

## **Garibaldi at Squamish Environmental Impact Assessment Report**

The Garibaldi at Squamish is a project that is proposed to be a year-around destination resort. It is located on Brohm ridge, 15 km north of Squamish and 80 km north of Vancouver. In 2010, the B.C government stated that the project did not have enough information on the effects of human activity on vegetation, fish and wildlife habitat. The primary objective of this analysis is to identify parts of the proposed project area that are important ecological zones which would affect development in the area.

Data was acquired from geospatial datasets by the British Columbian government that enabled the project site to be visually modeled. Key features used were areas of old growth, ungulate winter range, river and road systems. All these layers have been clipped to fit into the proposed project site so that only relevant data is highlighted. The current proposed site is ~ 54,696,641.716436 m<sup>2</sup>.

It is assumed that areas that fall below 555m of elevations would be unsuitable for snow-based activities due to the unreliability of snowfall. Data from the digital elevation model was reclassified to highlight areas lower than 555m. It was found that around 6264.1 m<sup>2</sup> which is around 0.0115% of the total proposed project area, this is a relatively small area which might get unreliable snow. Winter activities such as skiing, snowboarding or snowmobiling would be possible in the project area.

Old growth forests are areas of forest that have been relatively undisturbed for a long time (by either natural disturbances or human activity). Old growth forests are areas that are ecologically diverse and are hotspots for biodiversity. The findings show that there are around 3710331.43m<sup>2</sup> of old growth forests within the project boundaries and is around 6.783% of the total project area. It is important to note that these areas of old forest are heavily fragmented and could potentially be in the way of proposed ski slopes. It is also important to note that many of these areas of old growth are above 555m which again could clash with winter activities. Another key factor that was looked into was ungulate winter range. The two types of ungulates in the project region are the Mule Deer and the Mountain Goat. Both of these species are endemic to North America. Around ~7.889% of the project area is the ungulate winter range. However, most of these areas are relatively remote, but measures need to be put into place to ensure safety for both park visitors and the ungulate species. The biggest factor is riparian habitats that fall within the proposed project area as the region is rich with river systems. A variable width buffer was created around streams and rivers to show protected areas. It is assumed that streams above 555m are considered less likely to be fish bearing habitats and hence buffer zones are around 50m. On the other hand, stream below 555m are ideal habitats and hence are given a buffer of 100m. According to this around 16,488,074.92m<sup>2</sup> of the total project area. Rivers and riparian zones totaled 30.1% of the proposed project area.

In total around 44.875% of the Garibaldi at Squamish project area is occupied by old growth forest, fish and riparian habitats and ungulate ranges. This was calculated by creating a union layer from the above datasets. The biggest concern is riparian areas which are very widespread throughout the area. Mitigation strategies could be moving infrastructure elevations above 555m and away from streams. It could also be creating clearly marked paths that do not cross these riparian areas and old growth regions which would reduce human interaction with these key zones. Limit backcountry skiing to ensure minimum interaction with mule deer/mountain deer populations. The project could focus any development around pre-existing road infrastructure this would help keep any environmental impacts

constrained within regions that already have some amount of development and further limit environmental degradation. It is important to keep facilities such as ski-lifts or ski slopes outside areas of old-growth management areas. The project area can be year-round as it could support hiking during the warmer months - however, it would be important to relay the importance of old growth forests to visitors and ensure visitors stay on clearly marked trails.

There are a few limitations with this data set. One being it is very hard to capture how these areas would be influenced by human activity. Further analysis could potentially look at species which are at risk that fall into the region. It is important to consider not only the implications of final project but also look at the effects of construction (e.g noise pollution, waste during construction process).