This report should be submitted within 2 weeks after you return to Japan.

(Abroad • Domestic) Internship report form (Student)

2017/10/06

(Year/Month/Day)

Name	Suppalak KAEWKWAN
Laboratory	Wildlife Biology and Medicine
Year (Grade)	D4
Internship	Bornean Sun Bear Conservation Centre (BSBCC), Sabah,
institution	Malaysia
Internship period	Internship period: 08/28/2017 - 09/24/2017
	(Departure Date from Sapporo: 08/27/2017, Arrival Date in Sapporo: 09/26/2017)
Purpose	-To learn sun bear management: rescue of poached bears, rehabilitation, and
	reintroduction program.
	-To get techniques of sun bear conservation in Malaysia that can be applied
	to Thai bears.
	-To establish and conduct future collaboration plan to study both Asiatic
	black bear and Malayan sun bear in a joint project of Malaysia and Thailand.

- The reason why you chose this institute

My PhD research focuses on genetic variation of Asiatic black bears in Thailand forest complexes. However, sun bears live in Thailand too. I would like to research Thai sun bears after I graduate Hokkaido University. Then, sun bear strategy and conservation action plan from this centre will provide a high standard of knowledge to study sun bears in Thailand.

Dr. Wong Siew Te, CEO and Founder of BSBCC, has 20 years of experience in working with sun bear in Malaysia. He is also supervising many projects of Malaysian wild animals. BSBCC is the most complete sun bear conservation centre in Southeast Asia and has great pattern to take care of sun bears. Moreover, environmental education team of this centre has strong strategy to distribute and establish sun bear conservative information to young generation at schools.

- **Result of the activity** (about 800 words, provide photos, tables and figures that clearly show the activities during the period)

BSBCC is located the same area with Sepilok Orangutan Rehabilitation Centre and Wildlife Rescue Centre. There are famous tourist attractions in Sandakan city. BSBCC are open daily during 9.00-15.30, however, office hours of staffs are started from 8.00-17.00 and they set up 1.5 days per week for staff's holiday. The activity at BSBCC was divided into 3 units about bear house management, public education and research discussion.

The bear house management

The routine work at bear house was sun bear husbandry, food & dietary supplement preparation, enclosure cleaning, electric fence checking, making environmental enrichment, and observe bear behavior include any abnormal



symptoms before letting bears to outdoor pen (forest enclosure). Every day in the bear house is started with electric fence checking. This step is the most important to check the electric current of fence at

outdoor pen before bear went out. Voltage of power should be higher than 4 kv and double-checking with inside-outside fence

areas. If there have something happened, they can immediately fix on time. At the same period, other bear keepers were prepared food for morning meal. They feed sun bear 4 times a day with various fruits, vegetables and porridge. They set 2 meals of fruit in the morning and afternoon to feed at outdoor pen but the time was not specific.

Generally, sun bears in this centre were rescue from illegal poaching, private zoo with poor welfare and used to be pet. Bad impression, severe trauma and mental problem are main problems in those bears. BSBCC has recovery process to support those rescued bears. Average of adaptation and recovery time took around 1-3 months. Fence training is the first lesson of sun bear to learn and realize on electric fence. This test designed to prevent bear escape from forest enclosure. All bear was tested with this training but it doesn't mean all bear can pass. Some bears had severe trauma and show some signs of

stereotype behavior. They failed in fence training and could not



Figure 1. bear house

Figure 2.

Nutritiona



go to forest enclosure. That means these bears were kept only indoor enclosure for a while and waiting for next fence training. Then, bear keepers made and created environmental enrichment for these bears to release stress during stay in enclosure. They try to create new enrichment structure with food and non-food types to give bear every afternoon. They modified and invented enrichment toys from natural things as local plants in the forest, dried leaves, dried branches, dried coconut, log, bamboo, banana leaves, etc. All natural things are cheap costs and



safe for sun bear. When sun bears play with these things, it can be release stress and decrease mental problems. In veterinarian work at bear house, I had observed all sun bear every morning by general appearance, bear feces and developing symptoms of mental problem bears. I could assist those bears only created the treatment plan with enrichment to decrease stereotype behavior because I am a foreigner veterinarian. When I found some bears have abnormal sign, I

was informed bear keepers and they wrote the note to veterinarian at wildlife rescue centre. Unfortunately, this centre couldn't afford full-time veterinarian but they have wildlife vets of rescue centre who can inspect sun bear sometimes. There have few Malaysian veterinarians who work with zoo and wild animal. It seems wildlife veterinarian is a limited number and not widespread job in Malaysia.

The environmental education

This team aims to educate public awareness in Bornean sun bear conservation status. They are provided 2 tracks of activities at sun bear centre and outside activity at school (outreach programs in school and plantations). At the centre, education staffs were standby on platform that designed for visitors to watch sun bear activities at outdoor pens during daytime. They have 11 outdoor pens but



visitors can observe sun bears only 3 pens. The remaining pens are used to let other sun bears without human



disturbance. The educational staffs had provided sun bear biological information, sun bear background includes centre operation in local and international languages. Moreover, they encouraged visitors to support their centre by purchase sun bear merchandises, donation, or adopted bear program. For



outreach programs, education team had annual and monthly plan for school visiting. Main target was primary and secondary school around Sandakan and Kinabatangan city. Sometimes, high schools invited the centre to promote and lecture about sun bear rehabilitation and conservation. On the other hand,

this centre has volunteer and internship program for local and foreigner to be a part of conservation team.

Research unit

This centre conducts sun bear researches in bear identification using chest mask, sun bear home range, and the effects of oil palm plantation to sun bear habitat. Dr. Wong has plan to study reproductive system and estimate sun bear populations in the future. Major



study site is Tabin wildlife reserve that located in the eastern part of Sabah. This place is one of the best ecotourism attractions in Sabah to observe the rich of biodiversity of nature and to part-take in nature-base activities. I had chance to meet



this team around 2-3 times before they went to the deep forest for sun bear sample collection. The research discussion time was depended on Dr. Wong and his assistants. Dr. Wong was kindly told his story, journey and established the centre including BSBCC's future

pathway. Furthermore, they have been succeeded to release 2 sun bears in 2015 and 2016. Even through, they failed in tracking system due to loosing of radiocollar. Both bears had great survival skills by training 1 year before release to the wild. BSBCC still has a plan to release sun bears in near future.

- What do you think the positive impact of the activity will have on your further career path?

I already have a position as lecturer at Mahanakorn University of Technology, Thailand. The advantages of internship training at BSBCC encouraged and gave me confidence to make a connection for future bear research (both the Asiatic black bear and sun bear) with wildlife rescue centres in Thailand. In addition, I got some ideas and techniques to promote bear conservation activities to educate Thai society.

The educational activities of bear conservation in young generation are important. BSBCC was shown the continuous annual plan to visit schools in their town and other cities. They are establishing Bornean sun bear facts and how to protect them in conservative way.

The strength and weakness the sun bear conservation and management in Malaysia that will be apply to Thai bear conservation and management. I gained knowledge and technique to track wild animals using sun bear model.

- Advice for your junior fellows

1. It's better to prepare the secondary plan for internship

2. Keep continue to follow the host answer. Please write email once a week to show your commitment

3. Know and learn the institute background, missions, aims, roles and guiding principles prior to the internship

4. Check your visa application

5. Prepare your personal first aids and search basic information about city, transportation, weather, electric current and electric plug type

	Institution • Official title • Name
Approval of supervisor	Toshio Tsubota

XI Send the electronic file to the Leading School section, International Affairs Office

*2 Attach a copy certificate of the content of internship activity that is prepared by the counterpart at the internship institution (any form with a signature of the counterpart).

*3 The Steering Committee of the Leading Program will first confirm the content of this report and report will be forwarded to the Educational Affairs Committee for credits evaluation.

Submit to : VETLOG

Ext: 9545 e-mail: leading@vetmed.hokudai.ac.jp