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Technical Report

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Development of a GIS model for predicting outdoor marijuana cultivation in Southern British Columbia

Executive Summary

March 2008

Project Manager:

Sgt. Rick Parent PhD
Justice Institute of British Columbia

For the
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Final Report: Development of a GIS model for predicting outdoor marijuana cultivation in Southern British Columbia

Report: 1515-07-JU/456

Project Manager:
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Executive summary

There are numerous undetected outdoor marijuana growing sites in Southern British Columbia. Traditionally airborne surveillance has been used to detect sites on an *ad hoc* basis. Airborne surveillance whilst very effective when executed by trained spotters is expensive. Moreover, it requires dedicated helicopters and is constrained logistically by the vast territory involved. A recent study conducted by Titan Analysis strongly suggests that three sites are undetected for every site positively identified. The estimated value of known outdoor marijuana sites ranges from M$ 138.5 – 296.7 (wholesale) for the Vancouver Island-Gulf Islands-Coastal region; M$ 17.9 (11.4 – 24.4) (wholesale)for the Harrison-Chilliwack-Abbotsford region; M$ 86.8 – 186.0 (wholesale) for the Okanagan region. Potentially undetected sites are estimated at three times those amounts. The purpose of the present study was to develop a new methodology that predicts possible growing sites based on complex criteria developed from known sites. It uses a methodology called Multi-criteria Evaluation that models multiple factors and constraints in a geographic information systems (GIS) environment. In addition, we have run a Bayesian analysis as a validation technique. Bayesian analysis is a sophisticated form of artificial intelligence that is increasingly used in fields as diverse as medical diagnostics, epidemiology, ecology, and forestry.