



## **The Green Heart: A proposal to the City of Powell River**

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### **Background:**

Recent forest harvesting in the region has occurred without accurate knowledge of its extent, or its ecological or economic ramifications. Local governments and the public remain largely unaware of which lands have been harvested, when, or by whom.

Development of a comprehensive GIS (geographic information system) containing such data would greatly improve our ability to understand current and potential land-use decisions, and ultimately provide the basis for informed decision-making. In broader terms, such a mapping tool would encourage managing our forested lands more sustainably, and for the public good.

### **Objectives:**

1. To accurately map forests within the Municipality of Powell River, and to estimate forest stand age and habitat characteristics using remote sensing (Landsat) imagery, archival photographs, and historical records.
2. To document the legal status of such forests, including current and historical ownership.
3. To make these data publicly, freely and permanently available via the internet ([www.theGreenHeart.net](http://www.theGreenHeart.net)).

**Methods:**

The proposed work will consist of three phases as follows.

**Phase I:** Obtain existing satellite imagery (Landsat) and basic physical (DEM) and land tenure (cadastral fabric) coverage. I will classify forest cover types using supervised maximum likelihood techniques, and then calculate NDVI (Normalized Difference Vegetation Index) values from sequential satellite images in order to derive estimates of change in forest extent and composition over time. Results will be plotted using ArcView and Qgis platforms, and analyzed using Systat.

**Phase II:** Landsat imagery extends only as far back as 1972. To maximize utility of the GIS dataset, I will systematically examine archival photographs, forest cover maps, aerial photographs, and other sources to obtain forest harvest records wherever possible. Combined with this will be information concerning changes in legal status. These will also be plotted.

**Phase III:** The resulting database will be published online at [www.theGreenHeart.net](http://www.theGreenHeart.net). I envision a website in which visitors can explore themes interactively, and therefore explore questions that may interest them. When did Island Timberlands acquire Lot 450? Upon what lands do the BC Riparian Areas Regulation actually apply? What kinds of birds nest in 80 year-old forests in coastal British Columbia, and how much of this type of habitat remains in Powell River? How much will likely remain in 30 years, and how much young forest might actually become commercially valuable using sustainable forestry methods?

**Budget and disclosure:**

Much of my bird work concerning Lot 450 has been as a volunteer, although I have received some financial support from the Powell River Forest Coalition and the Pebble in the Pond Society. I am presenting this proposal as a private citizen and resident of Powell River.

I envision that to complete all three phases would take me about 2.5 months at a professional rate of \$5000/month. Minimal expenses will be required (field-work to ground-truth forest stands, photocopying, computer storage, software etc.).

I am asking for a modest professional fee of \$13,500. Given other work obligations this work would need to be spread over a period of several months, and I anticipate completion of the work by February 2016.