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# The Effectiveness of the Sensitive Ecosystems Inventory Outreach Program

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**Abstract:** The outreach program of the Sensitive Ecosystems Inventory for East Vancouver Island and the Gulf Islands, British Columbia, focused on local governments in the study area as they play a major role in land use decision making. Outreach took a number of forms including written materials, training workshops, a web site, and one-on-one technical support on request. In addition, a Best Management Practices document reinforced the need to protect sensitive ecosystems. The effectiveness of the outreach program was monitored through two questionnaire surveys, and two mapping projects which identified loss of sensitive ecosystems ‘on the ground’. Results of the surveys showed that many local government staff were familiar with, and were using, the Sensitive Ecosystems Inventory materials, although for some this was not an effective form of outreach. The mapping projects demonstrated an ongoing loss of sensitive ecosystems, although it is not clear whether the rate of loss is lower than would otherwise have occurred without the Sensitive Ecosystems Inventory. The overall conclusion is that there is an ongoing need for outreach in a variety of forms.

**Key Words:** Sensitive Ecosystems Inventory, sensitive ecosystems, outreach, local government, Best Management Practices, British Columbia

## Introduction

The Sensitive Ecosystems Inventory (SEI) mapped sensitive (i.e., rare and/or fragile) ecosystems in the coastal lowlands of east Vancouver Island and the Gulf Islands, British Columbia (B.C.), during the early 1990s. The purpose of this project—a joint venture of Environment Canada (Canadian Wildlife Service), the B.C. Ministry of Water, Land and Air Protection (Vancouver Island Region), and the B.C. Ministry of Sustainable Resource Management (Conservation Data Centre)—was to identify remnant sensitive ecosystems in an area of intense human activity and high population growth. Since that time, other Sensitive Ecosystems Inventories have been completed in British Columbia, namely for Bowen-Gambier Islands, the Sunshine Coast, and parts of the Okanagan.

The Vancouver Island Sensitive Ecosystems Inventory mapped seven different types of ‘sensitive’ ecosystems: wetland, riparian, older forest, woodland, terrestrial herbaceous, coastal bluff, and sparsely vegetated. Results showed that only 7.9% of the study area remained in a

relatively natural state, and that many of these remnant sensitive ecosystems were small and highly fragmented.

The SEI also mapped two ‘other important’ ecosystem types (older second-growth forests and seasonally flooded agricultural fields) which are disturbed ecosystems that remain important for biodiversity. These ‘other important’ ecosystems cover an additional 11.6% of the study area. Given the high rates of loss of all ecosystem types, the project promoted the goal of protecting all of the remaining sensitive ecosystems, and as much as possible of the two other important ecosystem types.

Neither the federal nor provincial governments have legislation that specifically protects sensitive ecosystems, although there is some indirect protection offered through the federal *Species at Risk Act* and the B.C. *Wildlife Act*. Most of the land on eastern Vancouver Island is privately owned, and responsibility for land development falls primarily on local governments (municipalities and regional districts); therefore, they have a very important role to play in protecting sensitive ecosystems. Under the *Local Government Act*, local governments have many tools, such as zoning, park dedications, and riparian setbacks, for protecting sensitive ecosystems provided bylaws have been developed to use these tools. Local governments are also the first line of contact with developers, and so, have the ability to encourage more environmentally sensitive development. Community groups also play an important role in making local governments and developers aware of environmental values such as sensitive ecosystems, and can advocate for their protection.

### **Outreach to Local Governments**

The outreach component of the Sensitive Ecosystems Inventory project is very important because of the need to provide information to those with land management authority, and to encourage them to protect sensitive ecosystems from development. Outreach to local governments (and others) was provided through the following measures:

- the Sensitive Ecosystems Inventory maps, including the database of additional information
- the technical report (Ward et al. 1998) and *Conservation Manual* (McPhee et al. 2000)
- newsletters and brochures
- the web site (<http://srmwww.gov.bc.ca/sei/index.html>)
- full-day training workshops for local government staff (and others)
- one-on-one technical support on request

In recent years, the B.C. Ministry of Water, Land and Air Protection has been moving away from doing site-by-site referrals in response to land development proposals, and towards providing information through Best Management Practices documents. The report,

*Environmental Objectives, Best Management Practices and Requirements for Land Developments* (B.C. MOELP 2001), was given to local governments throughout Vancouver Island and the Gulf Islands in March 2001. This document provided local government staff with the ministry's Best Management Practices for a variety of land development activities, including storm water management, riparian protection, tree cutting, and wildlife habitat protection. It also outlined the ministry's recommendations for sensitive ecosystems, including the establishment of buffers and the use of other protection measures. This Best Management Practices document, therefore, became another important part of the Sensitive Ecosystems Inventory outreach approach. All local governments received a hard copy of the Best Management Practices document and the link to the appropriate web site. In addition, whenever local government staff asked for assistance, ministry staff referred them to the document.

### **Methodology for Measuring the Effectiveness of the Outreach Program**

To track the effectiveness of the outreach program, the Sensitive Ecosystems Inventory project team used two different approaches: (1) surveys to determine if and how users were utilizing the information, and (2) re-mapping the sensitive ecosystems to track what was happening to them 'on the ground'.

Two separate surveys were conducted in 2002: (1) interviews were conducted with Sensitive Ecosystems Inventory users, including local governments, as part of an evaluation of the SEI project, and (2) local government staff were asked about the SEI information as part of a study on the effectiveness of the Best Management Practices document.

Two additional studies tracked what was happening to the Sensitive Ecosystems Inventory sites on the ground. In 1999, the B.C. Ministry of Water, Land and Air Protection conducted a preliminary audit of approximately one-quarter of the SEI sites. This was followed in 2004 by a complete re-mapping of the SEI, using 2002 orthophotography to identify areas of disturbance. Both of these studies provided information on the loss of sensitive ecosystems.

### **Survey and Mapping Results**

The following discussion focuses on the use of the Sensitive Ecosystems Inventory information by local governments. Results of the SEI survey showed that

- the outreach program was very successful in raising awareness of the Sensitive Ecosystems Inventory among local governments. Over 90% of local government respondents were aware of the program;
- Sensitive Ecosystems Inventory data is being used in planning documents. Over 50% of the local governments reported using SEI information on Official Community Plans and Development Permit Area designations;

- survey respondents noted that the SEI manuals provide useful information on the importance of sensitive ecosystems sites and how to protect them;
- nearly 90% of local government respondents said the SEI was “somewhat” or “highly” effective in contributing to the conservation of sensitive ecosystems;
- the most effective forms of outreach were the one-on-one technical support and the *Conservation Manual* (McPhee et al. 2000) which provides information on how to protect sensitive ecosystems and the reasons why protection is important. The technical support is of particular help to local governments who often have only limited staff and technical capabilities;
- respondents listed many examples of SEI sites that have been given some form of protection; and
- several local governments noted that they have modified their bylaws to offer special protection to sensitive ecosystems. For example, Saltspring Island has developed a program for ‘density transfer’ whereby a developer can effectively sell the development rights in an environmentally sensitive area (as defined by the Sensitive Ecosystems Inventory) and move the development potential to another less sensitive site that has been approved for increased density.

Overall, the Sensitive Ecosystems Inventory survey identified fairly positive results from the outreach program (AXYS 2003).

The survey on the Best Management Practices document painted a slightly different picture, in part because it reached more non-users of the Sensitive Ecosystems Inventory information. Participants included personnel from local government parks and public works departments, municipal engineers, and planning and development staff. Survey results showed that

- about 75% of respondents said they were using the Best Management Practices document “regularly” (29%) or “occasionally” (48%);
- the number of people who had used the Best Management Practices document was higher than the number of people who reported using the *Conservation Manual*. Only 55% of respondents reported using this document “regularly” (16%) or “occasionally” (40%);
- when asked “How helpful was the *Conservation Manual*?,” those who had used the document responded very favourably. Almost 75% of respondents found it “helpful” (44%) or “somewhat helpful” (29%); and
- few respondents had taken the training workshops, but those who had, found them “very helpful” (25%) or “somewhat helpful” (69%) (Pope 2003).

These results imply that those who are using this outreach material are finding it helpful, while others are either not aware of it, have not accessed it, or do not find this a useful way to

access the information. It appears that outreach through documents such as the Best Management Practices is effective at reaching some people more than others. This means there is a need for other forms of outreach for those who prefer other methods; however, survey results imply that having the Sensitive Ecosystems Inventory information as part of the Best Management Practices document has helped reinforce the fact that the SEI is an important part of the ministry's direction.

Results of the re-mapping showed an ongoing loss of sensitive ecosystems. The 1999 audit (Caskey and Henigman 2002) focused on areas known to have been undergoing urban or rural land development since the original mapping was done in the early 1990s. The results of the 1999 audit showed that

- overall, 11.2% (one in nine) of the sites had been modified in some way since the original mapping was done 6–8 years previously;
- the greatest level of disturbance was to older second-growth forests (24.9%), primarily from forestry activities;
- of the 'sensitive' ecosystems, the greatest impact was to older forests (17.6%) due to both urban encroachment and forestry;
- all ecosystem types have been impacted to some degree;
- the greatest impacts came from urban land use—22.8% of sites in urban settings showed some degree of disturbance;
- some of the sites designated as 'greenspace' had been impacted by the development of trails and tourist facilities; and
- all sensitive ecosystem sites along the Vancouver Island Highway Project corridor, which was being constructed just as the SEI was completed, had been disturbed or obliterated, even at the outer edges of the road right-of-way.

Results of the 2004 re-mapping showed a similarly bleak picture since the original mapping was done in the early 1990s:

- About 8800 ha (11%) of Sensitive Ecosystems Inventory sites have been lost, disturbed, or destroyed.
- Nearly 1500 ha (4.6%) of the 'sensitive' ecosystems have been lost.
- Nearly 7400 ha (15.5%) of the 'other important' ecosystems have been lost, primarily to forestry activities (AXYS 2004).

### **Effectiveness of the Sensitive Ecosystems Inventory Outreach Program: Discussion**

The outreach program has been successful in raising awareness of the SEI, and the information is currently being used in many planning documents. Anecdotal reports from the survey identified many sites that had received some form of protection from development, due at least in part to the SEI information.

At the same time, sensitive ecosystems continue to be lost to development at an alarming rate. As well, it is clear that there are still many local government decision makers who are not aware of the Sensitive Ecosystems Inventory or the importance of sensitive ecosystems. Further, even when people know of and utilize the SEI information, identification of a site as a sensitive ecosystem does not guarantee protection. Local government staff cited many reasons for not being able to protect SEI sites, including lack of funds for land acquisition, lack of political will, lack of appropriate bylaws, or lack of landowner/community support.

The Sensitive Ecosystems Inventory project team surmises, but cannot prove, that the rate of loss of sensitive ecosystems is lower because of the SEI. This would seem likely based on the results we have seen, however, there is no control study to show what would be happening to sensitive ecosystems in the absence of such an inventory and outreach program.

### **A Need for Continued Action**

Work on the Sensitive Ecosystems Inventory project is ongoing. The *Environmental Best Management Practices for Urban and Rural Land Development in British Columbia* document (B.C. MWLAP, in preparation) is being revised and updated, and will be released in 2004 to local governments and others throughout the province. The updated 2004 disturbance maps (which show the original SEI sites superimposed over recent orthophotography mapping) will also be ready for release later this year, and some additional outreach will take place to raise awareness among local governments and others about the updated information. Additionally, the Sensitive Ecosystems Inventory web site (<http://srmwww.gov.bc.ca/sei/index.html>) is being upgraded to provide more information, including PowerPoint training modules for local government staff and interested individuals.

The project team continues to provide one-on-one technical support on request, but the ability to continue this support in the long term is uncertain, reinforcing the need for good Best Management Practices to assist in getting the SEI information into the hands of local governments. The importance of additional training for local government staff has been identified, but funding is limited, hence training may not be possible at this time. The role of community groups continues to be very important as they are the eyes and ears in local communities, and are best placed to support and encourage local government actions to protect sensitive ecosystems.

In conclusion, there have been many successful aspects of the Sensitive Ecosystems Inventory outreach program, but the need for ongoing outreach continues. This is particularly important as staff in local government offices frequently change. There is a need to ensure that new staff have information readily available to them in many forms.

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