

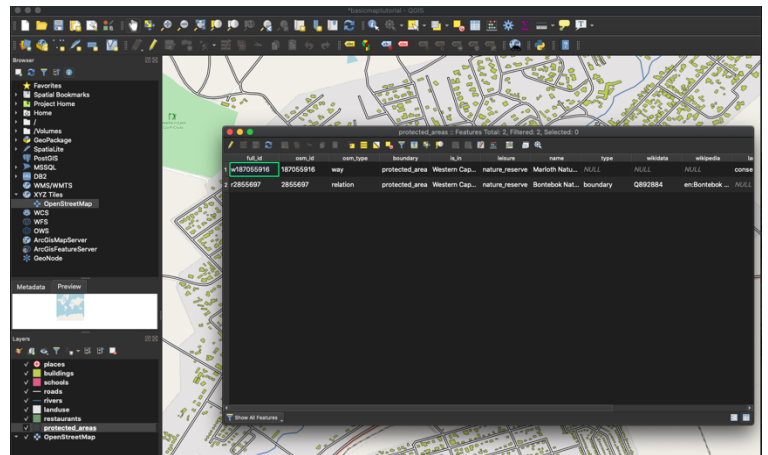
## QGIS Basics III: Labeling and Attributing Data

Now that we have the basics of our images down, we need to apply a little more information for our viewers.

While the vector models we've worked with so far represent the location and shape of a geographic feature, their other properties are included as attributes. Currently we're only showing where an object is in space, but now we need to tell the reader what the objects are.

To view the **Layer Attributes**:

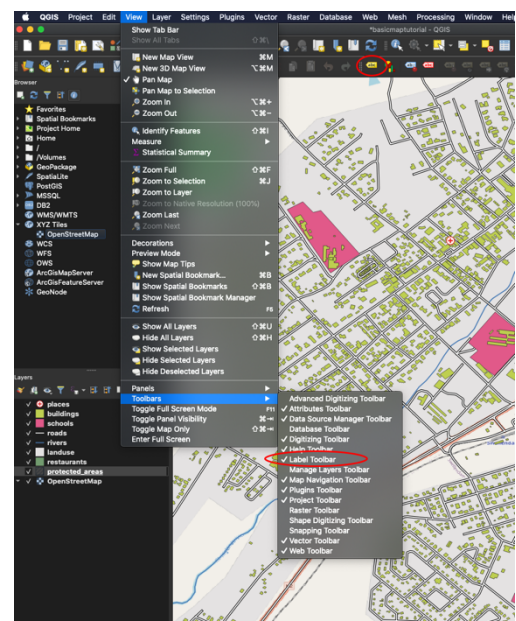
Click on a layer (in our example we'll be using the **protected\_areas** layer) and then click the **Open Attribute Table** button up on our tool bar. This will open a window that shows the **Attribute Table** for your layer.



A row is called a **record** and is associated with a feature on the map, such as a polygon. A column is called a **field** (or attribute) and will have a name that helps describe it. Values in the cells are known as attribute values. These definitions are commonly used in GIS, so it is good practice to become familiar with the terminology.

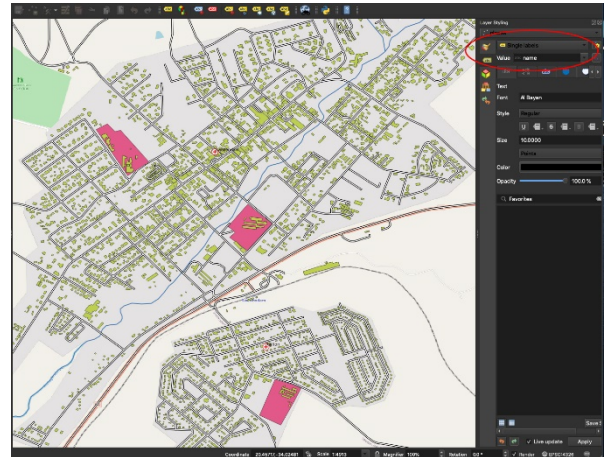
Labeling:

First, let's make sure our **Layer Labeling Options** button is visible, the yellow tag with 'abc' on it. If not visible, go to **View > Toolbars > Label Toolbar** to enable it.

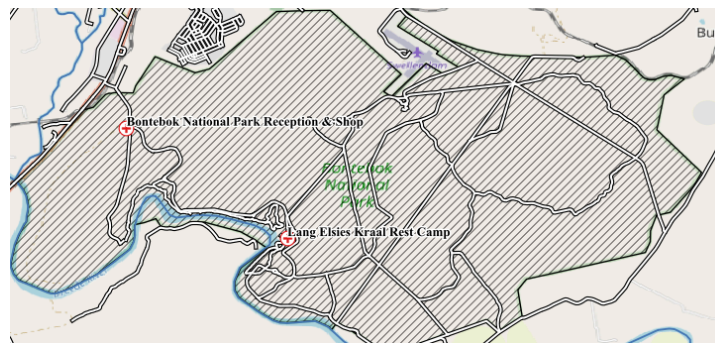
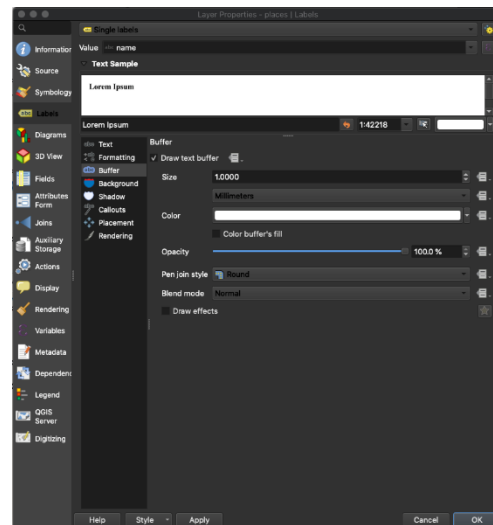
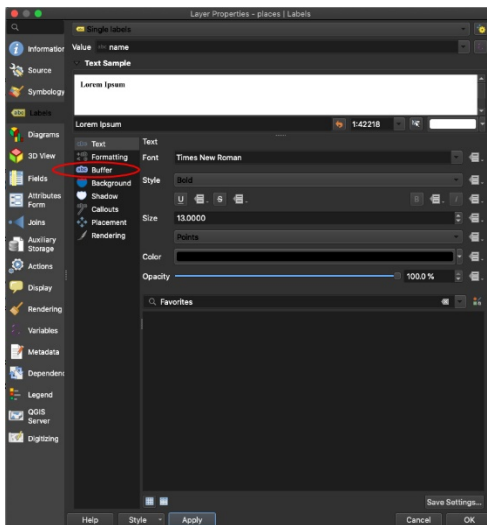


Next, we're going to label our **places** layer. With the layer highlighted, click the **Layer Labeling Options** toolbar button. Change from no labels to **Single labels**. If we look at our attribute table, we can see that there is a field (or column) with the name of each place.

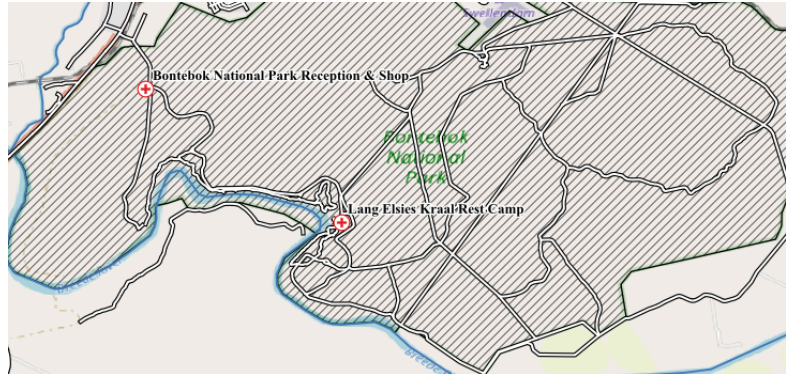
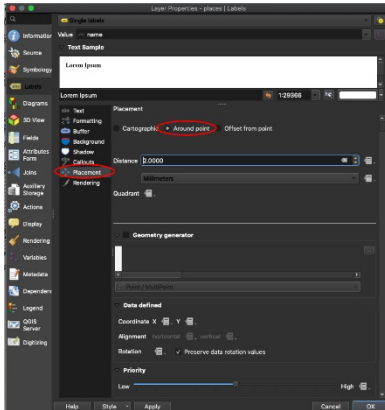
In the **Value** pull down menu, we'll select **name**. Here you can also change the size, color, and style of your text. Click apply when done.



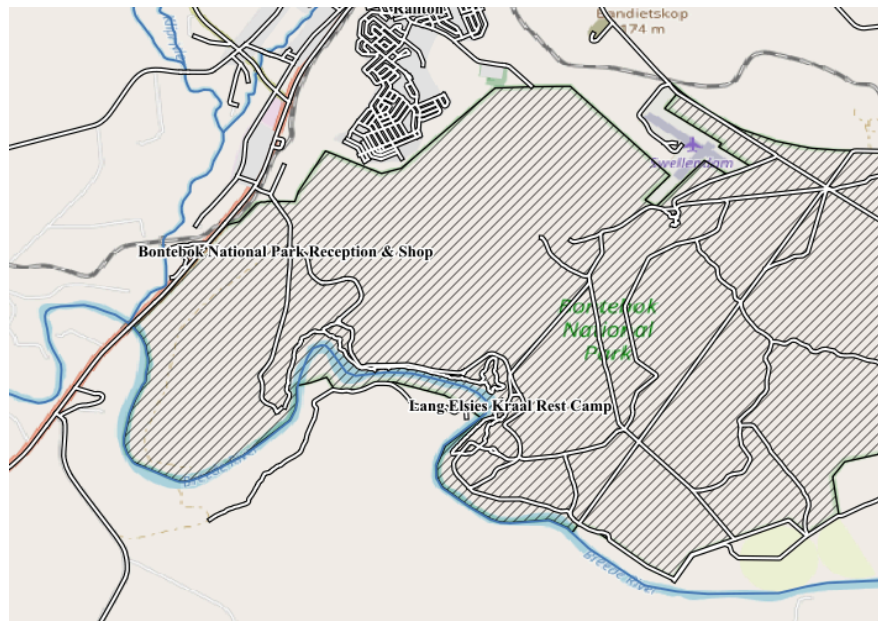
To format further, we can go to our **Layer Properties** and go to the **Labels** tab. Your text might visually be a little hard to read in its current state. A good way to fix legibility is by adding a visual **Buffer** to the text. Select **Buffer** in the list to the left to view the options. We're going to add a white buffer with a size of 1 to increase the clarity of our information. This will outline the text so that it pops out a bit more.



Also regarding clarity, our text is currently overlapping slightly with our point markers. To fix this, choose **Placement** in the properties to adjust the distance between your text and markers while **Around Point** is checked. In the example I give the text a slight nudge by 3 millimeters.

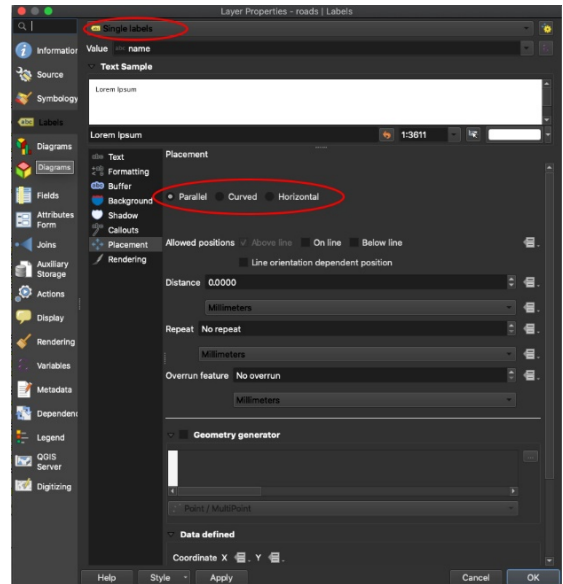


Though sometimes, you may not want the place marker(s) if you're assigning a label to a larger space, such as a park, field, etc. To hide them, we're going to go back into our **Layer Properties** > **Labels** > **Placement** but this time we're going to check **Offset from Point**. This will center our text. Now go back to the **Symbology** tab and adjust the size of our points to 0 to make them disappear.



This method of labeling works great for points but is not well suited for any of our line layers, such as Roads, so we need to take a different approach for those.

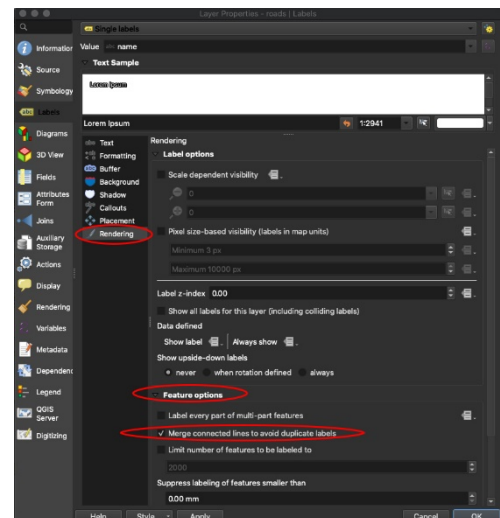
Select the Roads layer and go to the **Single Labels** menu as we did before. Make sure **Parallel** is selected and apply.  
(if you are working with windier lines and need your labels to conform, try out the **curved** option instead)



Once again, we'll have to adjust the **Buffer** for clarity. In my example, I'm doing an inversion of the previous, where I made my text white and my buffer black to help the text pop a bit more against the white street. You can use whichever combination of colors you find suitable.



You might notice that some road names appear more than once. If you want each name to appear once only, return to **Layer Properties > Labels** and go to **Rendering**. Under **Feature Options**, select **Merge connected lines** to avoid duplicate labels.



Now that we've laid out our information and made it legible we can prepare our map to share!

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