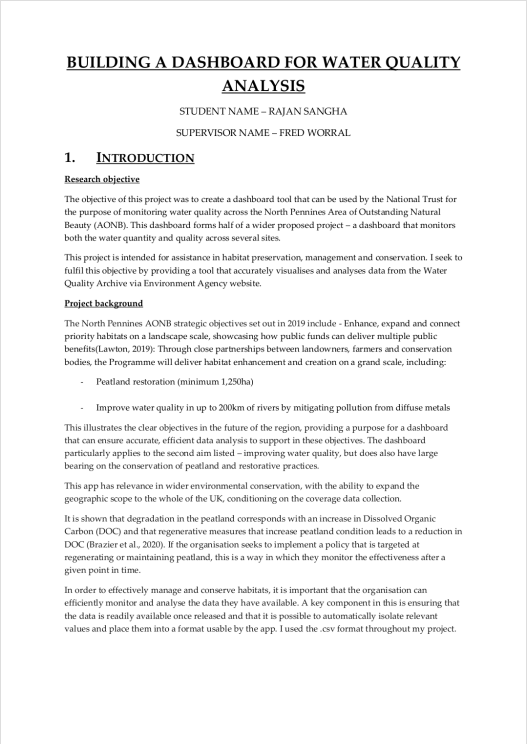
Digital Receipt

This receipt acknowledges that Turnitin received your paper. Below you will find the receipt information regarding your submission.

The first page of your submissions is displayed below.

Submission author:	Rajan Sangha
Assignment title:	Final Report Submission
Submission title:	MDS DISSERTATION
File name:	MDS_DISSERTATION.pdf
File size:	947.92K
Page count:	14
Word count:	4,494
Character count:	23,385
Submission date:	19-Sep-2022 11:55AM (UTC+0100)
Submission ID:	186092282



BUILDING A DASHBOARD FOR WATER QUALITY ANALYSIS

STUDENT NAME – RAJAN SANGHA

SUPERVISOR NAME – FRED WORRAL

1. INTRODUCTION

Research objective

The objective of this project was to create a dashboard tool that can be used by the National Trust for the purpose of monitoring water quality across the North Pennines Area of Outstanding Natural Beauty (AONB). This dashboard forms half of a wider proposed project – a dashboard that monitors both the water quantity and quality across several sites.

This project is intended for assistance in habitat preservation, management and conservation. I seek to fulfil this objective by providing a tool that accurately visualises and analyses data from the Water Quality Archive via Environment Agency website.

Project background

The North Pennines AONB strategic objectives set out in 2019 include - Enhance, expand and connect priority habitats on a landscape scale, showcasing how public funds can deliver multiple public benefits(Lawton, 2019): Through close partnerships between landowners, farmers and conservation bodies, the Programme will deliver habitat enhancement and creation on a grand scale, including:

- Peatland restoration (minimum 1,250ha)
- Improve water quality in up to 200km of rivers by mitigating pollution from diffuse metals

This illustrates the clear objectives in the future of the region, providing a purpose for a dashboard that can ensure accurate, efficient data analysis to support in these objectives. The dashboard particularly applies to the second aim listed – improving water quality, but does also have large bearing on the conservation of peatland and restorative practices.

This app has relevance in wider environmental conservation, with the ability to expand the geographic scope to the whole of the UK, conditioning on the coverage data collection.

It is shown that degradation in the peatland corresponds with an increase in Dissolved Organic Carbon (DOC) and that regenerative measures that increase peatland condition leads to a reduction in DOC (Brazier et al., 2020). If the organisation seeks to implement a policy that is targeted at regenerating or maintaining peatland, this is a way in which they monitor the effectiveness after a given point in time.

In order to effectively manage and conserve habitats, it is important that the organisation can efficiently monitor and analyse the data they have available. A key component in this is ensuring that the data is readily available once released and that it is possible to automatically isolate relevant values and place them into a format usable by the app. I used the .csv format throughout my project.