Sea Birds of our Coast

Name: _____

School: _____

Date: _____/_____/_____

National Marine Science Centre

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Introduction

Australia has a diverse array of avian species and its sea and shore birds are no exception to this. In order to survive in and around water these birds possess a variety of adaptations which aid flight, wading on soft mud, swimming, camouflage and catching food.

Sea birds depend on the ocean for their daily needs and generally nest and breed on islands. Sea birds are also often migratory

Shorebirds depend entirely on the coastline for their daily needs such as feeding & breeding and include Oystercatchers and Dotterels.

Waders are another group of birds which are sometimes referred to as shorebirds. However, these birds are not restricted to the coast and tend to also use areas such as rivers, mudflats and wetlands.

In order to survive in and around water these birds possess a variety of **adaptations** which aid flight, wading on soft mud, swimming, camouflage and catching food. Sea and shore birds also play important roles in many marine ecosystems and **food webs**, many of which are on international scales.

The majority of humans live along the world's coastlines and as a result many **coastal ecosystems** that sea and shorebirds live in have been altered due to coastal development.

As a result it is important for humans to understand the lifestyles of these birds so effective and **ecologically sustainable** management plans can be made to preserve them for the future.

Study Aims

- Introduce students to the **sedentary** and **migratory** sea birds found along our coast.

- Undertake an introductory study of sea birds in general with a more detailed study of those **species** found in the **local environment**.

- Gain an appreciation of the importance of sea and shore birds within **coastal environments**.

- Identify ways in which humans **influence** coastal ecosystems where sea and shore birds dwell.

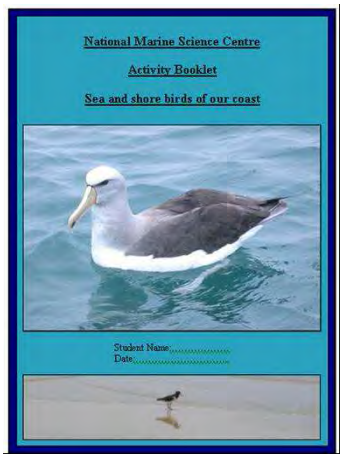
- The unit is based around **observing** and **recording** local marine bird life.

EXTENSION ACTIVITIES

- Design a field experiment to monitor bird **populations** within an estuary.

- Research sea and shore bird food webs and create an illustrated diagram highlighting, food sources and species feeding **adaptations**.

Study Equipment



Activity book

Species I.D cards

Binoculars

Pencil 2B

Study Site

F

Figure 1. Bonville Creek Bongil Bongil National Park.

Study Methods

1. Form groups of 4-5 students.
2. Find a quite location with a clear view of the study site and its surrounds.
3. Work through booklet activities filling in the relevant data sheets as you go.
4. Wait for the teacher to guide the group to study sites 2 and 3.
5. Complete extension questions at the back of the booklet.

Site 1 Sawtell Island

1. Explain a behavioral adaptation that you observe birds doing at study site 1.

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2. Draw and name one bird species you saw at this study site.

3. Name one physical adaptation this bird has for living on the shore or at sea?

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4. Observe some birds in flight. Now try and list a way they attempt to conserve energy.

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5. List and describe three feeding methods used by birds at study site 1.

   1)…….. 2)…….. 3)…..

Bird Species Observation Data Sheet

For each bird species you see at site 2 fill in the gaps in the table below.

Bird Species	Approx. Number seen	Location Site	Date & Time	Main food/ prey	Residency (migrant/ resident)	Adaptations
e.g. Red-capped Plover	12	Bonville estuary Site 1	28th April 2006	Small crabs and molluscs	resident	Small strong bill

Site 1 Sawtell Island

6. List three ways humans have physically altered the natural environment at this site?

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7. Suggest how these changes might impact the bird populations at this site?

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8. Suggest a natural process which could potentially threaten the population of birds inhabiting this study site?

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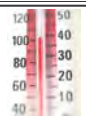
   ……..

9. Having looked at bird wings up close draw a labelled diagram showing the internal structuring of a birds wing bone.

Site 2 Estuary Entrance

1. Record the current weather conditions in the table below.

Data Sheet A: Weather Conditions			
Time:			
Tide: (circle)	High	Mid	Low
Temperature:			
Wind direction:			
Wind speed:			

2. Draw and name one bird species you observe at this study site.

3. Name one adaptation this bird has for living on the shore?

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4. Describe a feeding adaptation possessed by the bird drawn above

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Bird Species Observation Data Sheet

For each bird species you see at site 1 fill in the gaps in the table below.

Bird Species	Approx. Number seen	Location Site	Date & Time	Main food/ prey	Residency (migrant/ resident)	Adaptations
e.g. Red-capped Plover	12	Bonville estuary Site 1	28th April 2006	Small crabs and molluscs	resident	Small strong bill

Site 2 Estuary Entrance

1. List three ways humans have physically altered the natural environment at this site?

   .....
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2. Suggest how these changes might impact the bird populations at this site?

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3. Suggest a natural process which could potentially threaten the population of birds inhabiting this study site?

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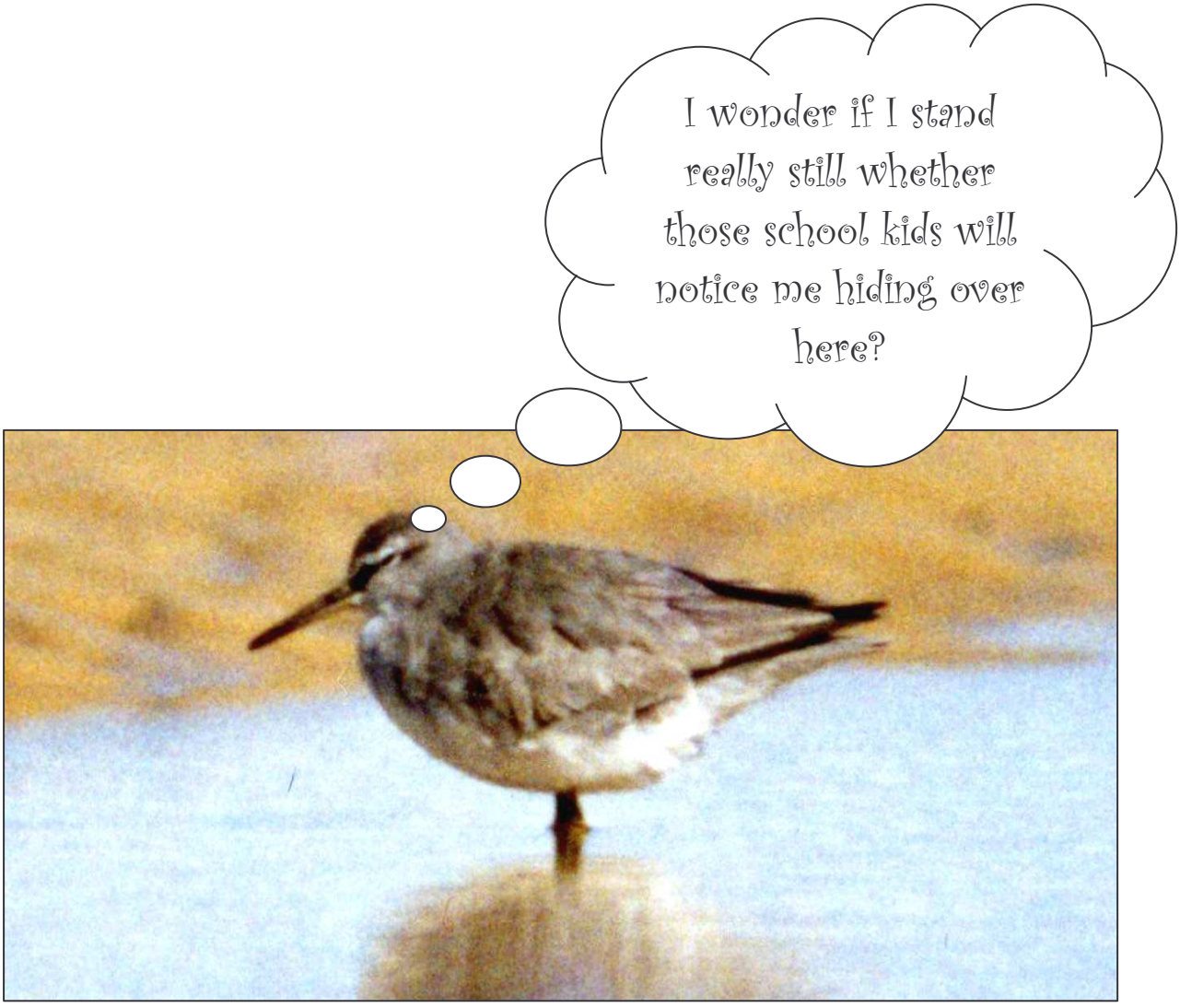

Study site one field location Sketch

Draw an accurate field sketch of study site two in the box below.
Remember to include a title, key, scale and direction arrow.

Extension questions

1. Referring to your data sheets which study site had the highest number of bird species (species richness) present?

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2. Referring to your data sheets which study site had the highest number of individual birds (abundance) present? Explain why you think this was so?

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3. Explain three ways humans have impacted the natural environment at one of the study sites visited?

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4. Explain why it is important for Australia to work together with other countries in managing coastal habitats where many shore birds live?

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5. Research and identify how the shape of bird and airplane wings helps to create lift.

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