

GEOG 202 TERM PROJECT - SPRING 2021

SURFACE WATER POLLUTION

For this assignment, you can work as an individual researcher or as a member of a research team (three students per team maximum). Every group member must participate in the preparation of the assignment. Your grade will depend upon your contribution.

Project: You are an employee of the *Earth First Environmental Consulting Company*. A new landowner, *Mr James Pearson*, has retained the *services of your company*. Mr Pearson has recently applied for a permit to *remove water from the Nechako River for personal use and for watering his herd of bison*. It is your *responsibility to advise the landowner (Mr Pearson) of possible water pollution hazards*. One mile upstream from his proposed intake is the *"Lowest Cost Is Our Guarantee" Kraft pulp mill and detergent factory*. This mill deposits its *liquid effluent and treated sewage directly into the Nechako River*. Five miles upstream, the Nechako flows through an area of *agricultural flood plain development*. The farmers use *fertilizers and pesticides* to enhance their crops. A major highway, susceptible to significant snowfalls in the winter, runs along the Nechako for many miles above the landowner's property. This highway is the only access route to the *"You Find Them We Mine Them"*, *zinc/lead mine and smelter*, twenty-five miles upstream.

Your consultant's report should include the following:

1. A definition of water pollution and a review of the major types of **surface and groundwater** pollutants.
2. An outline of the major **sources** of pollutants and the types of pollutants that would impact Mr Pearson's water supply.
3. A description of the way(s) in which these pollutants will enter the Nechako River.
4. A description of the potential health hazards associated with these pollutants.
5. Recommendations (with supporting rationale) as to the advisability of proceeding with the proposed water intake.

The report should be 5 - 7 pages long. It should be typed and follow accepted academic/professional conventions with regards to its organization and presentation (a title page, a table of contents, introduction, subheading, thesis or purpose statement, recommendations, in-text citations, referencing/bibliography, etc.).

It will be marked for research quality, information content, organization, presentation, grammar, spelling, etc. Use at least six sources (published) of information (including your text). ***NB: You must cite the sources of your information in the "body" of your paper! The paper is to be submitted No Later than Friday, April 9th, 2021.***

If you have any questions, please contact me as soon as possible.

GEOG 202 – Surface of the Earth

Project - This project accounts for 10% of your course assessment for GEOG 202.

Assignment should be **typed** and **well formatted**.

- **Font type:** Times New Roman
- **Font size:** 12
- **Line spacing:** Double

Number of Pages: 5 - 7. *Adhere to the page limit.*

Date assignment handed out: March 25, 2021.

Due (hand in) date: April 9, 2021.

Submission: Moodle.

Assignment Structure

Subdivision - numbered sections

Divide your assignment into numbered sections. Subsections should be numbered 1.1, 1.2, etc. Any subsection may be given a brief heading. **Example:**

1. Introduction

- ✓ Provide an adequate background, avoiding a detailed literature survey. Include any definition(s) relevant to question.
- ✓ State the objective(s) of the assignment.
- ✓ State the order in which you are going to present your information.

2. Benefits of dam construction

- ✓ Brief introduction with regard to benefits.

2.1 Hydroelectricity

2.2...

3.

3.1.....

3.2.....

4. Conclusion

- ✓ Conclusions contain essentially the 'take-home' message of your assignment. Conclusions must not contain references to the cited literature. They could be in bullet points.

5. List of References

REFERENCES

Citation in text

Only cite the original papers and those relevant for the assignment. Make sure the surname(s) and year of publication are correct. Please ensure that every reference cited in the text is also present in the reference list (and vice versa).

Reference style

References to *published literature* must be cited in the text as follows:

Li and Gregory (2006) - the date of publication in parentheses after the authors' names.

The abbreviation *et al.* should be used in the text where there are more than two authors, for example, Nnane *et al.* (2011). However, the names of all authors must be given in the list of references.

References must be listed together at the end of the assignment and must not be given as footnotes. They must be listed alphabetically starting with the surname of the first author, year followed by the title of the referenced paper and the full name of the journal, as follows:

Li, G., Gregory, J., 2006. Flocculation and sedimentation of high-turbidity waters. *Water Research* 25 (9), 1137-1143.

Nnane, D.E., Ebdon, J.E., Taylor, H.D. 2011. Integrated analysis of water quality parameters for cost-effective faecal pollution management in river catchments. *Water Research* 45, 2235-2246.

It is particularly requested that (i) authors' initials, (ii) the title of the paper, and (iii) the volume, part number and first and last page numbers are given for each reference.

References to books, reports and theses must be cited in the narrative. They must include the author(s), date of publication, title of book, editor(s) name(s) if applicable, name of publisher, place of publication, and International Standard Book Number (ISBN).

Pulsipher, L.M., Pulsipher, A., 2011. *World Regional Geography: Global Patterns, Local Lives*, fifth ed. W.H. Freeman and Company, New York, ISBN-13 978-1-4292-3244-9.

Websites

Basic format: Author's Last Name, Initial(s). (Date of publication). Title of website. Retrieved from <http://www.address.edu>. Date website was accessed, e.g. March 9, 2020

GRADING GUIDE

<p>Organization – <i>Ease of reading</i></p> <ul style="list-style-type: none"> • Introduction • Title page / subheadings / table of contents • References • “In text” citations • Conclusion 	/8
<p>Presentation – <i>How it looks</i></p> <ul style="list-style-type: none"> • General appearance • Length • Grammar/spelling • Use of visual aids • Thesis/purpose statement 	/7
<p>Content (A) - <i>How well has the chosen topic been addressed</i></p> <ul style="list-style-type: none"> • Addresses / meets outline requirements • Uses a minimum of six different published references • Quality of research 	/5
<p>Content (B) - <i>How well has the chosen topic been addressed</i></p> <ul style="list-style-type: none"> • Defines water pollution and reviews major types of surface water pollutants. • Outlines the major sources and types of pollutants impacting the client's water supply. • Describes the way(s) in which these pollutants will enter the Nechako. • Describes the potential health hazards associated with the pollutants identified. • Recommendations (with supporting rationale) regarding the proposed water intake. 	/20
TOTAL	40