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# Joint-U Ecological Studies in Jilin Province 2017

## Tourism and biodiversity of Changbai Mountain

### INTRODUCTION

- **C**B Mountain river is located in Changbai Mountain (hereinafter CB Mountain), Jilin Province
- **A** mountain with rare complete five different vertical vegetation belts
- **S**hield shaped volcano with fresh water lake Tianchi on the crafter

### OBJECTIVE

- **T**o find out the characters and biodiversity of a water stream on CB Mountain
- **T**o grasp and familiar the methods to investigate river fauna, including collecting, preserving and identifying of river creatures
- **T**o strengthen our ability to analyze the water quality of CB Mountain River

### PROCEDURE

First, chasing down the river fauna from shallow water area to deep water in the river. Then, moving from down stream to up stream in order to spy more fauna. In the main stream of the River, most creatures could be discovered in the river. Compare it with other river or lake, the amount of creatures in the CB Mountain River is not abundant. Just 4 to 5 types creatures could be discovered and it shows that the biodiversity of CB Mountain is meagre.

### HOW ENVIRONMENTAL FACTOR CAN DETERMINE THE BIODIVERSITY?

According to our observation and result, environmental like location, temperature may impact on the biodiversity of CB mountain river. According to 孫影 (2015, p.39), there is negative correlation between biodiversity and altitude. Those can be accounted for the integrated factors, including sunshine and temperature. For example, with lower temperature, the intensity of species and biodiversity in the ecosystem there may be meagre (馮建孟, 2008). Changbai is located in a high altitude, thus the annual average temperature and daily temperature difference is higher than that in Hong Kong. We can perceived that certain parameters like abundance, biomass and biodiversity will be lower there.

### HOW CAN TOURISM DEVELOPMENT CAN THREATEN CHANGBAI?

Apart from environmental factors, human behavior can also determine the ecological condition. Tourism is developing in the region of Changbai Mountain. According to 于坤 (2008), the most obvious effect of tourism to Changbai's ecosystem is the non-polluting affects. As shown in the pictures, not to mentioning littering behaviors, tourists will destroy the habitat by picking the flowers and other part of the plants. If the monitoring is improper, the ecosystem of CB will be destroyed irreversibly. Upon now, the water stream we investigate is classified as uncontaminated according to our investigation since hot tourism

spot are far away there. However, if it is developed into tourism spot with improper monitoring, it will be severe disaster to local ecosystem.

### WHAT CAN WE DO TO PROTECT THE BIODIVERSITY WHEN HUMAN DEVELOP TOURISM IN CHANGBAI?

As human behavior and biodiversity are closely related, we must act to minimize the negative effect of tourism. For example, we can add fence into tourism spots to bound tourists' activities. As shown in the picture, a scenic area is bounded, it ensures the safety of the tourists and also protects the hot spring view there. Rubbish bins are existed there so that littering can also be prevented. Limit number of tourists is also another kind of measure. The entering fee of CB is ¥370/person and the entrance is still high. Therefore, only affordable tourists with certain desire will go there and the effects of tourists can thus be minimized.

### CONCLUSION

In the investigation on the biodiversity of a water stream on CB. We discovered that the ecosystem there is ideal but is weak under the reaction from tourism development. Several measure have to be taken for the protection to their biodiversity.

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Reference:  
 李振新 唐佔輝 宋傳濤 江廷磊. The Guide of Ecological Practice. (Place: School of Environment, Northeast Normal University, 2015.8)  
 馮建孟. (2008). 中國種子植物物種多樣性的尺度分佈格局及其氣候解釋. 生物多樣性, 16(5), 470-476.  
 孫影. (2015). 森林群落物種多樣性的緯度梯度性研究. (Doctoral dissertation, 廈門大學).  
 於坤. (2008). 崑山天池流域的非污染生態影響評價. (Doctoral dissertation, 新加坡師範大學).