

# Well-Being and Your Watershed Administrator Manual

Last updated August 17, 2016

## Table of Contents

1. Introduction.....	2
2. Purpose and Scope.....	2
3. Administrator Dashboard.....	2
3.1 Accessing the Administrator Dashboard.....	2
3.2 Structure of the Admin Dashboard.....	4
4. Working With Spatial Data.....	4
4.1 List of Spatial Data.....	4
4.2 Adding New Spatial Data.....	6
4.2.1 Uploading Spatial Data.....	6
4.2.2 Adding Uploaded Spatial Data to the Interactive Map.....	8
4.2.3 Connecting to Spatial Data Via a Web Mapping Service or a Web Feature Service.....	8
4.3 Changing Data Representation.....	10
4.3.1 Changing Data Representation for GeoServer layers.....	10
4.4 Change the Layer Order.....	11
4.5 Converting Metadata.....	11
5. Website Customization.....	12
5.1 Updating the Home Page.....	12
5.2 Changing Indicator Benefits.....	12
6. Manage Users.....	13

## List of Figures

Illustration 1: Logging-In as an Administrator.....	3
Illustration 2: Accessing the Administrator Dashboard.....	4
Illustration 3: The Administrator Dashboard.....	4
Illustration 4: Logging-In as an Administrator.....	8
Illustration 5: Upload Spatial File.....	8
Illustration 6: Upload File Interface.....	9
Illustration 7: Accessing the Administrator Dashboard.....	11
Illustration 8: Accessing Connections to Remote Servers.....	11
Illustration 9: Add New Web Mapping Service Connection.....	12
Illustration 10: Links between ecosystem services and human well-being.....	16

# 1. Introduction

This web application “Well-being and Your Watershed” was created for the Credit Valley Conservation Authority. It's main goal is to get watershed residents to familiarize themselves with their watershed, recognize the important benefits that natural ecosystems provide, encourage interaction with those natural ecosystems, and share personal stories of those interactions. The primary tool to do this is an interactive web map that allows users to show/hide spatial information (e.g., trails, parks, treed areas, etc.) about the watershed and add pictures/stories to the map for others to see. Users can also view the map (pre-loaded with certain layers) from the perspective of a particular ecosystem benefit categorized under domains of human well-being and ecosystem services. More information about how the ecosystem service impacts well-being is provided at the side while the user can visually interact with the selected map layers.

## 2. Purpose and Scope

The purpose of this administrator manual is to guide the administrator(s) of the system in maintaining and updating the content of the application. This might include updating/adding spatial data, changing the display of the data (i.e., how the data displays on the interactive map), adding/managing users, updating website written content, among other things. The application has been designed so that these things can be updated through an administrator interface. However, changes to the administrator interface itself or changes that cannot be accessed through the administrator interface (e.g., changing the database structure) is beyond the scope of this manual. Please refer to the “Well-Being and Your Watershed Developer Manual” for making changes at this higher level. For a guide to using the system as an end user please refer to the “Well-Being and Your Watershed User Manual”.

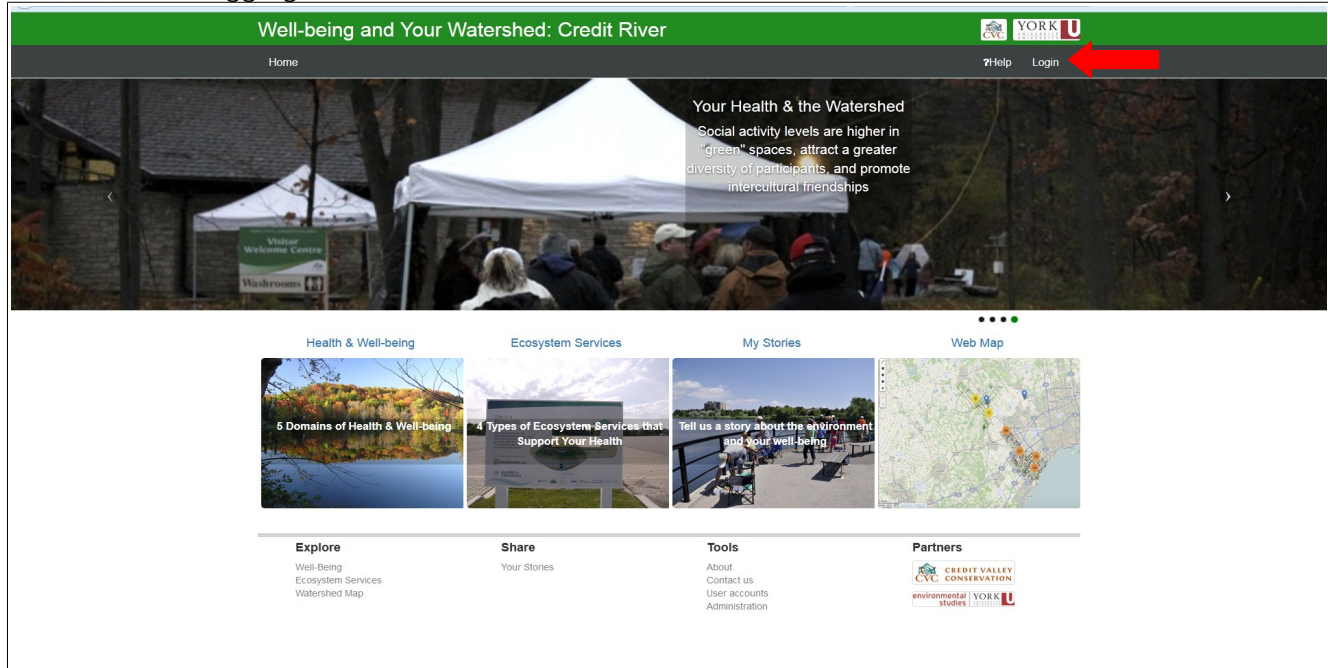
## 3. Administrator Dashboard

While the end user of the web application can only access the final website display, the administrator is able to log-in and modify the content of the site through an administrator interface called the “Admin Dashboard”.

### 3.1 Accessing the Administrator Dashboard

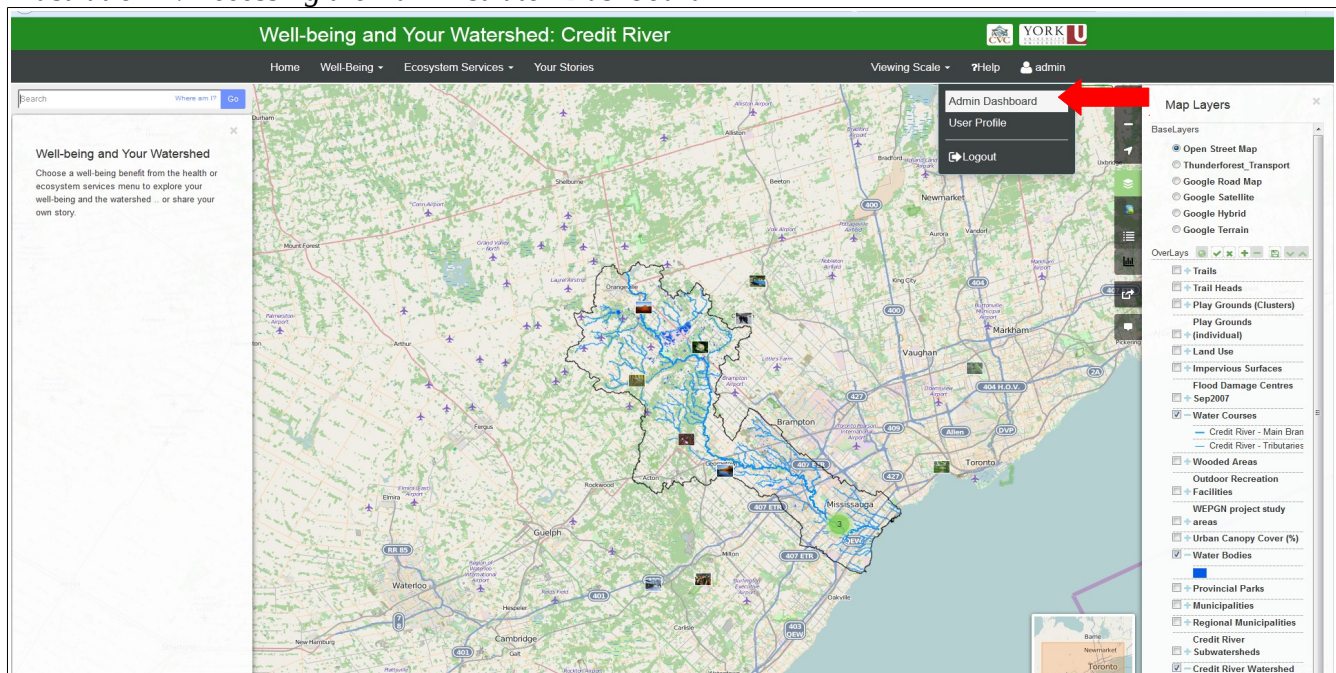
Step 1. Log-in as an administrator in the upper right hand corner of [cvc.juturna.ca](http://cvc.juturna.ca)

*Illustration 1: Logging-In as an Administrator*

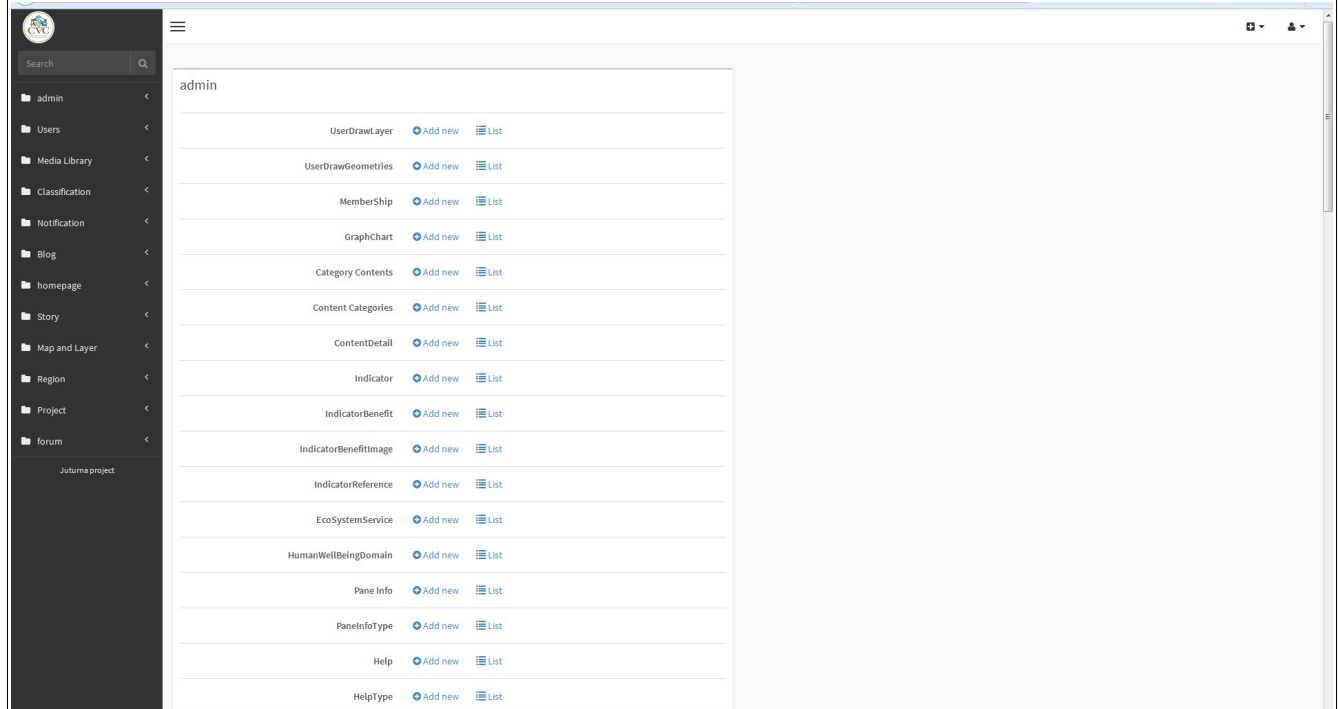


Step 2. Hover over the “admin” button in the upper right hand corner and then click on “Admin Dashboard” from the dropdown menu.

*Illustration 2: Accessing the Administrator Dashboard*



*Illustration 3: The Administrator Dashboard*



## 3.2 Structure of the Admin Dashboard

Most administrator functions can be accessed from the “admin” and “Map and Layer” folders but other folders provide important functionality as well. The “Users” folder enables control over user access and site permissions, and the “homepage” folder enables control over the home page, as described in Section 5.1. The rest of this document provides important information on customizing the website and interactive map, as well as adding/manipulating the spatial data.

## 4. Working With Spatial Data

### 4.1 List of Spatial Data

The following table lists all of the map layers that are visible to the user along with their source and ecosystem benefit that they are associated with. Census data is not listed.

*Table 1: List of Spatial Data*

Layer Name	Database Table Name	Data Source	Ecosystem Benefits
Public Recreation Areas	cluster_layers, uploadfile_layers, useruploadfile	Region of Peel	1) Physical activity, obesity, 2) Increased social contact, social cohesion
Trail Heads	uploadfile_layers, useruploadfile	Ontario Ministry of Natural Resources	1) Physical activity, obesity

Trails	uploadfile_layers, useruploadfile	Ontario Ministry of Natural Resources	1) Physical activity, obesity
Trails	uploadfile_layers, useruploadfile	Region of Peel	1) Physical activity, obesity
WEPGN Project Study Areas	uploadfile_layers, useruploadfile		
Flood Damage Centres	uploadfile_layers, useruploadfile	CVC	1) Reduced flood and infrastructure damage
Regional Parks	uploadfile_layers, useruploadfile	DMTI	1) Improved mood, self-esteem, 2) Physical activity, obesity, 3) Increased social contact, social cohesion
Water Courses	uploadfile_layers, useruploadfile	Region of Peel	1) Secure access to good quality water, 2) Reduced flood and infrastructure damage
Water Bodies	uploadfile_layers, useruploadfile	Region of Peel	1) Secure access to good quality water, 2) Reduced flood and infrastructure damage
Wooded Areas	uploadfile_layers, useruploadfile	Ontario Ministry of Natural Resources	1) Increase in focus, relaxation, and feelings of well- being, 2) Reduction in respiratory problems, 3) Improved mood, self- esteem
Impervious Surfaces	geoserver_layers	Credit Valley Conservation Authority	1) Reduced flood and infrastructure damage
Urban Canopy Cover (%)	uploadfile_layers, useruploadfile	Region of Peel	1) Energy Cost Savings, 2) Lowered temperatures/reduced heat-stress, 3) Increase in focus, relaxation, and feelings of well-being
Land Use	geoserver_layers	CVC	
Municipalities	uploadfile_layers, useruploadfile	Ministry of Municipal Affairs and Housing	
Regional Municipalities	uploadfile_layers, useruploadfile	Ministry of Municipal Affairs and Housing	
Credit River Subwatersheds	uploadfile_layers, useruploadfile	CVC	

Credit River Watershed	uploadfile_layers, useruploadfile	Ontario Ministry of Natural Resources	
------------------------	--------------------------------------	--	--

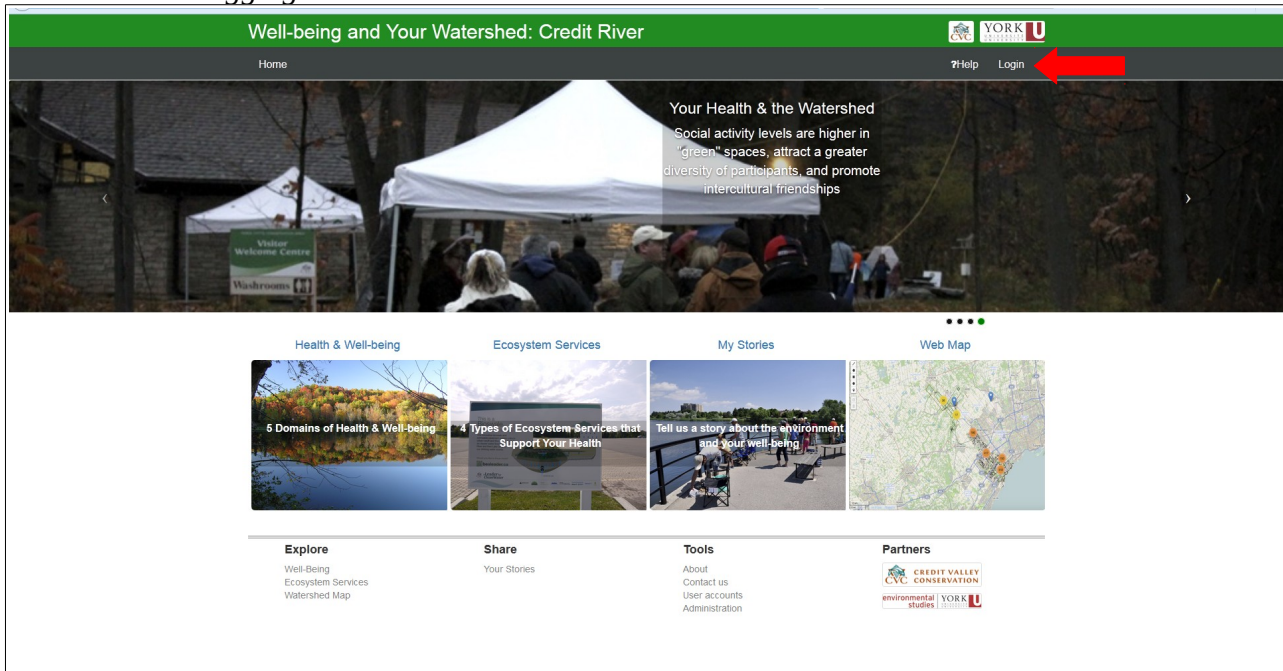
## 4.2 Adding New Spatial Data

New spatial data can either be uploaded as a shapefile (Section 4.2.1) or connected to via a web mapping service (Section 4.2.3).

### 4.2.1 Uploading Spatial Data

Step 1. Login as an administrator in the upper right hand corner of [cvc.juturna.ca](http://cvc.juturna.ca)

*Illustration 4: Logging-In as an Administrator*

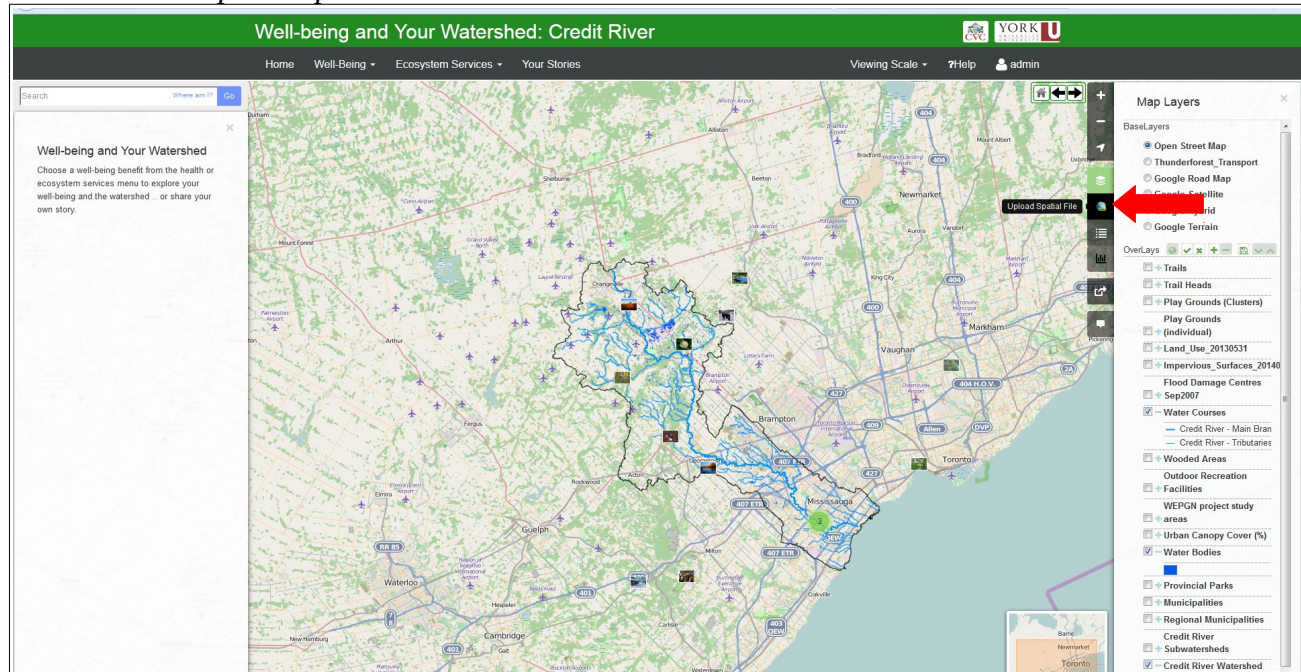


Step 2. Navigate to the interactive map: <http://cvc.juturna.ca/en/map>

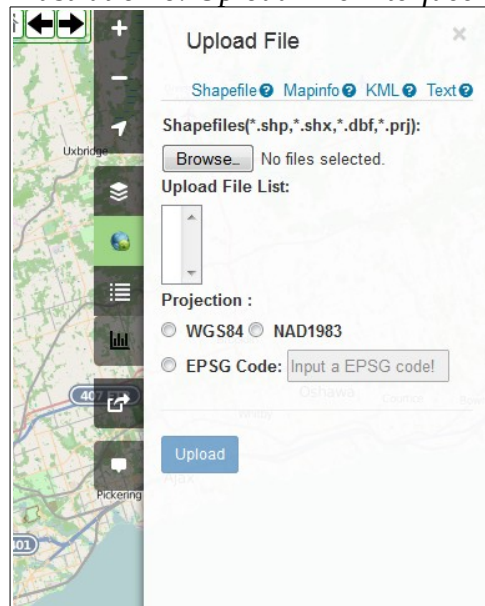
Step 3. Click on the globe icon adjacent to the right sidebar



*Illustration 5: Upload Spatial File*



*Illustration 6: Upload File Interface*



Step 4. Browse for your spatial data that you would like to upload. The following four<sup>1</sup> file formats (and only these) must be present: \*.shp, \*.shx, \*.dbf, \*.prj

1. The upload function may in future be upgraded to accept the xml (metadata) information of the shapefiles.

Step 5. Click the “Upload” button.

### 4.2.2 Adding Uploaded Spatial Data to the Interactive Map

Now that the spatial data has been uploaded as described in Section 4.2.1 it must be linked with a layer in order for it to display. Follow these steps:

Step 1. From the admin dashboard select “Layer” from the left sidebar under the “Map and Layer” tab

Step 2. In the top right corner click on the “Actions” dropdown and select “Add New”

Step 3. Fill out the form.

Under the “General” tab: Layer Title and Layer Name can be the same; upload or select an existing SLD file [see Section 4.3]; “Public” and “Enabled” can both be checked; select user uploaded SHP file from the dropdown; “Position” can be filled with an integer to indicate in what order the layer should appear in legend with respect to the other layers [1 indicates the top of the list; see Section 4.4]<sup>2</sup>; fill out the “Description” field)

Under the “Style and Settings” tab: Only turn on “Default Show On Map” if it is desired that the layer be displayed automatically when map is first opened; “Layer Show in Switcher” can be checked;

### 4.2.3 Connecting to Spatial Data Via a Web Mapping Service or a Web Feature Service

If an external server is already hosting the spatial data it may be desirable to simply connect to it as opposed to downloading and rehosting the information. This prevents errors involved in processing the data and makes updating the data unnecessary (since any updates to the data made on the source site is automatically carried through). On the down side, the web application is now partially dependent on another server that may be beyond direct control. Currently the “Land Use” and “Impervious Surfaces” layers are accessed via a web mapping service (WMS). Undertake the following steps to set-up a WMS connection:

Step 1. Follow steps 1 and 2 from Section 4.2.2

Step 2. On the “General” tab select “Geoserver Layer” from the “Layer Type” dropdown.

Step 3. Instead of filling out the rest of the “General” tab, go to the “WMS and WFS Layer” tab and fill out this form instead.

Step 4. Click either “Create” (to create and then view), “Create and Return to List” (to create and then go back to list of web mapping services), or “Create and Add Another” (to create and then go to another blank form).

---

2. A basic rule of thumb for ordering layers is that point information should go on top of line information which should go on top of area information (e.g., “Public Recreation Areas” on top of “Trails” on top of “Canopy Cover (%)”)



## 4.2.4 Creating a Cluster Layer

A cluster layer groups together layer features at various zoom levels so that the individual feature markers do not overlap with one another. For example, if three playgrounds are in close proximity to each other, at a low zoom level the features will not display individually but be replaced by a cluster symbol with the number “3” indicating that if one were to zoom in, you would find three playgrounds. To create a cluster layer, follow the steps below:

- Step 1. Follow steps 1 to 3 from Section 4.2.2
- Step 2. On the “General” tab select “Cluster Layer” from the “Layer Type” dropdown.
- Step 3. Go to the “Cluster Layer” tab and modify the parameters if desired.
- Step 4. Click either “Create” (to create and then view), “Create and Return to List” (to create and then go back to list of web mapping services), or “Create and Add Another” (to create and then go to another blank form).

## 4.3 Changing Data Representation

Styled Layer Descriptor (SLD) files determine how the spatial data is to be displayed. Follow the steps below to upload a new SLD file and link it with a particular layer:

- Step 1. Log-in as administrator and navigate to the Administrator Dashboard as described in Section 3.1.
- Step 2. Under the “Map and Layer” tab select “Layer”.
- Step 3. Click the “Edit” button for the layer that you would like to upload a new SLD file for.
- Step 4. Under the heading “Upload SLD File”, click “Browse”, then select the SLD file for upload.
- Step 5. At the bottom of the page click “Update” or “Update and Close”.

### 4.3.1 Changing Data Representation for GeoServer layers

- Step 1. Navigate to <http://cvc.juturna.ca:8080/geoserver/>.
- Step 2. Log in as administrator in the top right of the screen.
- Step 3. Under the “Data” menu heading on the left hand side of the screen select “Styles”.
- Step 4. Select “Add a New Style”.
- Step 5. Click the “Browse...” button and then select the SLD file that you would like to upload from file explorer dialog, click “Open” on dialog box.
- Step 6. Then click the “Upload...” link to the right of the “Browse...” button and the contents of the SLD file will be displayed in the box on the screen (the “Name” field will also automatically be filled with the file name).
- Step 7. Make any changes that are necessary (e.g., you may have to change field names from upper case to lower case: “LAND\_USE” to “land\_use”; this is because the GeoServer converts all field names to lower case when a shapefile is uploaded; note that it may (almost certainly will) be easier to make these changes to the SLD file in notepad before

upload, using the find and replace function).

- Step 8. Click “Submit”.
- Step 9. To associate the SLD file with a specific layer, click on the “Layers” link under the “Data” menu on the left side of the screen.
- Step 10. In the “Layer Name” column, select the layer that you want, which will bring up the “Edit Layer” page.
- Step 11. Select the “Publishing” tab.
- Step 12. Under the “Default Style” heading, from the dropdown select the name of the SLD file that you just uploaded and then click “Save” at the bottom of the page.

## 4.4 Change the Layer Order

The layer order in the legend of the interactive map can be changed by changing the “Position” attribute of the layers. Follow the steps below:

- Step 1. Log-in as administrator and navigate to the Administrator Dashboard as described in Section 3.1.
- Step 2. Under the “Map and Layer” tab select “Layer”.
- Step 3. Sort the layers by sequence by clicking on the “Position” column header. The layers will then order themselves according to their sequence number and will be easy to see the order (note that the higher the sequence number the lower down the list the layer will appear).
- Step 4. Change the position number of a layer by clicking the “Edit” button (at right) for the chosen layer and then typing in a new integer in the “Position” field.
- Step 5. Click “Update” or “Update and Close”.

## 4.5 Converting Metadata

Before uploading a shapefile to the server make sure that the metadata file is in the [Geographic MetaData extensible markup language \(gmd\)](#) format. If it is not, then use [CatMDEdit](#) to convert into gmd by first importing the metadata file in the original format and then exporting it in the ISO format (i.e., gmd).

# 5. Website Customization

## 5.1 Updating the Home Page

The flash animation on the homepage as well as the images and text under the flash animation can all be customized. Follow these steps to update the flash animation:

- Step 1. Log-in as administrator and navigate to the Administrator Dashboard as described in Section 3.1.
- Step 2. Under the “homepage” tab, select “HomepageFlash”.
- Step 3. Edit either of the entries by clicking the “Edit” button at the right. Or add a new entry by

clicking the “Actions” dropdown in the top right hand corner and clicking “Add New”.

- Step 4. Considerations: upload high resolution photos; part of the photo will be cut off due to the aspect ratio of the flash frame; change the horizontal position of the text by changing the value of “Title Margin”

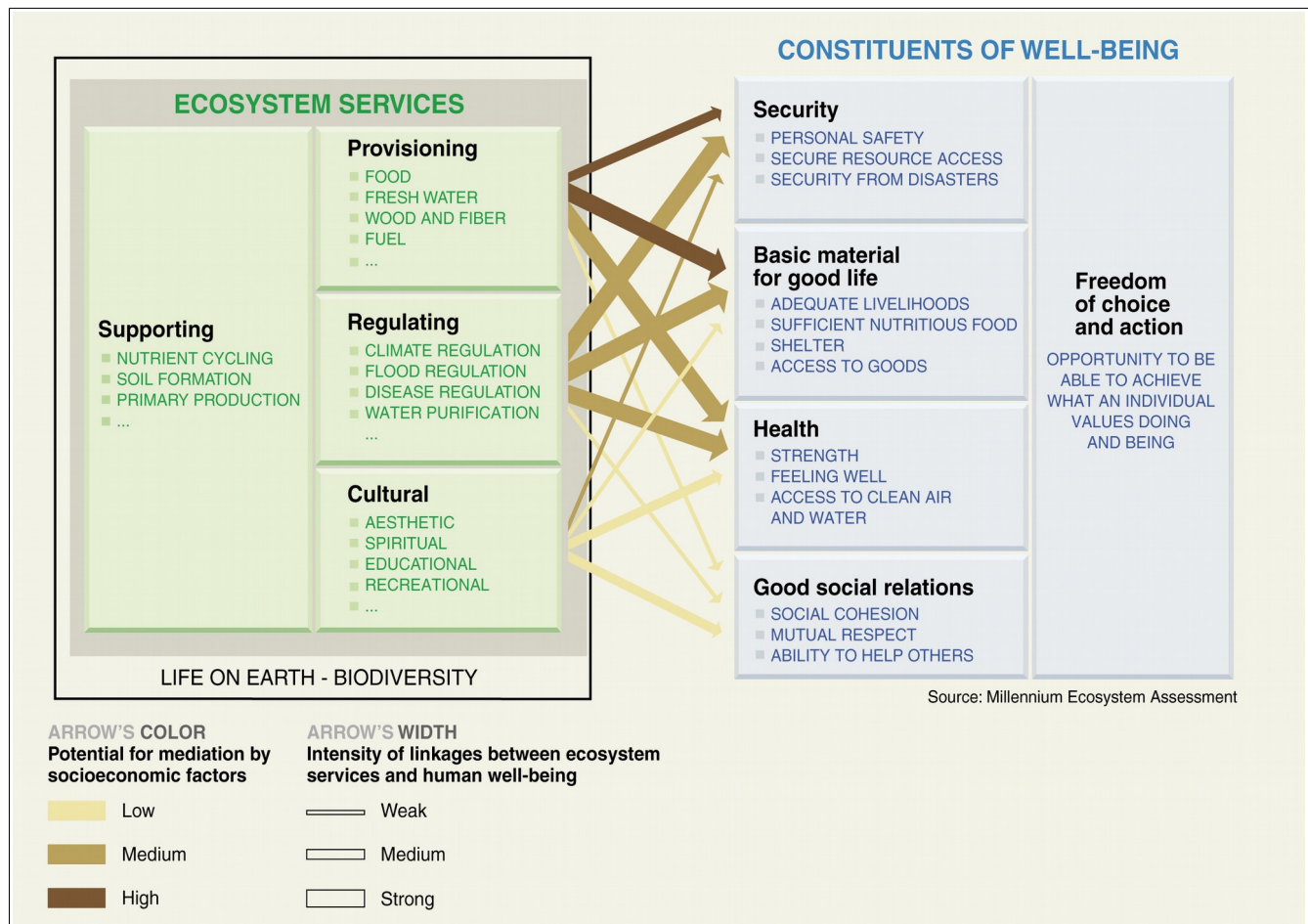
Follow these steps to update the non-Flash images and text:

- Step 1. Log-in as administrator and navigate to the Administrator Dashboard as described in Section 3.1.
- Step 2. Under the “homepage” tab, select “HomepageImage”.
- Step 3. Edit either of the entries by clicking the “Edit” button at the right. You can add entries but they will not display on home page due to space constraints.

## 5.2 Changing Indicator Benefits

In addition to the “Domains of Health and Well-Being” and “Ecosystem Services” as set out in the Millennium Ecosystem Assessment report (see Illustration 7), the website identifies several “indicator benefits” that are correlated with both ecosystem services, domains of health and well-being, and spatial data.

*Illustration 7: Links between ecosystem services and human well-being*



To modify, add, or delete any of these indicator benefits, follow these steps:

- Step 1. Log-in as administrator and navigate to the Administrator Dashboard as described in Section 3.1.
- Step 2. Under the “admin” tab, select “IndicatorBenefit”.
- Step 3. To add a new indicator benefit select “Actions” in the top right corner of the page and then click “Add New” from the dropdown. To modify an existing indicator benefit simply click the “Edit” button in the row that you want to edit. To delete an existing indicator benefit simply click the “Delete” button next to that indicator benefit.
- Step 4. Fill out or edit the indicator benefit form that appears. Here is a breakdown of what each field does:
  - Benefit Name: This will display in the menu above the interactive map
  - Indicator: This is the map layer that is most closely associated with the indicator benefits
  - Layers: This holds the map layers that you would like to display when this indicator benefit is clicked. Multiple layers can be selected.
  - Ecosystem services: This field associates the indicator benefit with one or more ecosystem services
  - Human wellbeing domains: This field associates the indicator benefit with one or more human well-being domains
  - Indicator references: This field can be used to create a bibliography of in-text references selected from a dropdown of previously inputted citations, see Section 5.2.1
  - Additional references: This field can be used to add additional sources that were not cited in the text but are related. These are selected from the same dropdown.
  - Other links: This field can be used to add external links to websites or reports. These are selected from the same dropdown.
  - Indicator benefit images: This field can be used to show images in the left sidebar when the indicator benefit is selected. Images are selected from a dropdown of previously inputted images, see Section

### 5.2.1 Adding/Updating Indicator Benefit References

The information associated with each ecosystem benefit has multiple citations which are all stored in one place. Follow the steps below to add a citation.

- Step 1. Select “IndicatorReference” from the “admin” tab on the admin dashboard.
- Step 2. To add a new reference select “Actions” in the top right corner of the page and then click “Add New” from the dropdown. To modify an existing reference simply click the “Edit” button in the row that you want to edit. To delete an existing reference simply click the “Delete” button next to that reference. Note that if you edit an existing reference, any indicator benefits that are linked with that reference will be automatically updated.
- Step 3. Fill out the form (“Name” should be the in-text citation, for example, “Escobedo & Nowak, 2009”; “Reference” should be the full citation, for example, “Escobedo, F. J., & Nowak, D. J. (2009). Spatial heterogeneity and air pollution removal by an urban forest. Landscape and Urban Planning, 90(3-4), 102-110.”; “Website” should include the URL for the article)
- Step 4. Click “Update” or “Update and close”.

### 5.2.2 Adding/Updating Indicator Benefit Images

Images for the indicator benefit sidebar are all stored in one place. Follow the steps below to add or update an image:

- Step 1. Select “IndicatorBenefitImage” from the “admin” tab on the admin dashboard.
- Step 2. To add a new image select “Actions” in the top right corner of the page and then click “Add New” from the dropdown. To modify an existing image simply click the “Edit”



button in the row that you want to edit. To delete an existing image simply click the “Delete” button next to that image. Note that if you edit an existing image, any indicator benefits that are linked with that image will be automatically updated.

Step 3. Fill out the form (“Image Name” should be a short underscored title for use in the URL; “Image Title” should be a short title for the image; “Image Caption” should be a more detailed description of the image; “Indicator” should be the indicator that the image is associated with, selected from a dropdown; “Image Files” is where the image file can be browsed for and selected; “Alt Text” is the text that will be displayed when the image cannot load for whatever reason; “Description” can be filled with the same text as the caption or used to provide even more detail.

Step 4. Click “Update” or “Update and close”.

## 6. Manage Users

For the most part users will self-register on the system. To create an administrator account or upgrade an existing user account to administrator status, follow the steps below:

**Step 1. This guide should be updated when this functionality is operational.** Currently there is only one administrator account. Username: admin, Password: 123456