齋色園主辦
可觀自然教育中心暨天文館

Biology Field Study Course
Certificate Level

Waterbirds Survey

Name：_____ Date：_____

Group：_____ Weather：_____

Schedule：

9:00- 10:15	Briefing
11:00-11:30	Bird Identification (Nam Sang Wai)
11:30-12:30	Waterbird Count (Nam Sang Wai)
13:00-14:00	Lunch （Ho Koon Centre）
14:00-15:00	Data Analysis and Presentation Preparation
15:00-16:30	Presentation

Aims：

After completing this course, the students should be able:

1. to acquire basic birdwatching skill;
2. to identify the major waterbird group and some commonly seen species;
3. to understand the principal of bird count and conduct the count;
4. to observe the interrelationship between birds and the environment;
5. to analyze and organize the data for presentation;
6. to appreciate the birds and nature, hence learn to respect all the living things.

Equipment：

1	Binoculars (x5)	
2	Birdwatching in the Big City (x1)	
3	Birdwatching in Farmlands and Open Fields (x1)	
4	Wetland Birds (Sheet) (x2)	

Procedure：

A. Habitat Mapping

Nam Sang Wai has a number of different habitats. According to your field observation, you may try to outline the boundary of different habitats in the map and hence estimate their relative sizes (Chart 1). The definition and characteristics of different habitats are listed below:

Fish pond- the artificial freshwater fishpond made by the enclosed mud bunds, water-depth over meters with limited vegetation emerged on the surface.

Gei Wai- similar to fishpond except an opening or gate connecting the pond and the bay causing the water brackish. Usually mangroves stands and reed beds can be found in the *Gei Wai*.

Mangrove stands- grow at the intertidal zones along the coast and river banks, may reach several meters height.
Mudflat and wetland- the mudflat or substratum exposed or cover by water less than 0.2m depth during the low tide.
Woodland and plantation- trees grow along the fishpond bunds.
Shrubland and grassland- terrestrial plants with height below 2.4m.

Chart 1. Habitats

Habitat types	Fishpond	Gei Wai	Mangrove stands	Mudflat & wetland	Woodland & plantation	Shrubland & grassland
Estimated area						
Relative portion %						

B. Waterbirds and their habitats
According to the previously identified habitats, try to find out the distribution of different bird groups (the same bird group may occupy more than one habitat) and observe their behaviour such as feeding, resting and flight in group etc.
Egrets and Herons- medium to large sized waders, long neck and feet, long bill.
Cormorants- large sized black waterbird, hooked bill and good at diving for fish.
Ducks- body round and looks fat, frequent wing beats on flight.
Waders- wandering in the shallow waters, small to medium sized long bill and feet bird.
Gulls- medium to large sized seabird, mainly white in colour with strong flying ability, elegant appearance.

Chart 2. Different bird groups and their habitats

Bird Groups	Habitats	Behaviour
Egrets and Herons		
Cormorants		
Ducks		
Waders		
Gulls		

C. Species Identification
You may use the binoculars or spotting scope to observe as many different species as possible and try to record their appearance features, and note their bill shapes relative to their feeding methods.

Chart 3. Different species characteristics

	Species name	Appearance features	Bill shape	Feeding method
1	Pied Avocet	Black and white plumage, Black bill and feet	Up-curved long bill	Wandering on mudflat, sweeping sideway
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

D. Waterbird Count

As shown in the map, you may count the number of individuals in different bird groups. Each team members should do on their own and collect others result for calculating the mean value.

Location 1

Team member	Egrets & Herons	Cormorants	Ducks	Waders	Gulls
1					

2					
3					
4					
5					
6					
7					
Mean					

Location 2

Team member	Egrets & Herons	Cormorants	Ducks	Waders	Gulls
1					
2					
3					
4					
5					
6					
7					
Mean					

Data analysis：

1. Based on the results of Chart 2, which kind of habitats are most favourable to waterbirds, why?

_____

2. Discuss the relationship between the bill shapes and the feeding methods. How does it affect their feeding habitat selection?

_____

3. Compare the result of location 1 and 2, what are the reasons for their differences?

_____

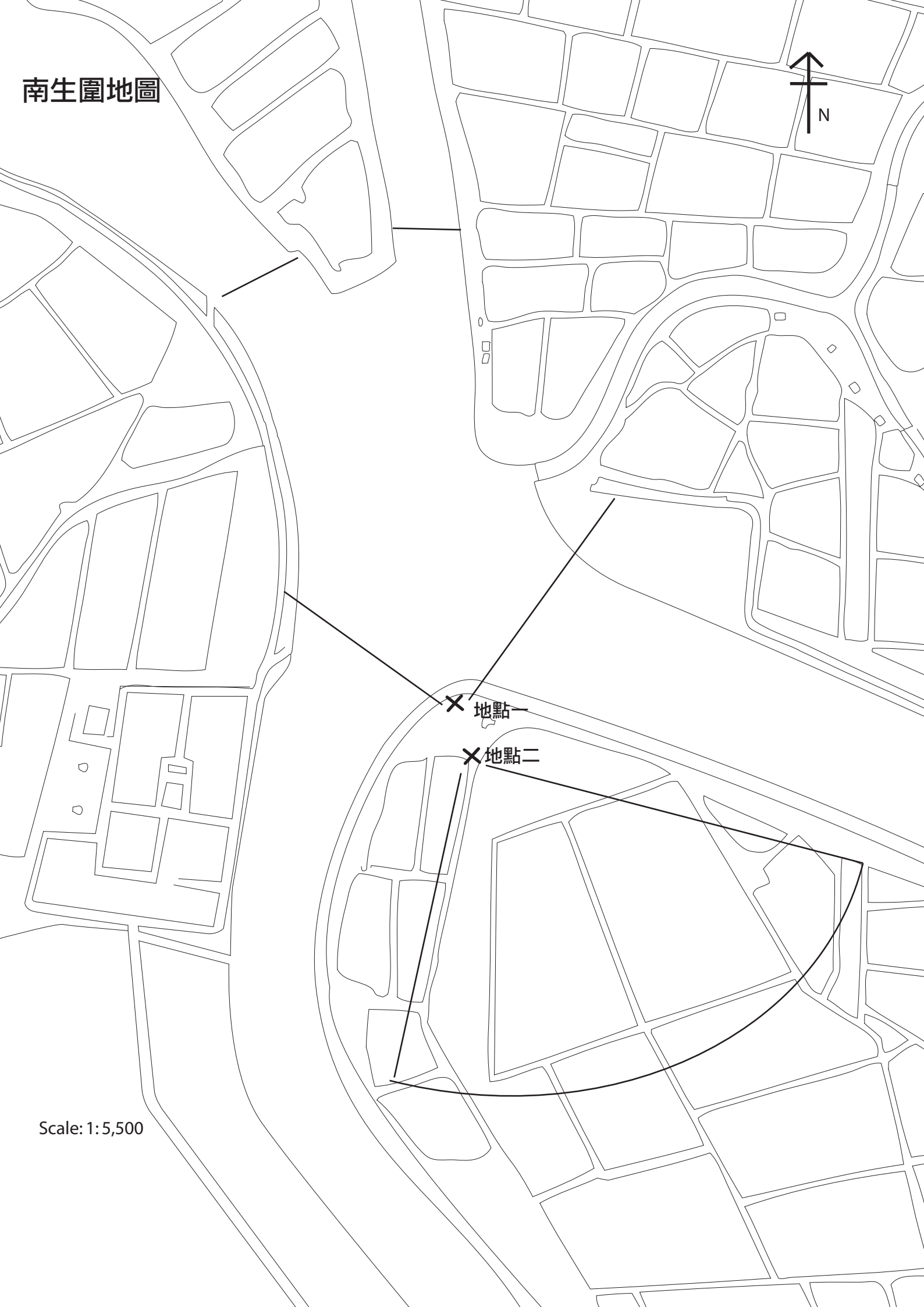
4. Which group of birds is the dominant one? Is there any reason?

_____

5. Based on the result from Chart 3, select 8 different species to construct a dichotomous key by the appearance features.

Reference: http://www.hkbws.org.hk/waterbird/indexc.html

南生圍地圖



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