

# SALT SPRING ISLAND

## OFFICIAL COMMUNITY PLAN Steep Slope Hazard Mapping

### Development Permit Area 6

# Draft for Discussion Purposes

January 20, 2011

- Moderate Hazard (22.5 - 45 degrees)
- High Hazard (> 45 degrees)

#### Supporting Data and Limitations

This Salt Spring Island Steep Slopes Map has been created using a slope gradient generated from a digital elevation model (DEM). A DEM is a digital representation of ground surface topography, or topographic relief, built using remote sensing techniques and aerial photography. There are a number of limitations in utilizing aerial photographs to develop Digital Elevation Models (DEM), which should be noted when considering the spatial resolution of the mapped areas. The quality of the DEM may vary according to many conditions: terrain roughness, sampling density, grid resolution (or pixel size), interpolation algorithm, vertical resolution and terrain analysis algorithm. The quality of the air photos and the scale used may have affected the DEM resolution, as the air photos may not have captured all topographic elements, such as ravines, localized bluffs, or small scale features. The Salt Spring DEM was derived from the air photos flown at a scale of 1:16,000, with 0.5 m vertical accuracy on open ground surfaces and 30 cm horizontal resolution. For those areas with extensive forest canopy, the elevation accuracy could vary by as much as half of the tree height. Classified Steep Slopes areas smaller than 36 square metres have been filtered out of this map, the resolution of these areas having been deemed insignificant.

The rationale and support for the classification of Steep Slopes designations is contained in the recommendations of a report prepared for the Islands Trust by Shane Moore, P. Geo., C. N. Ryzuk and Associates. Copies of the report (C.N. Ryzuk and Associates, Geological Hazard Mapping Project, Salt Spring Island, December 2009) can be obtained by contacting the offices of the Islands Trust.

