As urban Sydney sprawls in all directions, the Blacktown Local Government Area is changing dramatically. This Geographical Inquiry will focus on the connections between people and nature at Blacktown Showground and its surrounds. Could the Fishing Bats return?

**Inquiry Questions:**

- How do people and environments influence one another at Blacktown Showground?
- How do people manage local places and the spaces within them?

**Health and Safety Issues**

As you are working out in the field you need to be aware that:

- Ground material is often covered in moss and can be very slippery.
- Vines and dense undergrowth can trip.
- Fallen trees can be rotten and weak.
- Some animals can deliver painful or venomous bites.
- On slopes, rocks can be easily dislodged.

**Outcomes**

GE3-1: Describes the diverse features and characteristics of places and environments

GE3-2: Explains interactions and connections between people, places and environments

GE3-3: Compares and contrasts influences on the management of places and environments

GE3-4: Acquires, processes and communicates geographical information using geographical tools for inquiry

Student Name: ____________________________________________________________
Inquiry Aim:

The aim of this Geographical Inquiry is to investigate the factors that shape places, with a focus on the connections between people and nature at Blacktown Showground. You will be researching the changes at the site, with a particular focus on its potential to support a healthy population of Fishing Bats.

Pre-Visit Lesson One: The Study Site

SIX Maps has been developed by the NSW Department of Land and Property. It provides access to cadastral (land and property boundaries) and topographic (hills and valleys) information, satellite data and aerial photography. Use SIX Maps to complete the following tasks.

1. On SIX Maps, type in Blacktown Showground.
2. Click on Basemaps (top right of page) and drag the tab down until you can see the Street and Suburb names.
3. Zoom out and fly around until you find your local Suburb.
4. Click on Basemaps and move the tab back up until you can see the satellite image.
5. Zoom out to a scale around 1:1200 (you can see this in the bottom left of screen). By holding a piece of string to your computer screen, estimate the length of the wetland from where the water enters the Showground (North of the railway track) to where it leaves (under Richmond Road).
Pre-Visit Lesson Two: Geographical Questions

Geographical questions are questions which help you identify the information you need to answer the inquiry questions. Your inquiry questions are written on Page 1.

Brainstorm: What are some geographical questions you might ask for this Inquiry?

Example: Why might people choose to live in a specific area or suburb?

Geographical Question 1: __________________________________________________________

Geographical Question 2: _________________________________________________________

Geographical Question 3: _________________________________________________________

Geographical Question 4: _________________________________________________________

Geographical Question 5: _________________________________________________________
Pre-Visit Lesson Three: Planning Your Inquiry

Answer the following questions for each of the Geographical Questions you came up with last lesson:

1. What information is needed to answer this geographical question and where can you find that information?

_____________________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________


2. What are the geographical tools you need to access the information?

_____________________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________


3. Develop a system for recording the information you get.

_____________________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________
Fieldwork Activity One:
Rain & Water Sensitive Urban Design

1. What is the average annual rainfall at Blacktown? _____________________________

Use the iBook “What happens to the rain” to take a tour of the site and answer the following questions:

2. Compare stormwater and Sewage. What is the difference?
   ________________________________
   ________________________________
   ________________________________
   ________________________________
   ________________________________
   ________________________________

3. Describe one of the main problems with stormwater in urban areas.
   ________________________________
   ________________________________
   ________________________________
   ________________________________
   ________________________________

4. What is the aim of Water Sensitive Urban Design?
   ________________________________
   ________________________________
   ________________________________
   ________________________________
   ________________________________

5. How does rain influence people and places at Blacktown Showground?
   ________________________________
   ________________________________
   ________________________________
   ________________________________
   ________________________________
   ________________________________
   ________________________________
Fieldwork Activity Two: Habitat Assessment

Sound Map:
Habitat Assessment:

Tick the boxes that describe the area you are looking at.

None = 0  Some = 1  Lots = 2

Add up the score you gave the habitat and use the Rating Chart to rate the habitat: ____________

Bird Survey:

Conduct a sound survey focusing on bird species at the site. How many different bird species calls did you hear? ____________

Abiotic Parameters:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Result</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Temperature</td>
<td></td>
<td>Degrees Celsius</td>
</tr>
<tr>
<td>Air Humidity</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Aspect</td>
<td></td>
<td>Degrees (or NSEW)</td>
</tr>
</tbody>
</table>
Activity Two Summary: Habitat Assessment

Use the information you’ve just collected as well as the historical photographs. How have people changed the site around Blacktown Showground? Describe features of the site for the following years:

<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1700</td>
<td>(Darug)</td>
</tr>
<tr>
<td>1915</td>
<td>(Early Settlement)</td>
</tr>
<tr>
<td>1960</td>
<td>(Slow urban development)</td>
</tr>
<tr>
<td>2000</td>
<td>(Darug)</td>
</tr>
<tr>
<td>Today</td>
<td></td>
</tr>
</tbody>
</table>
Fieldwork Activity Three: Fishing Bat Food Sources

In the past, Fishing Bats inhabited the local area, feeding from the creeks. Are there any fish in the wetland which could provide food for the Fishing Bat? Are there any food sources for fish in the wetland?

<table>
<thead>
<tr>
<th>Insect Type</th>
<th>Size</th>
<th>Score</th>
<th>Insect Type</th>
<th>Size</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back Swimmer</td>
<td>10-15mm</td>
<td>5</td>
<td>Water Boatman</td>
<td>8-10mm</td>
<td>5</td>
</tr>
<tr>
<td>Damsel-fly Nymph</td>
<td>15-25mm</td>
<td>6</td>
<td>Water Scorpion</td>
<td>25-50mm</td>
<td>3</td>
</tr>
<tr>
<td>Dragon-fly Nymph</td>
<td>25-50mm</td>
<td>5</td>
<td>Water Snail</td>
<td>5-8mm</td>
<td>2</td>
</tr>
<tr>
<td>Tadpole</td>
<td>10-20mm</td>
<td>10</td>
<td>Water Strider</td>
<td>5-12mm</td>
<td>4</td>
</tr>
<tr>
<td>Diving Beetle</td>
<td>5-45mm</td>
<td>6</td>
<td>Water Treader</td>
<td>5mm</td>
<td>4</td>
</tr>
</tbody>
</table>

TOTAL SCORE /50
Activity Three Summary: Fishing Bat Food Sources

What do your results tell you about the health of the aquatic environment in the wetland?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

In the space below, sketch a diagram of the local food chain.
Fieldwork Activity Four:

“Black’s Town” – Indigenous History

Blacktown has a strong Indigenous history. The creeks and waterways were important for Darug people for tens of thousands of years due to the resources they provided. Much of the history has been lost over time due partly to flooding, but also due to the impacts of early European settlement. Early settlers termed the area “Black’s Town” due to the numerous Aboriginal people living there. This term was later shortened to “Blacktown” and made more formal as the name of the suburb in 1906.

<table>
<thead>
<tr>
<th>Plant or Animal</th>
<th>Use</th>
<th>Sketch</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>
Post-Visit Lesson One: Population Growth

Use legitimate websites to source secondary data and other statistical information about population growth in Western Sydney and in particular, the Blacktown Local Government Area. Evaluate and summarise the data and information into 5 key points.

Secondary data is data collected by someone other than you or for a purpose other than your research. Legitimate websites include the Australian Bureau of Statistics and State and Local Government.

1.________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________  

2._______________________________________________________________________
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   _______________________________________________________________________
   _______________________________________________________________________  

3._______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________  

4._______________________________________________________________________
   _______________________________________________________________________
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5._______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________  

Develop and conduct a survey of community members about their thoughts on the impact of population increase on our nature reserves (positive and negative).

- Include impacts on people, plants, animals and the Hawkesbury River.
- Write 5-10 well structured questions and practice doing the survey yourself.
- Your survey might use email or online networks, or in person (with an adult).
- You may survey people you know who live in the area or local businesses.
- Survey at least 3 people.

**Post-Visit Lesson Two-Three:**

**Processing the Data**

Below is a list of Geographical Tools used to collate, review and evaluate data and information. Choose at least 5 of these tools to analyse and present your data in a Word Document.

The information you create here will be used in your documentary assessment task.

- Using a **topographic map** or **satellite image** as a base map, locate Blacktown Showground and identify surrounding natural and built environmental features.
- Collate data from your in-depth study into a **table** to summarise your findings.
- Create **flowcharts** to demonstrate your understanding of the ways the environment influences people and places.
- Assemble and annotate **photographs** to provide a visual representation of the site. Analyse and label interconnections.
- Develop **consequences charts** to explain human impacts (positive and negative) of the current land use at Blacktown Showground. Show the impacts on Google Tour Builder. Use photos taken on the day to match parts of the tracks we walked.
- Use a **T-chart** to represent data on advantages and disadvantages of population increases in Western Sydney.
- Construct a **flow chart** or **concept map** to explain the role of government, and other major stakeholders in sustainably developing Western Sydney and protecting our nature reserves.
- Design an **infographic** to educate the public about Fishing Bats and the need to protect their habitat.
Assessment Task:

Communicating Geographical Information

Work in small groups to develop a 5-6 minute documentary on the possible effects of population increase on our nature reserves using Blacktown Showground as a case study. Your documentary should include:

- A clear description of the various land uses around Blacktown Showground and an evaluation of some of the consequences for the environment and community;
- Tools to support your information, such as maps, satellite images, graphs, statistics, flowcharts, labelled photographs, diagrams, illustrations/sketches and other labelled visual representations;
- Information on the traditional use of the place by Darug people;
- Information on the types of land use by early European settlers;
- A description of the role of government in organising or managing the place as well as the perspectives of other stakeholders, for example developers, conservationists, recreationists and local residents;
- An evaluation of the potential for Fishing Bats to return to the local area;
- A description and justification of a course of action to increase the likelihood for Fishing Bats to return to Blacktown Showground.

Please refer to the Stage 3 Geography page on the Brewongle website for extra resources, including a Storyboard Template and a “How To Guide for iMovies”.