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**Year 12 Integrated Science 2020**

**Task 2: SIS – Swan River System Investigation**

**FIELD REPORT**

**Background Information**

The Swan River System Inquiry excursion is run by the Department of Parks and Wildlife – Nearer to Nature program. On the day, students will explore topics such as water quality, land cover change, biodiversity loss and sustainability.

Riverside Gardens is located adjacent to the Eric Singleton Bird Sanctuary restoration project. This location provides a great opportunity for the students to see the connection between the drains, wetlands and the river, with an overall focus on land cover change. It offers a unique opportunity to view and learn about the City’s largest environmental wetland restoration project.

**Task**

You are tasked with completing a field report from your observation and analysis of the Riverside Gardens location (an example field report is provided on Seqta to assist with your layout).

**Key Dates**

Excursion: Mon 9th March 2020

Class Time: Fri 6th March – Excursion Preparation

3 lessons in-class (Tues 10th – Fri 13th March) to work on Field Report

DUE DATE: Monday 16th March 2020 (during your class time)

**Task Weighting**

10% of the year mark.

**Total marks available**

Part 1 - Excursion Workbook: 33 Marks

Part 2 – Field Report: 69 Marks

Total Marks: 102 Marks

**Submission Requirements**

Excursion booklet – paper

Field report – electronic submission via seqta assessment (word or PDF only)

**Part 1: Excursion Workbook [33 marks]**

You are required to complete the Excursion Workbook while on site at Riverside Gardens. This workbook is to be submitted as an appendix to your field report.

**Marking Guide – Excursion workbook**

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| *Site Survey*   * Completes all sections, clearly describing observations. * Each section must be completed, clearly describing what has been observed (1 x10) | /10 |
| *Water Quality Testing Data sheet/Interpretations*   * Record all results accurately, using correct units (Data for sample A & B included) * Complete interpretation sheet, comparing your results to ANZECC trigger values   *Water Quality Conclusions*   * Clearly describe what has been determined from your data collection   (Basic conclusion (1 x3), Detailed conclusion reflecting upon results (2 x3) | /9  /6 |
| *Macroinvertebrate Sampling*   * Identify species present * Characterise biodiversity of site * Describe the factors affecting biodiversity | /6 |
| *Birds of our Wetlands*   * Identify species present | /2 |

**Part 2: Field Report [69 marks]**

Your field report will detail all information from the excursion, including background information, photographs, data collected, conclusions and evaluations.

**Marking Guide – field report**

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| *Cover Page*   * Includes all relevant information (Name, Date, excursion title, cover photo (1)   *Table of Contents/List of Figures*   * Includes all sections included in Field report using correct conventions (1) * Diagrams are listed in a list of figures using correct conventions (1) | /3 |
| *Field Trip Summary*   * Provide a summary of the different components of the field trip   + Clearly articulates the purpose of the excursion, outlining all components using correct scientific terminology and language conventions/structure (3)(A) **or**   + Articulates the purpose of the excursion, using some scientific terminology and satisfactory structure (2)(B) **or**   + Provides a basic summary of the excursion (1)(C) | /3 |
| *Site Location*   * Provide a summary of the location, including a clear map that outlines the areas that were observed/analysed * A brief summary about the location (1) * A clear map of the location (1), includes scale (1), annotated to show places observed/analysed (1) * Map is colour coded to show the different types of vegetation and or land use of the site, includes a key (1)(A) | /5 |
| *Site Survey*   * Introduction/Background information   + Provides detailed background information about how the various observational categories can be measured/ observed, using correct scientific terminology and language conventions (3)(A) **or**   + Provides background information about how the various categories can be measured, using some scientific terminology (2)(B) **or**   + Basic introduction of the types of observations that have been made (1)(C) * Outline all observation categories, incorporating annotated photographs and diagrams (cross-section through the bank) to assist in your description of the site * All categories are addressed (1) * Descriptions   + Detailed, using correct scientific terminology (3)(A) **or**   + Satisfactory using some scientific terminology (2)(B) **or**   + Basic, and/or missing key information (1)(C) * Photographs   + Provided for all relevant sections (1)   + Clearly annotated to outline the important information (1) * Diagrams   + Scientific diagram that shows a cross-section through the bank of the river that shows the angle, location of vegetation, scale etc (2) **or**   + Basic diagram of the bank (1) * Site Rating (use the rating matrix to identify the health of the site   + Correctly defines the rating for the site (1)   + Describes the actions that need to be taken to fix the site (1) | /12 |
| *Water Quality Testing*   * Introduction/Background information   + Provides detailed background information about water quality testing, using correct scientific terminology and language conventions (3)(A) **or**   + Provides background information about water quality testing, using some scientific terminology (2)(B) **or**   + Basic introduction of water quality testing (1)(C) * Water quality table (includes all test results and ANZECC trigger values, identifying area in need to remediation.   + Table includes all results and all details from the ANZECC table (1)   + Units are included (1)   + Table title that clearly describe the table contents (1)   + Table clearly highlights any areas of concern, or that there is little to no concern (1) * Water Quality Conclusions   + Describe the water quality of the wetland   + Discuss what factors need to be considered when using this data   + Describe strategies that could be used to deal with high nutrient level   + Clearly describes water quality of the wetland using scientific terminology, linking conclusion to data (2) **or** basic description of water quality (1)   + Clearly describes factors affecting the data quality (1) and describes why they are an issue (1)   + Discusses the impact of high nutrient factors on the ecosystem (1), providing examples from other sites (1).   + Discusses strategies that have or could be used to deal with high nutrient levels (1) | /3  /4  /7 |
| *Macroinvertebrate sampling*   * Introduction/Background Information   + Provides detailed background information about macroinvertebrates, using correct scientific terminology and language conventions (3)(A) **or**   + Provides background information about macroinvertebrates, using some scientific terminology (2)(B) **or**   + Basic introduction of macroinvertebrates (1)(C) * Species identified table   + Includes table from booklet with all data collected (1)   + Incorporates photos into the table (1), photos have a scale on them (1)   + Table title that accurately describes table contents (1) * Biodiversity   + Describe what biodiversity is (correct description (1))   + Describe the biodiversity in the area     - clearly articulates if the area has a high or low biodiversity and why (1)   + Describe factors that have or may have affected the biodiversity     - Identifies factors (1)     - Describes why they have impacted upon the biodiversity (1) | /3  /4  /4 |
| *Birds of our Wetlands*   * Introduction/Background Information   + Provides detailed background information about birds in this wetland, using correct scientific terminology and language conventions (3)(A) **or**   + Provides background information about birds in this wetland, using some scientific terminology (2)(B) **or**   + Basic introduction of birds in this wetland (1)(C) * Species Identified   + Provide detailed information about the different types of birds that have been identified in this wetland. List the status of the bird (endangered etc). Describe the habitat of this bird and what it eats. Include photographs.     - Provides detailed descriptions of all birds identified (minimum of 3, including all req information and photos (5) **or**     - Provides description of most birds identified (minimum of 2), providing most of the req information (3) **or**     - Provides basic description of the birds identified. (1) * Environmental Impacts   + Describe the environmental factors that are impacting upon the bird population within this wetland.     - Provides a description of the factors and how they impact the bird population, using scientific language (2) **or**     - Provides a basic description of some environmental factors that may impact bird populations, but not evidence is provided (1)   + Discuss at least one mitigation strategy that could be put in place to deal with the adverse environmental factors     - Provides a plausible mitigation strategy, based on evidence (1) | /3  /5  /3 |
| *Evaluation*   * Identify any difficulties that you had with obtaining data whilst on the excursion * Make suggestions for how you could improve the quality of the data collected, or make the data more reliable | /4 |
| *Conclusion*   * Provide a conclusion that details the health of the wetland, based on the data that you have collected.   + Provides a clear and concise conclusion that accurately outlines the findings, based on the evidence collected and further research, using correct scientific terminology and language conventions/structure (3)(A) **or**   + Provides a conclusion that describes the findings of the excursion and some further research, using some scientific language and a satisfactory structure (2)(B) **or**   + Provides a basic conclusion for the excursion (1)(C) | /3 |
| *References*  In-text referencing (1)  Bibliography (1)  Always uses correct conventions for referencing, e.g. APA style (1) | /3 |