

Possible Locations for Campsites in Forests For the World in Prince George, BC

Michelle Bardossy
2013

The purpose of this project was to assess the landscape of Forests For the World to determine possible locations for campsites. This was done by analyzing slope data, distance from trails and lakes and determining the most suitable locations for campsites.

Background Information:

Forests For The World (FFW) is a park that is located in the Nechako Region of British Columbia (City of Prince George, 2013). To be more specific FFW is situated within the city of Prince George (City of Prince George, 2013) (Figure 1). This park consists of 106 hectares of forest with a total of 15km of trails running through it (City of Prince George, 2013). FFW was established in 1986 and as a result has a wide variety of vegetation (City of Prince George, 2013). FFW is a demonstration park meaning that there are currently no camp sites, and that it is only for day use. As a result there are amenities such as picnic tables and shelter areas, BBQ pits, and viewing platforms (City of Prince George, 2013). Along with multiple creeks running through the area, a lake known as Shane Lake is also situated within FFW (Figure 1).

The trails located in FFW are all loop trails and vary in length and elevation (City of Prince George, 2013). Due to the vast amount of trails in combination with having Shane Lake and being in close proximity to the core of Prince George, campsites may be one feature that could be added to this park. The closeness of this park to the city of Prince George allows people to camp in a nice area where the travel time to the campsite location is minimal. Creating campsites in FFW would attract more people to this park and possibly be a place for people to camp as they pass through Prince George in the summer. Therefore, the purpose/objective of this project is to identify areas in FFW that are most suitable for campsites.



Figure 1. A map of Prince George, BC showing the location of Forests For The World (approximate border indicated by red box), with Shane Lake indicated by the black circle (Google Maps, 2013).

Research Question:

What are the most suitable areas for potential campsites in Forests For The World, in Prince George British Columbia?

- (1) Lowest degree of slope is best (i.e. a flat area) for campsites
- (2) Should be a reasonable distance from trails and water (lakes)

Data Sources:

The majority of the data used for this project was obtained from the data folder under the Geog 413 folder on the UNBC Ninkasi Drive. Data that was not obtained from the Ninkasi Drive was obtained through the UNBC GIS data download page. The data that was gathered from the UNBC GIS data download page consist of the DEM for the region covering FFW. The data that were utilized for the analysis of this project are as follows:

- BC DEM 25m in ASCII (UTM)
- BC base data
 - trails
 - creeks
 - lakes
 - lookouts
 - wetlands
 - birds nests
 - water tower
 - picnic/shelter points
 - dock
 - parking

Criteria:

The criteria set for this project were as follows. The most suitable campsite locations would be in areas of minimal slope, so the ground was flat enough to pitch a tent and have fire pits and picnic tables. Since people must walk down the trails to their campsites from the gravel parking lot a buffer (distance) of 20m of the trails was set. As most people like to be close to the water/lakes when they camp a 100m buffer was set around the lakes so that the campsites are a reasonable distance to the lake. Combining all three of these criteria, minimal slope, within 20m of trails and within 100m of lakes then produces the optimal location for campsites within the FFW park. These criteria were based on my reasonable expectations of campsites.

Methodology/Procedure:

1. Determine the map sheet number for the area of study. In this case the 93g map sheet for BC covered the FFW region.
2. The DEM 25m (UTM) was downloaded from the GIS Data download site and added to ArcGIS.
3. All the other relevant data for FFW that was located in the data folder within the Geog413 folder on the Ninkasi Drive was copied and pasted into my personal drive and added to ArcGIS.
4. The base data was clipped to the study boundary (ffw_bndy) using the clip tool located within the Extract Tools so that analysis of the study region could be conducted.
5. The DEM 25m (UTM) was clipped to the study boundary (ffw_bndy) through the use of the raster calculator under Map Algebra located in the Spatial Analysis Tools to give an idea of the terrain in combination with the hillshade layer.
6. The contour data was used to generate an elevation raster through the Topo to Raster tool, a hillshade layer was created using the hillshade tool under the Surface Analysis option in the Spatial Analysis Tool Box, and similar to hillshade a slope layer was generated.
7. The slope layer was re-classified and the lowest slope was set to a value of 1 with the greatest slope having a value of 10.
8. A 20m buffer was placed around the trails and a 100m buffer was placed around any lakes.

9. In the Overlay Tool Box the intersect tool was used to find areas that had a slope with a value of 1 and was within 20m of trails and within 100m of lakes.
10. The area where all three of these variables overlap then give the most suitable areas for campsites within FFW, based on the set criteria.
11. The view was then changed from Data View to Layout View and a title, legend, north arrow and scale were added to the map to generate a final product (using the DEM and hillshade to give an idea of the terrain).

Results:

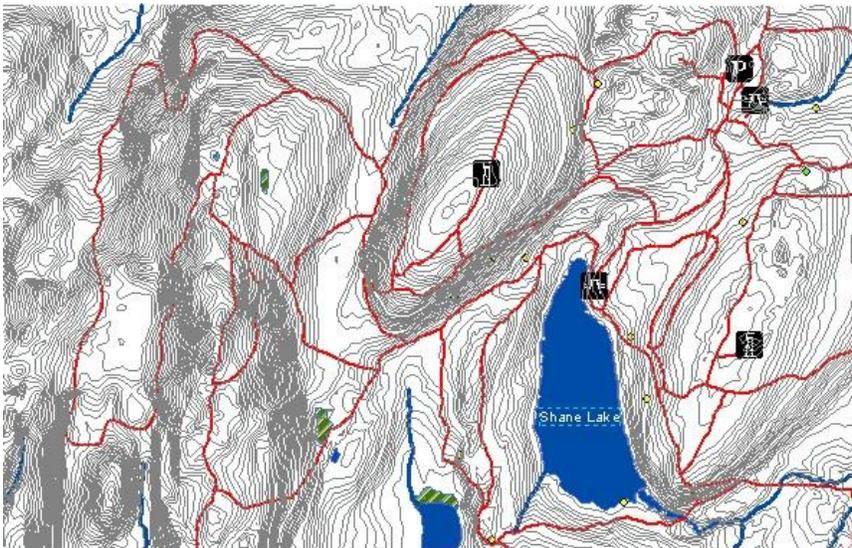


Figure 2. Base data added and clipped to the study boundary (ffw_bndy).



Figure 3. Contours used to generate a elevation raster showing changes in elevation based on the contour lines joining regions of elevation with a 20m buffer set around trails and a 100m buffer set around the lakes.

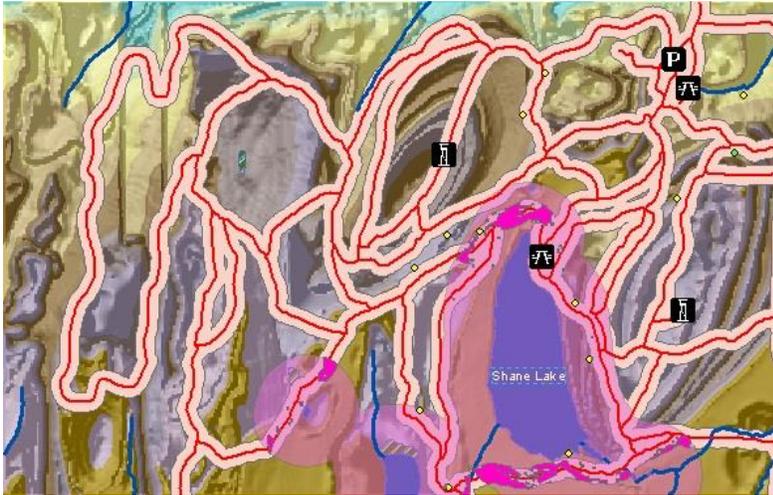


Figure 4. Hillshade was generated and added to the elevation raster to give the terrain some depth.

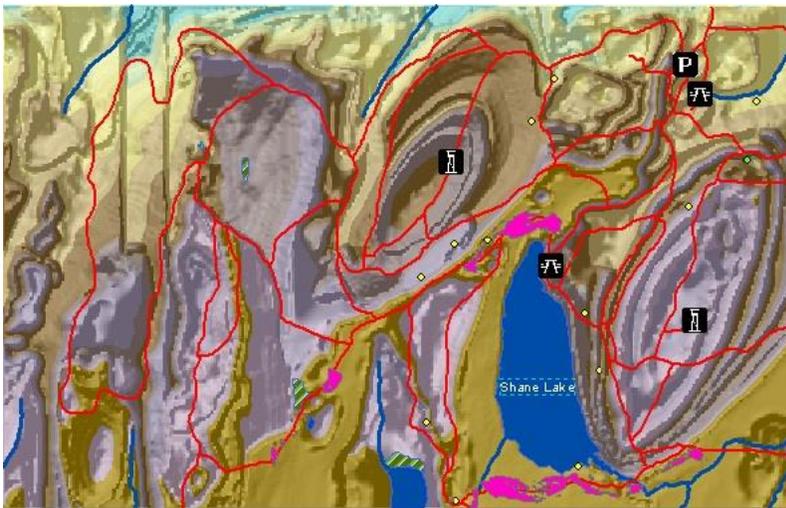


Figure 5. The final product with the elevation raster, hillshade, trails, creeks, lakes, features and potential campsite locations identified by the pink areas (based on criteria).

Conclusions:

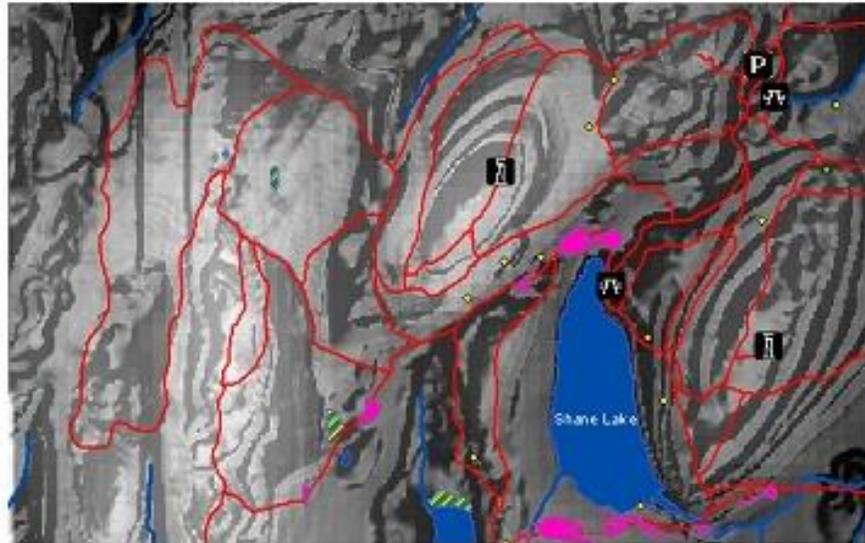
The objective of this project was to determine the most suitable locations for campsites within the FFW park based on minimal slope and within a specified distance from trails and lakes (20m and 100m, respectively). Through the analyses conducted on the data used in this project there were several areas found that could be potential campsite locations as seen in Figure 5 and the final map product indicated by pink polygons. As depicted in Figure 5 and in the final map product the majority of the possible campsite locations are situated around Shane Lake, with a couple smaller campsite locations around the smaller lake to the west.

Future Work:

Future work on this subject may benefit Prince George by allowing people to camp without traveling great distances from Prince George. It may also attract people to the region to camp in a new location and it may also act as a place for people to camp in the summer as they

pass through the city allowing them to enjoy the beautiful outdoors instead of staying in a more expensive hotel.

Possible Locations for Campsites at Forests For the World in Prince George, BC



Legend

- Potential Areas for Campsites
- Trails
- Water Towers
- Creeks
- Shale Picnic Area
- Wetlands
- Lookouts
- Gravel Parking
- Bed Nets

0 5 10 Kilometers



Michelle Bardossy
230098 120
Geog 413

References:

City of Prince George. 2013. Forests for the World. Cited on April 2, 2013. Accessed from <http://tourismpg.com/activities/forests-world>.

Google Maps. 2013. Prince George, BC. Cited on April 2, 2013. Accessed from http://maps.google.ca/maps?hl=en&gs_rn=8&gs_ri=psy-ab&pg=forest+for+the+world+map&cp=14&gs_id=1j&xhr=t&bav=on.2,or.r_qf.&bvm=bv.44697112,d.cGE&biw=1525&bih=718&wrapid=tljp1364958351670026&q=map+of+prince+george&um=1&ie=UTF-8&hq=&hnear=0x538898f7ef590fe9:0x50135152a7b3050,Prince+George,+BC&gl=ca&sa=X&ei=I5xbUfWGA6n1iwKK6oG4AQ&sqi=2&ved=0CC0Q8gEwAA.