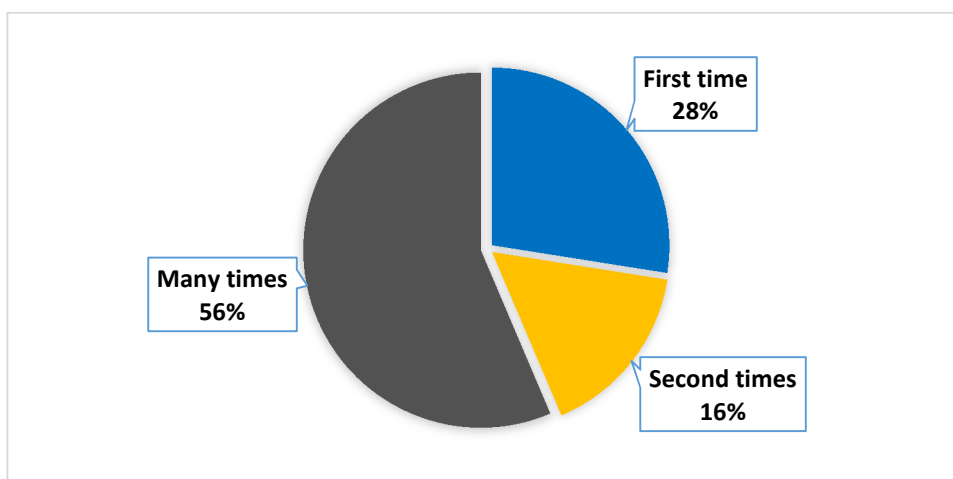


Figure 5. Frequency to visit Ba Vi NP

The autumn season is the most popular choice for tourists, accounting for 32%. At this time is the season of wildflowers, which is an emerging tourist attraction of the Ba Vi NP at the end of October and November. The majority of the tourists are students, and families come to the national park to enjoy the wildflowers, the

natural landscape at the end of autumn. Next, with 30%, the number of tourists travelling in the summer ranked at the second point due to the tranquil and fresh atmosphere originating from a stream on the Ba Vi mountain. The data on the spring and winter stand at the following positions. Meanwhile, tourists often go to the

ceremony and travel at the national historical sites such as Ho Chi Minh Temple, Bao Thien

Tower, Thuong Temple, Trung Temple...

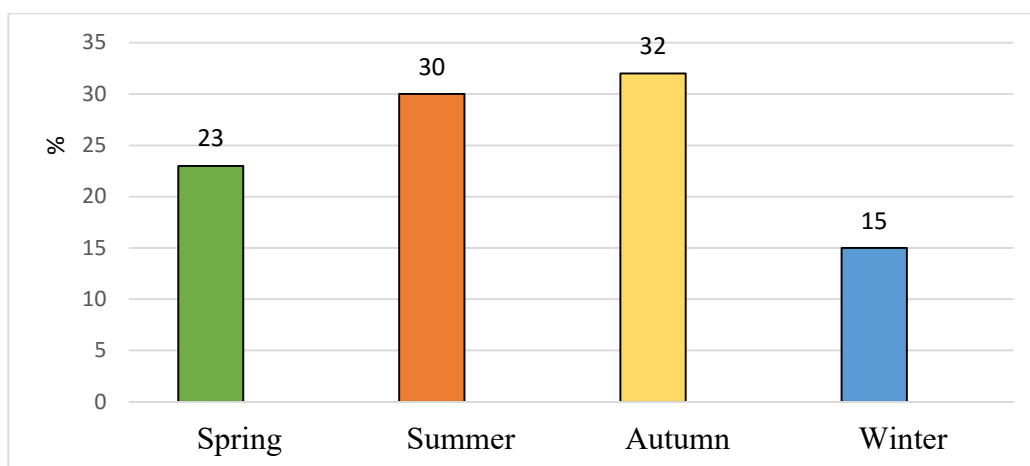


Figure 6. The number of tourists visited through the seasons.

The majority of visitors have never visited the French period summer camping route, accounting for 73%. The main reason is that the route has not yet been developed and advertised for tourism, resources, and outstanding features. By contrast, the number of people who have visited this route, which only made up 27%.

They are mainly students, researchers, and some tourists studying flora and fauna. When interviewing about the establishment of an ecotourism route during a French period summer camping, most people agreed with this view, accounting for 91.9%, while a small percentage of tourists disagreed.

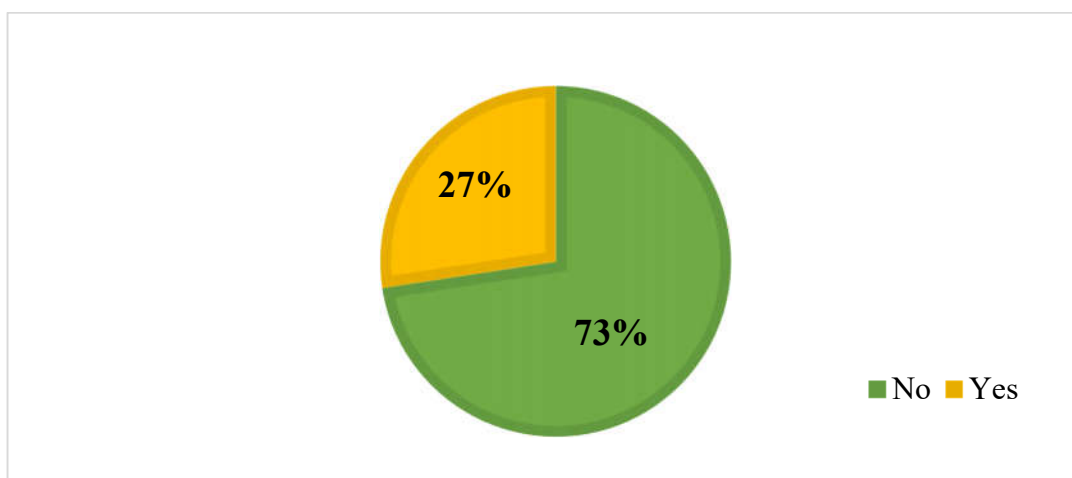


Figure 7. The number of people visited the French period summer camping route

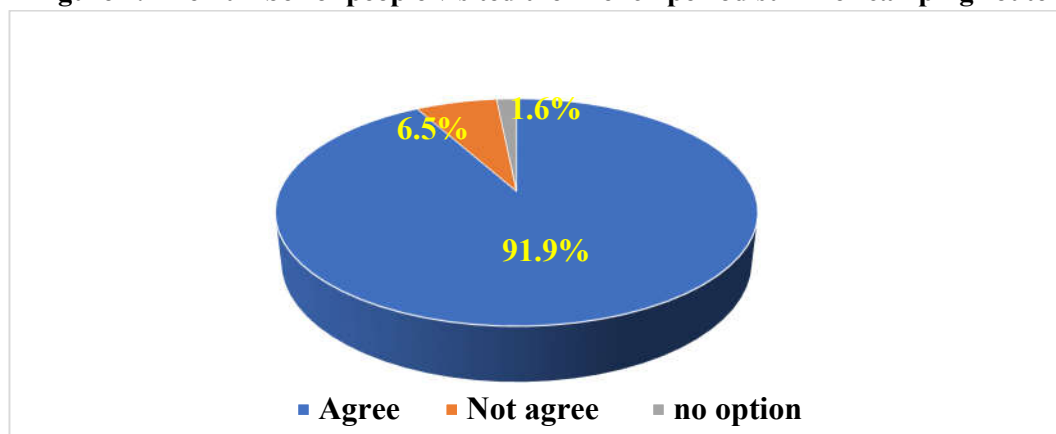


Figure 8. Establishing ecotourism at French period summer camping route

3.2. Key flora and fauna species on the French period summer camping route

Based on results of field surveys and criteria for evaluation of key fauna and flora on the

French period summer camping route, eight species of plants and eight species of animals have been selected for the introduction on the trail (Table 1).

Table 1. Assessing of key flora and fauna resources on the French period summer camping route

No	Resource	Name species	Criteria					
			Common	Specific, Endemic species	Rare species	Outstanding sharpe, colour...	Easy to observe	Valuable and meanings
1	Plants	<i>Quercus gemellif</i>	+	+		+	+	+
2		<i>Knema tonkinensis</i>	+		+		+	+
3		<i>Strangler figs</i>	+	+		+	+	+
4		<i>Dendrocalamus spp.</i>	+	+			+	
5		<i>Monstera deliciosa</i>	+			+	+	
6		<i>Asplenium nidus</i>	+	+		+	+	
7		<i>Alocasia odora</i>	+			+	+	+
8		<i>Entada phaseoloides</i>	+			+	+	+
9	Animals	<i>Ratufa bicolor</i>			+	+		+
10		<i>Eumyias thalassinus</i>	+		+	+	+	
11		<i>Acanthosaura lepidogaster</i>	+	+		+	+	+
12		<i>Protothrops mucrosquamatus</i>	+			+	+	+
13		<i>Lycodon ruhstrati abditus</i>	+			+	+	+
14		<i>Duttaphrynus melanostictus</i>	+			+	+	+
15		<i>Troides helena</i>	+		+	+	+	
16		<i>Mantis religiosa</i>	+			+	+	+

3.3. Environmental interpretation on the route
Introduce the history of the French period summer camping route

According to the mystery of the villa resort on Ba Vi mountain, a proposal was made to build an elevated resort in Indochina in 1897 and Mr. Paul Doumer's concept was based on topographic, climate, natural resources, culture, and other factors in deciding where to create the resort region. Standing at Ba Vi NP's cote 600 was a trail leading the way to cote 700 which was known as the French period summer camping. The first summer camp was established in 1940, followed by the second and third summer camps in the following years. It drew a big number of young people from all over the world, notably French, Eurasian, and Vietnamese youngsters (Ba Vi National Park Management Board, 2020).

Introduce the biodiversity

The ecotourism route at the French period summer camping is suitable for activities with one session per day. At the end of the route, visitors will have experiences and knowledge about plant and animal resources on the route. Besides, tourists will learn more about the history of the route and the remnants of the French period. The French period summer camping route is very suitable to develop ecotourism and environmental education about nature, ecology for students and tourists.

Quercus gemelli, *Knema tonkinensis*, *Strangler figs.*, *Dendrocalamus spp.*, *Monstera deliciosa*, *Asplenium nidus*, *Alocasia odora*, and *Entada phaseoloides* are eight species included on the flora interpretation map for the French period summer camping route. These are frequent trees that have unique characteristics along the path.

On the route map, the map gives the information and location of each species. Additionally, by

looking at pictures of species along the path, travelers will be able to identify trees.

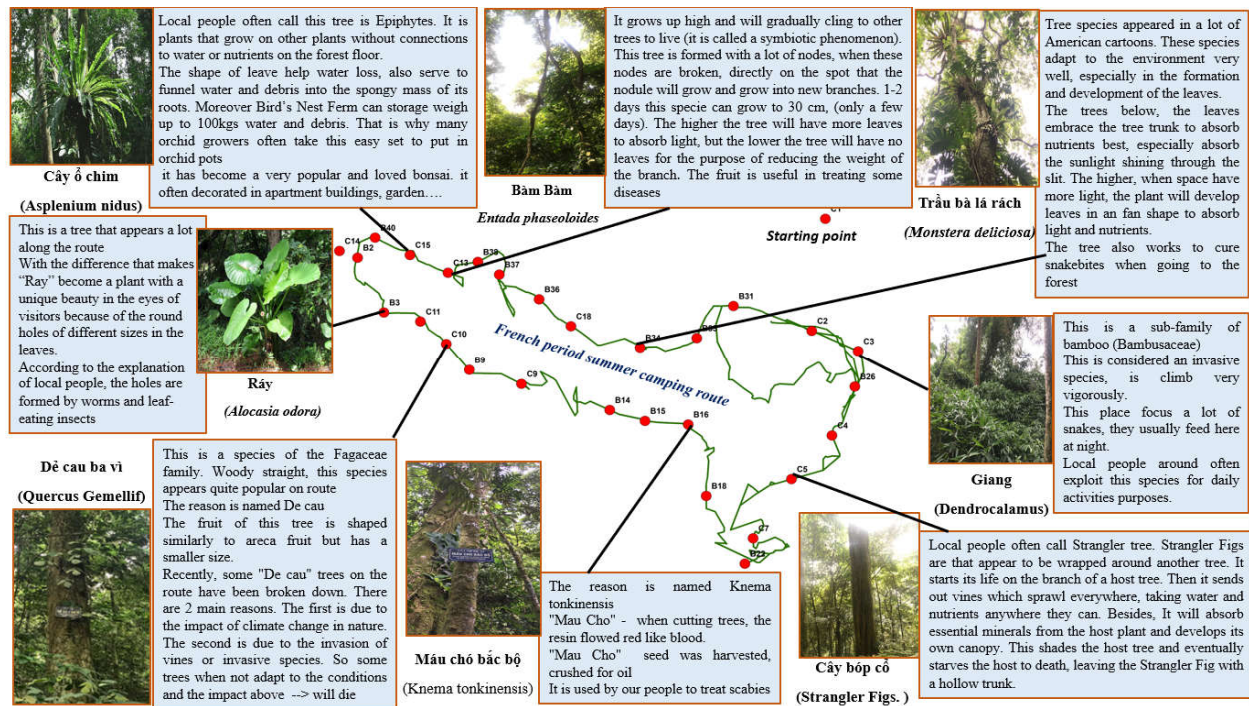


Figure 9. Map of flora in French period summer camping route

The animal interpretation maps for summer camping in the French era were constructed with explanatory information for five groups of animals: mammals, birds, reptiles, amphibians, and insects. Squirrels, birds, snake, lizard, toad, mantis and butterfly are among the animals included, with information on their particular

traits, images, and locations. These species are usually easy to find while walking along the route, except for squirrels species. These species are quite difficult to see, because they are usually active in trees and move very quickly.

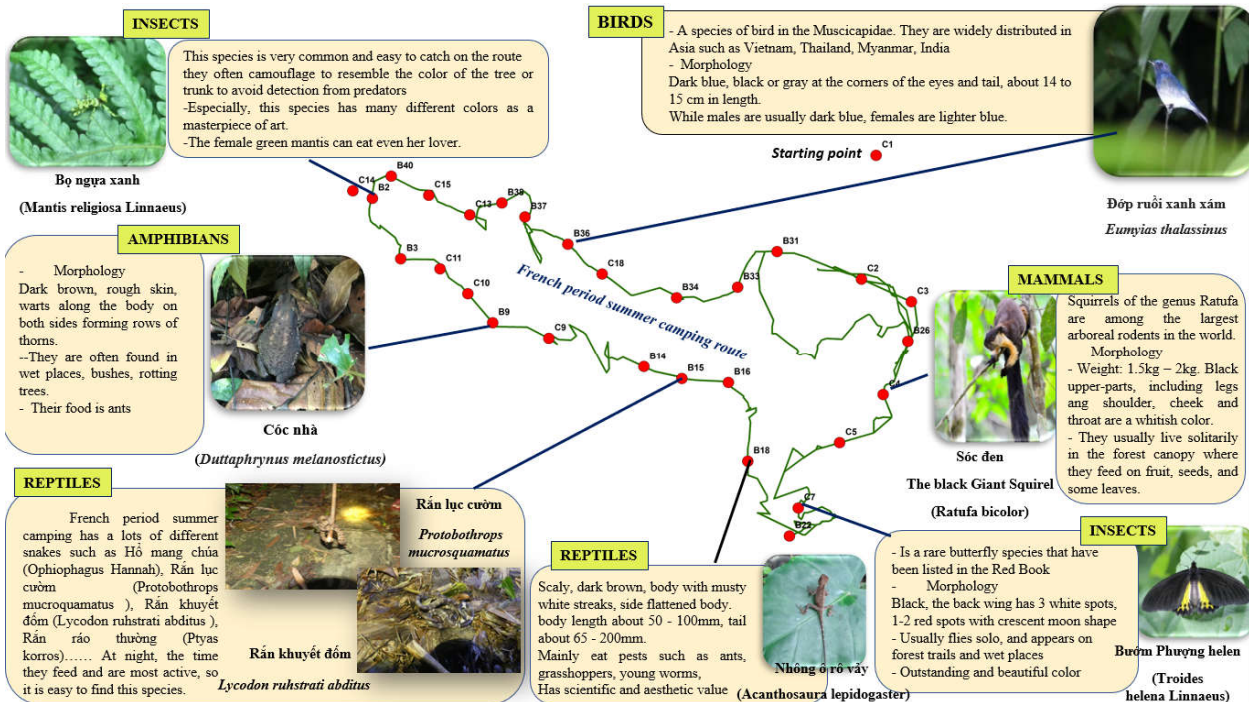


Figure 10. Map of fauna in French period summer camping route

The map of ruins and other features depict location and historical information about the French ruins along the route. Four French colonial mansions are still standing in this region. Aside from that, the map includes other

useful details about the path, such as leaf coloration and geography. This assists travelers in learning more about the route's history, knowledge, and interesting facts.

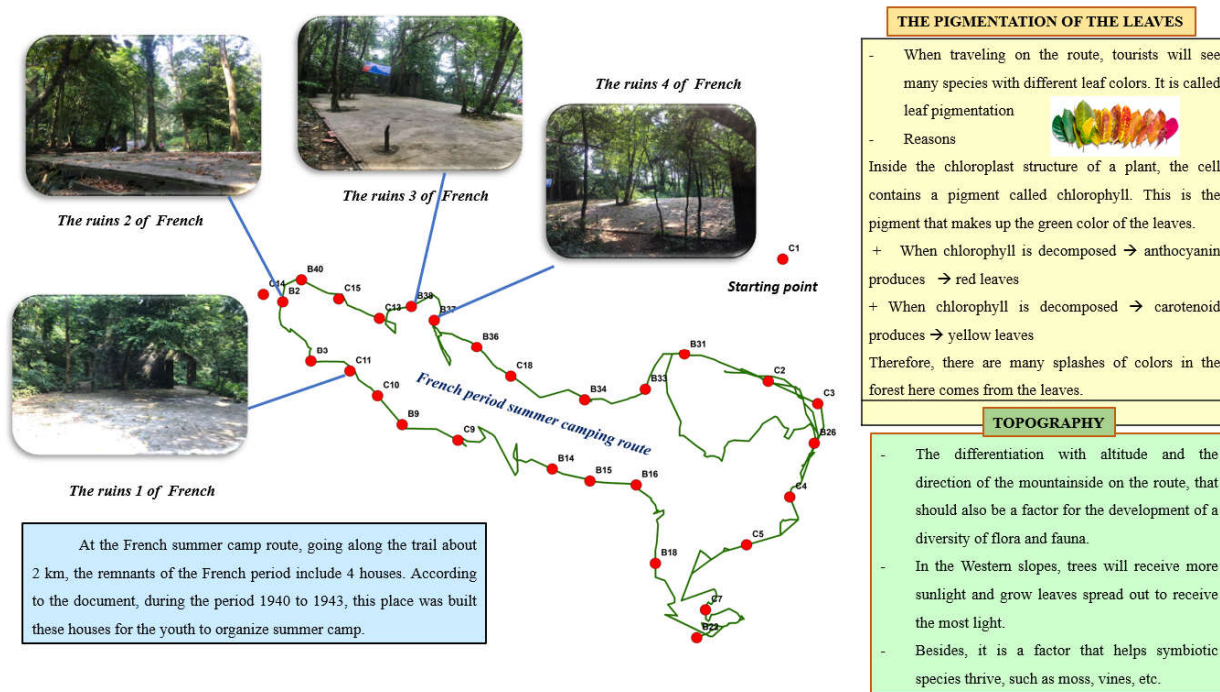


Figure 11. Map of ruins and other features in French period summer camping route

Messages of the route

Messages about environmental and ecosystem protection and some notice boards on the route play an important role in changing tourist habits and behavior towards the environment, raising awareness of behavior with nature, responsibility, and attitude to protect the environment and natural resources. Some slogans and messages have been used: Taking care of the environment is not an obligation – Our environment is our life; Love to Nature, Nature will love you; Nature saves us, we too must save it; Protect forest - protect our life.

3.4. Some solutions in the management, operation, and sustainable development of the route

In addition, some silver bullets in the management, operation, and development of the route need to be introduced. First of all, development of human resources for tourism and scientific research applications, technology

is the most necessary. In more detail, training systems should be carried out including vocational training, training to improve skills of the park staff to create new resources for the route. Apart from training, promoting basic research, research application of advanced tourism science and technology to not only serve but also develop the route's ecotourism in a sustainable direction.

Communication and education programs which are considered as two effective ways. In terms of communication, by placing messages, signs, and tree names in convenient locations, tourists are appropriate for easy observation. Besides, the selection of materials for tree nameplates and signs is not harmful to the species, especially, highly durable to the impact of weather and friendly with the environment. Furthermore, applying notice boards placed at the ruins in order to provide more knowledge and understanding of the ruins to visitors. The trash is designed with a funny shape or made

from environmentally friendly material. It should be located on the route of ecotourism and the ruins of France. This is a place that often organizes educational activities, camping, and resting of other tourists. It is remarkable that in the era of technological development, access to countless media such as social media, leaflets, pictures, documents, etc., this campaign could attract a wide range of viewers. As for education, building an environmental education program for each object including tourists, students, and local people, which helps them understand the value of the national park and ecosystem.

4. CONCLUSIONS

It is necessary to develop an ecotourism route along the French period summer camping route in Ba Vi NP. This contributes significantly to the conservation of biodiversity and the preservation of history in Vietnam as a whole, and in Ba Vi NP in particular.

Located at the cote 600 to cote 700 with a length of 2.89km, the construction of an ecotourism route at the French period summer camping route in Ba Vi NP where flora resources are very diverse and abundant. Some key plant species can easily be observed on the route such as *Quercus gemelliflora*, *Knema tonkinensis*, *Strangler figs.*, *Dendrocalamus* spp., *Monstera deliciosa*, *Asplenium nidus*, *Alocasia odora* and *Entada phaseoloides*... This place is home to many animal species, especially reptiles such as snakes, frogs. Moreover, many birds, butterflies, and insects make their home here. Some common fauna resources can be easily seen on the route such as *Ratufa bicolor*, *Acanthosaura lepidogaster*, *Eumyias thalassina*, *Duttaphrynus melanostictus*, *Manti religiosa*, *Troides helena*, *Lycodon ruhstrati abditus*, *Protothrops mucrosquamatus*... Besides, there are some remnant ruins of the French colonial period on the route.

Environmental interpretation has been developed throughout the route, which includes

introducing the route's history, supplying and interpreting some of the route's indigenous and common wildlife and plant resources, describing the French ruins, and highlighting some of the route's notable characteristics. In addition, creating an environmental interpretation strategy, as well as producing maps and route messages. Environmental interpretation was established on the French era summer camping route, which increased the value of the route's natural and tourist resources. Furthermore, it aids in the dissemination of information and raising awareness among travelers about the ecology and environmental conservation.

There are four solutions proposed in the areas of human resources, technical, environmental education programs, and communication for the route's management, operation, and development.

Acknowledgement

The research would not complete without the enthusiastic support of Fiona Clarkson. Thanks to officers and rangers at Ba Vi National Park for providing documents and devoting their time to help us during the field survey.

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ĐỀ XUẤT XÂY DỰNG TUYẾN DU LỊCH SINH THÁI VÀ DIỄN GIẢI MÔI TRƯỜNG TRÊN TUYẾN ĐƯỜNG TRẠI HÈ THỜI PHÁP TẠI VƯỜN QUỐC GIA BA VÌ CHO PHÁT TRIỂN BỀN VỮNG

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TÓM TẮT

Du lịch sinh thái là một trong những loại hình du lịch ngày càng phát triển phổ biến và thu hút cả du khách trong nước và quốc tế. Nó được coi là một lựa chọn khả thi để bảo tồn sinh thái và môi trường, thúc đẩy phát triển lâu dài. TUYẾN ĐƯỜNG TRẠI HÈ THỜI PHÁP TẠI VƯỜN QUỐC GIA BA VÌ có tiềm năng đáng kể để thiết lập tuyến du lịch sinh thái do sự phong phú về tài nguyên, cảnh quan và di tích lịch sử. Tuy nhiên, giá trị tiềm năng này đã không được khai thác, dẫn tới rất ít du khách ghé thăm. Vì vậy, phát triển du lịch sinh thái cho tuyến đường trại hè thời Pháp là một điều cần thiết. Bên cạnh việc kế thừa tư liệu lịch sử, chúng tôi kết hợp với khảo sát tài nguyên động thực vật, phỏng vấn du khách về nhu cầu lập tuyến, đánh giá tài nguyên du lịch, tự nhiên và xây dựng thuyết minh môi trường trên tuyến để tiến hành nghiên cứu. Từ đó, nghiên cứu này xác định và đánh giá các loài động thực vật phổ biến và đặc hữu, cũng như các tài nguyên thiên nhiên thường thấy dọc theo tuyến đường cắm trại mùa hè thời Pháp. Đồng thời, chúng tôi không những đề xuất phát triển diễn giải môi trường trên các tài nguyên động thực vật bản địa của tuyến đường, tàn tích Pháp và các khía cạnh đáng chú ý khác (màu lá, địa hình) mà còn phát triển các kế hoạch, bản đồ và thông điệp giải thích môi trường. Do đó, các giải pháp về nguồn nhân lực, phương pháp luận, chương trình giáo dục môi trường và truyền thông để hỗ trợ việc quản lý, vận hành và phát triển bền vững trên tuyến cũng được đưa ra.

Từ khóa: Du lịch sinh thái, diễn giải môi trường, tuyến đường trại hè thời Pháp, Vườn Quốc gia Ba Vì.

Received : 01/11/2021

Revised : 01/12/2021

Accepted : 09/12/2021