Volunteering in Fish-Habitat Rehabilitation Projects in British Columbia

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ABSTRACT

This research explores the motivations of volunteers within fish-habitat rehabilitation projects in western British Columbia. Literature on watershed partnerships, collaborative planning, co-management, volunteering, and interviews with key respondents were reviewed to formulate a series of questions about volunteer motivations. Interviews were conducted with respondents from a sample of urban and rural regions.

Research results demonstrate motivations may be influenced by a diversity of reasons, but volunteers are driven chiefly by the desire to achieve positive resource outcomes. Individual empowerment is encouraged through positive reinforcement from others and by accomplishing group goals. Furthermore, government strategies can encourage volunteers with more long term and sustainable projects and by fostering greater trust with volunteers. This study considers the interaction of factors which influence the success of projects in effectively using volunteer contributions. The findings will be useful to agencies and project coordinators in attracting and retaining suitable volunteers.

Keywords: fish-habitat; rehabilitation; restoration; stewardship; volunteering; volunteer motivations; watershed

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LIST OF ACRONYMS

BC - British Columbia

CA - Community Advisor

DFO - Oceans and Fisheries Canada (Department of Fisheries and Oceans)

OHEB - Oceans, Habitat, and Enhancement Branch

SEHAB - Salmon Enhancement and Habitat Advisory Board

SEP - Salmon Enhancement Project

VC - Volunteer Coordinator

PART 1 OVERVIEW

1 INTRODUCTION

> *Can an economy respect a watershed without the watershed and its residents having a real status in the economy?* (Freeman House. *Totem Salmon*. 1999)

British Columbia is characterized by an extensive coast, rich in a diversity of plants, animals, and geography. Extensive river networks feed into larger rivers creating a plethora of small to large watersheds which feed into the ocean. Salmon and other creatures grace the waters of the watersheds, and support many coastal communities. Unfortunately watershed health and integrity are being compromised due to human activities. Increasing pressure from population influx and development is exacerbating the process of watershed modification and degradation.

Watershed degradation and other human-induced pressures have been particularly detrimental to the survival of Pacific salmon stocks, which have declined drastically, with some having been completely extirpated (Slaney *et al.* 1996; Nehlsen *et al.* 1991; DFO 2004). Reduced salmon stocks, coupled with a myriad of other factors have dire implications for the health and the biodiversity of coastal watersheds (DFO 2004). Moreover, government ministries responsible

for managing and assisting salmon restoration at the local level are having their capacity to be effective compromised by inadequate budgets and personnel cutbacks.

To address the many of factors which are negatively impacting watersheds and fish-habitat individuals and volunteers groups across B.C. have undertaken local-level watershed rehabilitation and salmon restoration projects. Principally, these volunteer projects are designed to rehabilitate and maintain watersheds in their natural state, and second to conserve and restore dwindling salmon stocks (OHEB 2006). The projects may be initiated by governmental agencies, but generally it is the volunteers who sustain the rehabilitation activities.

Locally-based volunteers are an important element in the success of watershed rehabilitation projects. First, the volunteers are important for protecting watershed resources, as they may act as stewards for the resources contained within the watersheds. Many scholars also claim that activities designed and undertaken by the community tend to be more sustainable, self-sustaining, and effective then those initiated by an external body (Schlager and Ostrom 1993, Pinkerton 1991 and 1999). Furthermore, participation in rehabilitation projects by local volunteers can empower participants and cultivate community stewardship and community-level r .29n3s.00eaiml.rdshDC BT/TTsO4nd 1ities.

instance, I explore how location and/or the volunteer's stage of life can influence participation. I also explore how engagement and a volunt

1. the personal motivations of volunteers who participate in watershed rehabilitation activities.
2. the external factors influencing volunteer choice in participation.
3. the levels of volunteer authority and/or involvement in community-level decision-making regarding management and planning for watershed resources.
4. how respondents define success in volunteer-based rehabilitation project, and how success influences motivations.

1.2 Report Organization

There are 9 chapters in this report, including the introduction and three main sections. Part one focuses on context, relevant literature, and research methodology. In part two, I discuss research results regarding personal motivations of volunteers, the effects of external influences on volunteer motivations, factors in successful volunteer-based watershed rehabilitation projects, and the authority level and role of volunteers in watershed management decision-making processes. In the final chapter I discuss implications and conclusions.

2 CONTEXT

2.1 British Columbia Watersheds

Watersheds

A watershed is the entire upper area of land into which rainwater drains and feeds into streams and eventually major river systems. Watersheds envelop a number of interconnected resources, including diverse geographical landscapes, and encompass numerous streams, rivers and other water bodies. They may also host a rich community of plants and wildlife and their respective habitats (Johnson *et al.* 1999; McGinnis *et al.*

Williams *et al.* (1997), makes watersheds an essential unit for conducting suitable planning and protecting and managing fish and fish-habitat.

Social Challenges

Poor communication among concerned users is one of many issues compromising the sustainability of watersheds and fish populations. Community members are often not adequately educated, leading to misconceptions regarding salmon management and the need for conservation (Pike 2003). In other cases, concerned individuals may feel unable to communicate their concerns with a seemingly uncooperative government (SRWR 1996). Indeed there is a feeling within civil society that governments are incapable, or choose not to address issues of water stewardship (Litke and Day 1998; Romaine 1996). Specifically, communities may often feel disempowered after consultations with government in which their inputs result in few tangible outcomes (Pike 2003).

Watershed Protection

Numerous factors have led to mediocre watershed and salmon habitat protection over the past century. Some observers find that government land use management and planning in B.C. is outdated, ineffective, detrimental to watersheds and inadequate in protecting watershed resources (Symko 2003). Romaine (1996) argues that natural resources have been undervalued and knowledge of ecological processes has not been adequately applied in watershed management.

Weak environmental legislation and insufficient staff and monetary resources have hampered the capacity of government agency staff to protect watershed resources and have limited individuals' capacity to hold government and industry responsible for habitat and fishing violations (Boyd 2003). Furthermore, fragmentation of responsibilities among agencies means there is poor accountability and coordination in conservation efforts, nor has there been sufficient monitoring and evaluation procedures (Romaine 1996).

Stewardship

Stewardship encompasses the idea of a 'moral obligation' and 'a sense of responsible care' and accordingly transcends the legal obligation to protect a resource. Salmon-stock augmentation, monitoring, and rehabilitation are a few of the activities which are specific to watershed stewardship. Stewardship also focuses on including various participants, including individuals and community groups and/or organizations. In this report, I use stewardship in reference to community stewardship of watersheds and their resources.

2.2 Community-Based Watershed Stewardship Initiatives

Among the various watershed rehabilitation volunteer groups on the BC coast, ones most important to this research are stewardship and/or land trust type groups; enhancement/streamkeeping groups; and hatcheries/fish culture groups. There is significant diversity not only among groups, but also among the volunteers within each group. For instance, some people have traditionally been in the fishing or logging industry, while others may be in a more urban profession

such as computer software. There are also differences in the life-stage of the volunteers, which include retirees, young students, and middle-aged.

Some of the groups or initiatives may be more involved in advocacy, and/or trying to encourage more collaborative and watershed-based approaches for the management of watershed resources. The more advocacy and politically-oriented initiatives take a number of forms, such as a council or alliance, community roundtables, advocacy groups, and/or societies.

2.3 DFO-related Watershed Rehabilitation Initiatives

Government-initiated watershed rehabilitation projects are often limited by a top-down management approach, which often neglects local knowledgT21.90.e-0.0Tthe 06 Tc 00

briefly describe a few of the longer-lasting government initiatives which are playing a significant role in watershed rehabilitation in B.C.

Oceans, Habitat, and Enhancement Branch

The Oceans, Habitat, and Enhancement Branch (OHEB) of DFO is primarily responsible for matters related to protecting and rehabilitating fish habitat. OHEB practices “integrated resource management planning”, and includes programs such as the Salmonid Enhancement Programs (described in more detail below), stewardship and community involvement programs, and various school programs (DFO 2006). OHEB is also responsible for the operation of a large number of facilities - fishways, hatcheries and channels - across British Columbia and the Yukon. Programs and Initiatives designed by OHEB, are intended to foster and encourage community stewardship and outreach, and encourage greater involvement of communities in watershed and salmon stewardship activities.

Salmon Habitat Enhancement Projects.

DFO-OHEB Salmon Enhancement Projects (SEPs) have led to the creation of a multitude of salmon conservation projects in communities along the British Columbia coast (SEP 2005). SEP originally began in 1977 to help preserve salmon stocks.

Some SEPs involve the restoration of critical spawning and rearing habitat in certain streams, rivers and estuaries. Activities typically include the construction of side-channels, stabilization of stream banks and water flow, and

Many individual volunteers possess a wealth of unique expertise and

1993). Social interactions also tend to facilitate enjoyment in activities, which is another strong factor in the choice of volunteers to participate ('fun and enjoyment') (*Ibid.*:147).

By coalescing as a group and having a shared purpose, there is also a perception that the group will be more likely to accomplish something meaningful (effect change). Specifically, psychological engagement - an individual's political interests and commitments - can affect his/or her trust in politics and consequently his/her desire to volunteer in some project (Barkan 2004). Essentially, the individual volunteer believes there is a good chance that his/her investment will result in a positive political outcome.

Lerner and Jackson (1993) researched motivational factors for volunteer participation and retention in watershed stewardship groups. They found a number of different reasons for volunteer participation, but mainly that volunteers want the experience of being outdoors - a nature experience. They also may feel obligated to contribute something back to nature (*Ibid.*; Ordubegian 1993). According to Barkan (2004), how an individual feels about an issue influences

In working on a volunteer project, the participants are provided an opportunity to improve on an existing skill-set, or gain new skills altogether (*Ibid.*).

An important external motivational factor for volunteers is the resources available to a volunteer (Barkan 2004). Resources might include the amount of time a volunteer can afford to provide, or the amount of money they are willing to invest commuting to and from the project site. Available time and resources can be greatly influenced by a volunteer's stage of life. For instance, if volunteers are still in school, they are likely to be busy and distracted with study and other pursuits. Conversely, a retired individual is more likely to have more expendable time and money available for participating in volunteer activities.

The location of a volunteer's residence can also influence his/her desire to engage in volunteer rehabilitation activities. Volunteers are likely to be committed to their geographical locale, and hence take a more active interest in preserving or maintaining local resources (Ordubegian 1993).

An external agency may play a role in influencing volunteer participation. For instance, and particularly within advocacy-type groups, when volunteers feel their government is indifferent and unable to effect change, they may be more motivated to participate and remain with their stewardship group (Lerner and Jackson 1993).

3.3 Watershed Planning

Watershed planning should attempt to collaboratively integrate and balance multiple resources issues and a range of stakeholder interests, so as to

build stewardship and preserve and restore local resources in an ecological and sustainable manner (Johnson *et al.* 1999; McGinnis *et al.* 1999; Slocombe 1993). Ideally the regional focus puts stakeholders in the best position to be making management decisions for the resources in their watershed. Furthermore, watershed planning should be integrated and sustainable, as resources within a watershed are inextricably linked with each other, and the management of one resource should be linked with the management of other resources.

One significant influence on the field of watershed planning comes from a grass-roots movement called bioregionalism (McGinnis *et al.* 1999). Bioregionalism is a philosophical approach which explores the benefits of humans' attachment to place (Aberley 1993). As residents of a region are ideally attached, both emotional and spiritually, to their landscape and its defining physical boundaries, they are much more likely to steward the landscape.

3.4 Watershed-based Collaborative planning

Watershed planning is often conducted as a collaborative decision making process in which multi-stakeholder planning organizations are created to bring polarized groups together to resolve differences in a consensual manner. Collaboration and innovative processes can help resolve conflicts, encourage conservation of ecological benefits, and possibly restore some degree of control of resources to a community (Yaffee *et al.* 1996; McGinnis *et al.* 1999).

Leach *et al.* (2002: 647) describe a stakeholder partnership specifically as "multiple issues united by a common theme, addressed sequentially or

other stakeholders and the organization (Johnson *et al.* 2001; Smith and Gilden 2002).

Social networks

Broader social institutions can ideally create the conditions that allow people to solve collective action problems that lie beneath the surface of any joint production or collective effort. To create network conditions, organizations facilitate the linking of individual welfare with the welfare of the larger group (Singleton 1999).

Smith and Gilden (2002) note that the creation of social networks was a pertinent 'institutional asset' which facilitated the establishment of watershed councils in Oregon State. Moreover, the fostering of personal relationships among stakeholders is a key component in encouraging healthy communication (Andranovitch 1995; Pinkerton and Kepkay 2004). Coleman (1988) refers to the capacity of groups to work together towards a common goal, as 'social capital', and 'social networks' as the building of capacity and community through interaction between individuals and organizations involved in the planning process (McGinnis *et al.* 1999; Smith and Gilden 2002).

Resources

Leach, Pelkey and Sabatier's (2002) study of participatory watershed management organizations found that adequate funding was one of the most important factors promoting success in watershed partnerships. Furthermore, relevant information and capital investments are necessary for administration and

to create ‘social infrastructure’ for restoring, rehabilitating, and protecting watershed services (Smith and Gilden 2002; Gamman 1994; McGinnis *et al.* 1999).

Leadership and Vision

Leadership refers to the effective organization and direction provided by some individual(s) in the management of a watershed planning organization (Leach and Pelkey 2001). According to Balland and Plateau (1996) effective leaders must be competent and savvy about the logistics of a project, while also able to build trust with the volunteers by showing that their intentions are to work towards a perspective valuing the greater whole. On the other hand, vision is the “future direction and activities of the watershed”, i.e., a reason for participating (Smith and Gilden 2002: 655). Pinkerton and Kepkay (2004) join leadership and vision together, as leadership is an important element in building cooperation and can provide the vision for planning exercises.

Commitment and Accountability

Often watershed planning processes have lacked necessary community support, as stakeholders have been limited to consultative roles with no real influence on the final outcome (Benthrup 2001). Successfully designed collaborative planning processes should involve committed participants who are accountable and able to influence decisions regarding the implementation and monitoring of a process or project (Gamman 1994; McGinnis *et al.* 1999; Leach and Pelkey 2001; Cormick *et al.* 1996). Furthermore, Johnson *et al.* (1999) argue

that watershed planning performs most effectively when the stakeholders actively participate in ‘defining the problems, setting the priorities, selecting technologies and policies, and monitoring and evaluating impacts’. Conversely, communities need assurance that their participation in processes actually leads to helping protect and/or facilitating the creation of institutions that protect their watershed (Brady 1996; Boyd 2003).

Ensuring the legitimacy of a particular planning process further requires cooperation among participants, and an assurance that there is a commitment to consistent monitoring as time passes (Cormick *et al.* 1996; Leach and Pelkey 2001). Commitment to a project is most likely when there is monitoring of the watersheds and evaluative measures to ensure protection is manifested in a sustained and effective manner (Brady 1996; MWLAP 1996).

3.5 Co-Management

Conservation projects provide participants an opportunity to interact with an important resource and become stewards though their conservation actions (Leslie *et al.* 2004; Pinkerton 1991; Singleton 2000). The hands-on interaction with watershed resources through watershed rehabilitation projects strengthens the bond between the volunteers and the resources, fostering a greater sense of stewardship over resources (Lerner 1993; SEP 2005).

demonstrated to be the most likely means of fostering necessary trust, cooperation, and confidence among stakeholders (Pinkerton 1991, 1999, and 2003). Pinkerton and Weinstein (1995) show that volunteer participation and inclusion in habitat protection, stock enhancement, and stock assessment can be conceptualized as management activities in a co-management arrangement.

Senge's (1990) study on 'learning organizations' asserts that there are three conditions which enhance our capacity to generate creative solutions. The three conditions are satisfied when individuals feel that they are part of team, they feel individually valued, and finally they believe in their work. Furthermore, Bandura (1982) asserts that when participants feel a high degree of 'self-efficacy' or capacity to design how the project is instigated, they will be more energized to participate in the conservation of a resource. Indeed most volunteers may begin with little control over harvest management and enhancement design, but their participation and interaction within the rehabilitation group is likely to influence their desire and ultimate capacity to assert control over agenda setting and policy development (Pinkerton 1991; Pinkerton 2003; Singleton 1998).

4 METHODOLOGY

4.1 Research methodology

Qualitative Research

Qualitative research methods are appropriate for addressing my research questions, as they involve a systematic approach to analysing and examining a variety of social situations, and individuals in specific settings. I have attempted to use methods that can be replicated and reproduced by other researchers (Berg 2004). Furthermore to avoid misinterpreting the survey responses when I present the results of my surveys, I have tried to remain faithful to the words of the volunteers. I often asked several questions which explored different aspects of an idea, and also used external data to verify findings (Yin 2003).

Triangulation

To address some of the challenges inherent in qualitative research, researchers will generally try to use different information sources (lines of sight) to more thoroughly explore a hypothesis and to obtain a more substantive picture (*Ibid.*). Using several lines of research to corroborate and verify a finding is generally referred to as triangulation (Berg 2004). For instance, I primarily use data from surveys, but also draw upon meeting minutes and other documents to confirm conclusions from primary data.

Semi-structured Survey

I used a semi-structured survey, beginning with a structured set of interview questions, but adapting the language of the questions to suit individual perspectives (*Ibid.*). This interview process is more flexible and better appreciates the individuality of each respondent. Moreover, I realized I might not know in advance all the necessary questions to ask, and when appropriate I added new questions or deleted superfluous questions. I assumed a more open and 'conversational' manner of discourse which was intended to allow the respondents to contribute their own personal views and commentary (Yin 2003).

I sometimes provided hypothetical answers as cues in order to better communicate the meaning behind a question, and/or instigate or inspire ideas. I also used probing and prompting questions, according to my assessment of the level of a respondent's understanding of the subject.

To limit personal bias arising from poorly designed questions, I developed my questions concurrently with my supervisor, and refined the questions by undertaking pre-tests with certain key respondents. Furthermore, during the actual surveys I attempted to maintain as much impartiality as possible, pptuCto

aspect of the research (*Ibid.*). Focused interviews also tend to be more expedient because the interviews take place over a short period of time, usually about an hour (Merton, Fiske, and Kendall 1990: from Yin 2003: 90).

Grounded Theory

In cases where the research draws from several research disciplines and theoretical perspectives, grounded theory is a research mechanism which is useful for addressing the nuances of each perspective (Strauss and Glaser 1967). Grounded theory works on the assumption that theories and ideas emerge from the research itself. Research based on semi-structured interviews, includes a process of reflection and refinement that transpires iteratively throughout the survey process. As Silver (2004: 59) notes, in grounded theory, the researchers themselves are the “research tool”, and consequently the very act of research requires a constant reflection on the topic of research and what other data would be useful for better understanding the topic.

Therefore, I attempted to set aside my theoretical or preconceived ideas and allow theories to emerge. For instance, when I analysed the responses to the interview questions, I formulated themes for each question that were more case specific, and not specifically based on previous theories on the topic.

4.2 Preliminary Research

Literature Search

My initial work consisted of a broad review of the literature on volunteerism, watershed rehabilitation projects, watershed management,

ones was useful for identifying key individuals to contact for further information, and in some cases as actual survey respondents.

I attended two conferences during the research period. The first addressed restoration and stewardship of salmon and watershed resources, and the second was more generally focussed on resource management. Both conferences provided a wealth of information on issues related to collaborative watershed management and stewardship of watershed resources. Furthermore, they were important for learning more about other academic research that is presently occurring and is specifically relevant to my research.

I also participated in an event called the “Ugly Bug Ball”, a volunteer appreciation gala which is organized by local DFO Community Advisors yearly to pay tribute to and to value the considerable amount of work undertaken by volunteers in the lower mainland of B.C. This event provided insight into how volunteers were viewed and rewarded by government agencies.

4.3 Pre-tests

To verify my preliminary concepts, survey questions, and appropriate interviewees, I began by contacting a few specific volunteer coordinators. I chose individuals who had extensive experience in volunteering and/or interacting with volunteers. Many of these individuals were identified on watershed rehabilitation-related websites, I met at meetings, or they were recommended to me by others. Most of my preliminary contacts included individuals from OHEB and DFO, and the Pacific Streamkeepers Foundation. Each individual was asked about: the

number of volunteers they wo

perspectives of volunteers as a whole, which provided a better chance to acquire more common, but also fundamental, reasons for participation.

Additionally, the diversity of fish habitat volunteer groups and different volunteers within the groups makes it challenging to acquire a broad perspective on fish habitat volunteering were I to have interviewed volunteers. Interviewing volunteers would have provided more personalized and individual motivations for participation, but comm

extensive interaction with the volunteers in each project (average 17 years of experience working in this field). The CAs work in regions across B.C., which satisfied my aim of gaining a diverse geographical perspective on volunteering across B.C. Indeed the CAs in B.C. work in a range of locations, from urban to rural, which I felt was important for acquiring a significant cross-section of perspectives on rural and urban watershed rehabilitation projects.

> (dd)….So the CAs are available on behalf of DFO to that work……Jack of all, master of none…….The value of the CA role, is that while not experts in anything, they act as a conduit between the community and the department.

Of the nineteen CAs employed in regions across B.C. and the Yukon, I was able to contact fifteen. For the four I was unable to interview, one was unavailable, and I was unable to reach the other two. It is very likely that the reason I was unable to contact the two CAs is that they were too busy with activities, or they were on vacation at that point. Having a larger sample size is generally better for social science surveys, but because the responses were fairly similar among the respondents, I do not feel t

referred to as VCs) from rehabilitation groups in each of the fifteen CA's geographical regions. I surmised that interviewing VCs would help me learn the perspectives that were more reflective of the actual volunteers themselves. Since the VCs were predominantly volunteers themselves (13 out of 17), the likelihood that they would reflect volunteer perspectives was high. And as the VCs combined the roles of volunteers and coordinators, I believed that many of them would have the capacity to reflect on both their own motivations and those of the other volunteers whose work they coordinated and with whom they worked closely (average 13 years of experience working in this field).

In total I was able to contact seventeen volunteer coordinators, several of whom also occupied additional roles in their volunteer organizations. In a couple of cases I had multiple VCs from one CA's region, and conversely in two cases I was unable to contact a VC from a particular CA's region, either because there was very few volunteer-based rehabilitation projects within their region, or the VCs were too busy with activities to afford time for a survey.

Primary Interviews

I conducted the interviews between January 5th and May 8th 2006. One-on-one interviews mostly by telephone predominated. Interviews lasted between thirty-five minutes and two hours and thirty-five minutes, but averaged an hour and a quarter. Each interview was digitally recorded and transcribed verbatim to a Word document shortly after the interview. The questions I used for the respondent surveys are set out in Appendix A.

Questions with Volunteers

In order to corroborate the responses from the thirty-two respondent interviews, I surveyed a segment of volunteers from different rehabilitation projects. I distributed short-form surveys during a volunteer appreciation day (the Ugly Bug Ball) in July of 2006. Each survey sheet included ten questions which were adaptations of certain questions or series of questions that I had originally used in my respondent interviews (refer to appendix B). In total eighteen volunteers completed these written surveys. I used the responses garnered from the written volunteer surveys as a means of supporting or challenging the answers provided by the respondents.

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then refined the themes for each question by looking for examples of themes which were repeated in different questions, i.e. similar responses to different questions.

Based on my original hypotheses, I grouped together related questions into four main categories: personal volunteer motivations; external factors influencing volunteer choices; the influence of the roles and authority levels of volunteers in resource decision-making on volunteer motivations; and factors enabling successful volunteer projects. Some categories were further broken down into a series of sub-categories related to a specific question or series of questions which were posed to the respondents.

Data Organization

By the end of thirty-two interviews and the eighteen survey sheets, I had accumulated considerable material, and had identified each interview by the respondents name and the interview date ("john doe_date"). I assigned each respondent a specific letter of the alphabet and uniquely color coded each of the respondent's answers, as illustrated below:

Table 4.5.1 Respondent Coding

Respondents Name	Letter Coding and Colored Response
John Doe	a. Response…..(red-font)
Jane Doe	b. Response…..(green-font)

Next I perused the data and decided which of the questions had produced answers that seemed the most useful and applicable to my research questions,

and using the unique letter code I consolidated the responses to each of those questions into one document referred to as “analysis_date”. Following that, I read over the responses to individual questions and looked for common ideas or themes reflected in the survey responses, as discussed above in the data interpretation section. I created a separate document for storing the themes, called “themes_date”. Each theme was color coded and numbered so that when one looks through my analysis notes it is easier to locate which respondent expressed a particular theme, as illustrated in the table below.

Table 4.5.2 Description of Themes Associated with a Question

Example: Why do people participate in watershed rehabilitation?
1. To save the fish, so they have more to eat later (yellow-highlighted)
2. Something to do, instead of cleaning the house (purple-highlighted)
etc.

Next, I created an excel table, “statistics for thesis_date”, which contains on the horizontal axis each applicable question and the theme numbers associated with each question. The vertical axis shows the unique letters representing the individual respondents. The unique letters are further broken down into two sections, differentiating between the Community Advisors – referred to with a C - and the Volunteer Coordinators – referred to with a V. Thus, when one looks at the spreadsheet table, s/he will see which respondent answered each theme. The total number of responses to each theme is listed across the bottom, as shown in the example provided as Appendix C.

I created one type of table for quantitative questions. For instance, at one point I ask the respondents to provide their estimation of the number of volunteers who reside in a rural area versus those who live in an urban setting. This table is broken down by place of residence along the horizontal axis, and the total number of responses and the propo3pe r/1to, and thes rur g whnidence alon

PART 2 RESULTS

The following chapters show the responses to the questions I asked. As described in the introduction, my results are split into four chapters, focusing on four different aspects of volunteers' motivations. Additionally, as described in the methodology section, each chapter is split into separate sub-categories, each containing a brief explanation and a table outlining the themes that are related to the specific sub-category. The table is broken down into themes, and a coded list of the respondents who expressed the particular theme. Finally I provide interpretations of the themes shown in the table, and supplement the explanations with passages from the survey responses.

5 VOLUNTEERS' PERSONAL MOTIVATIONS

In my preliminary interviews with specific respondents, and in the literature on rehabilitation volunteering, I found three main factors which seemed to be the most common in regards to the personal motivations of volunteers. These are that a rehabilitation volunteer participates because of: the desire for a sense of community; the desire to effect change in a resource; and for career or networking opportunities.

Before I explored whether the respondents felt the three above mentioned factors were indeed the most relevant factors, I also wanted to ascertain what the respondents personally felt were the most relevant factors motivating rehabilitation volunteers. I could then compare whether the respondent's factors matched my chosen factors. Hence the following section first explores the personal motivations as stated by the respondents, and I then explore responses regarding the three motivational factors I originally chose.

5.1 Individual Factors Motivating Volunteers to Participate

In the next section I explore what respondents identified as the major factors that influence volunteers to participate, in order to compare the categories which they generated with the factors I had hypothesized as being the most important. Table 5.1 summarizes their responses.

Often the act of volunteering for rehabilitation work includes seeing a project get completed, seeing the fish return or seeing a stream bank restored. Particularly with watershed rehabilitation and salmon restoration, it may be possible to see the results of one's labours. For instance one respondent said:

> (z) ….when they do something, and especially with the more urban groups who don't know a lot about nature, but they know they are concerned about it, conceptually, but don't know what it is all about. They may do some tasks like fixing a culvert, and at the time they are doing it, having fun, and participating, but they may be sceptical that their work is going to do any good. But then later they go to visit the site and see fish returning, they go nuts with excitement.

Not quite as frequent a response, but still high (18), was that volunteers are strongly motivated by the desire for camaraderie -- a common motivation among many volunteer groups. Camaraderie may be reflective of a desire for community, in that volunteers participate for the opportunity to work with others towards some common purpose, as demonstrated by these quotes

> (c) The social sense of it. The sense of belonging to a group, getting friends, having fun…… Especially retired people, it is pretty important to them.

work and appreciated for accomplishments. Hence, while respondents favoured sense of accomplishment, they felt that the volunteers are almost equally motivated by the desire to be recognized for their accomplishments.

A number of respondents also felt that the experience of working with fish, working in the streams, the “hands-on” activity, was a strong motivation. Hands-on activity is sometimes referred to as “gumboot” activity and was mentioned in a number of the other responses to multiple questions. For instance, when I later asked the respondents about the opportunity to influence public decision-making and how it motivates volunteers, a number of respondents mentioned that most volunteers were more there for the hands-on experience.

The potential for furthering one’s career, or making contacts was also mentioned as a strong motivation. More description of career-related volunteer motivations is provided in a later sub-section.

5.2 Volunteers’ Sense of Community

The sense of community volunteers experienced while participating in the volunteer activities was a particularly important motivation. Yet different people see sense of community differently. I likened Barkan’s (2004) recruitment - the influence of neighbours and friends on the engagement of a volunteer with a project - to sense of community. People volunteer because others influence their desire to participate in the activity. Alexander (1993:196) writes that people may be individually motivated and remain involved because of a “Sense of solidarity and strength derived from the many groups joining together as one, the sense of

camaraderie”. Also, according to ZoAnn Morten (2005 pers. comm.) one of the main reasons for volunteering is for “Friendship….People want to become part of a community, connect with other like-minded people. New individuals want community - like a dating service”. Consequently I interpreted sense of community as the capacity of a volunteer organization and its activities to create

Overall the majority of respondents felt there was a sense of community among the volunteers in the groups, and in the communities. Both sets of respondents answered fairly equally that a sense of community can be interpreted as the sharing of some common purpose (e.g. caring for the environment), caring about one's neighbours, and participating in activities that benefit the whole community.

> (b) it is part of the function of trying to coordinate, create training and stuff like that, so there is that sense of community for sure.

> (x) ...coming from a background of having championed something, feel connected to the place, see the plants growing that they planted.

As the CAs and VCs both reside in the areas where the activities are occurring, it is not that surprising that the numbers of CAs and VCs who responded to each question were remarkably similar. The one substantial difference was in the responses regarding belonging to a place. For this response only two CAs referred to sense of community as belonging to a place, versus nine VCs who made this mention. This large difference is likely due to the fact that the VCs may be more connected with the local community and the area as they generally participate in volunteer activities, whereas the CAs occupy more of an advisory role to the groups.

The respondents expressed that a volunteer's cultural background may strongly influence whether an individual decides to volunteer. For instance, it may matter whether they are originally from the community or have more recently

cultural or religious background on volunteers' willingness to participate (see also Dietz *et al.* 2002). Few respondents mentioned First Nations' participation in volunteer activities, which might partly be attributed to a cultural influence. The following response suggests that groups' self-perceptions of cultural separateness can influence participation:

> (k) There is a larger Indo-Canadian community, and that group is separate from other communities, and there is a FN community. They are separate because their culture, their language, all play a role in defining them, their lifestyles as well.

5.3 Factors Contributing to Volunteer Motivations

I focused the next category of questions on the three factors of volunteer motivation which I had hypothesized as being most important. I asked each respondent to rate whether volunteers were more likely to be motivated to participate in watershed rehabilitation projects because of: sense of community; a desire to effect change in a resource outcome; for career and/or networking opportunities.

The second factor involves a volunteer's desire to improve the health of a resource - water, fish, forests, etc. I associated resource outcome with issue engagement – the influence of individuals' feelings about an issue on the amount of energy s/he invests in a project. I defined career-oriented motivations as the desire to find employment or develop employment-finding networks. For instance, in my preliminary exploratory interviews some respondents noted that there were a number of students and younger people who were volunteering as a way to develop skills and create contacts.

To gauge concurrence or disagreement with each motivation, I framed the above choices as statements and asked each respondent to rate each statement on a five-point Likert scale from “significantly disagreed” to “significantly agreed”. To assess the degree of importance or relevance of each statement and its effect on the number of volunteers, I asked each respondent to give the proportion of volunteers who were motivated by each factor.

The results are listed in a table below. Each factor is listed along the horizontal axis, and is separated into two columns: one showing the rating that was assigned to the factor; and the second column shows the percentage of volunteers said to be motivated by the factor. Along the vertical axis, the rows show the means for the CAs, the VCs, and the totals respectively.

Table 5.3 Factors Contributing to Volunteer Motivations

	Factor A. Sense of community		*Factor B. Effect change in resource conditions*		*Factor C. Career*	
	Rating	%age	Rating	%age	Rating	%age
Mean - C	4.30	60%	4.77	73%	3.23	19%
Mean - V						

important. First, volunteers participate in watershed rehabilitation activities because they want to be able to affect change and witness these changes. According to the respondents, volunteers want to be able to participate in activities that will be effective and accomplish something that is important on a larger scale – contribute to the environment/community. For instance, rehabilitating a stream and witnessing the return of fish the following year.

A slightly less frequent response was that volunteers participate for the camaraderie or sense of community. Coupled with a desire for camaraderie was the desire for recognition. Volunteers participate because they want to feel appreciated for their actions towards a greater good, both from others and because they have accomplished something worthwhile.

The desire to volunteer for career opportunities was not mentioned nearly as much as the other two motivations. Although listed as a motivation, career opportunities are only believed to be applicable to a select group of volunteers. Furthermore, career opportunities ar

6 FACTORS AFFECTING VOLUNTEERS' CHOICES

A number of factors not specifically related to a volunteer's personal feelings can also strongly affect whether a volunteer chooses to participate in rehabilitation activities. For instance where a volunteer lives and the stage of life of the volunteer can both play strong roles in influencing volunteer participation. The stage of development of a group may influence how a volunteer feels about a group and therefore his/her motivations to participate. The types of activities a group chooses to engage in can also strongly influence volunteer motivation. Last, the level and types of government engagement in an area can have important implications for the level of volunteer participation and support. These external influences are explored below.

6.1 Location

Given B.C.'s diverse geography and mix of rural and urban communities, I wanted to explore whether rural versus urban place of residence influences rehabilitation volunteering. I asked how many volunteers the respondents considered to be rural, suburban, or urban. I also asked the respondents whether

Table 6.1.1 Volunteer Residence Location

	Urban		*Suburban (mix)*		*Rural*	
Respondent Type	Mean (%)	Respon-dents	Mean (%)	Respon-dents	Mean (%)	Respon-dents
Respondent Responses (Community Advisors and Volunteer Coordinators)						
C	33	e, i, m, p, s, u, v, aa	23	b, p, s, u, z, cc, dd	42	a, b, d, e, i, p, s, u, v, z, bb, cc, dd
V	54	f, g, h, j, k, l, n, o, r, t, y, ff	10	f, j, x	36	c, f, g, j, k, l, n, q, r, t, w, ee, ff
Tot.	44	All	17	All	39	All

A I I

Overall the majority of the respondents (21 in favour, 8 against) felt that location of residence of volunteers affected participation. They stated that those living physically closer to some resource were more likely to volunteer. For instance as one respondent states:

> (s) Sometimes if people live on the creek, and see it could affect their level [of what?], they have a direct concern….. Where they live certainly does play a part, as it determines how much they are in touch with the habitat.

Proximity to a watershed was mentioned as a strong influence on volunteer participation, as it can influence how long it takes to travel to a project. Time restrictions caused by travel to and from the resource, may in turn lead volunteers to choose alternative volunteer options that are closer to their place of residence.

The proximity of a volunteer to a resource may heighten his/her sense of urgency to protect the resource, in that the closer one is to the resource, the more apparent and important resource issues may seem. Furthermore, in some cases, certain watersheds may be more deteriorated or salmon stocks lower than in other areas, thus fuelling a certain degree of urgency to protect the resources.

> (n) (The volunteers) will only react when see the bottom of the barrel. Will get very passionate about it when little remains.

> (ff) Urgency brings volunteers.

Coupled with the sense of urgency is the fact that the geographic location may also influence the number of activities available in an area. In some communities there may be a stream with a lot of damage, or a diminished salmon

population requiring restocking, whereas in another community there may be no streams, or conversely a stream with a very healthy salmon population.

> (a) If lived in the city, might volunteer for the Arts Club, but as there is a lot of hatcheries around, volunteer for those.

6.2 Stage of Life

I questioned what stages of life characterized the volunteers, as the stage of life often determines a volunteer's available resources – time, expendable funds, etc. I also explore whether certain life-stages are more prominent in volunteers than others. For instance, was a retiree more likely to volunteer than a student, and if so, how does this relate to his/her personal reasons for volunteering?

Barkan (2004) lists resources as the amount of time, money, etc. that a volunteer feels s/he is able to provide, but my preliminary research demonstrated that because of the economic diversity of the groups I interviewed and the number of volunteers within each group, resources seemed to play a smaller role than other influences. I was also reluctant to ask questions about financial status, which would have added another level of complexity to the study.

To explore the importance of the stage of life I asked respondents to provide their opinion on what the different life stages are, and how they influence the amount of time volunteers have available to participate.

Table 6.2 Influence of Stage of Life on Volunteer Choice

Responses	*Number of Responses*			*Respondents*
Do people volunteer more frequently and for different reasons depending on their stage of life?				
Yes	27	13	C	a, b, d, e, m, s, u, v, z, aa, bb, cc, dd
		14	V	c, g, h, j, l, n, o, q, t, w, x, y, ee, ff
No	4	2	C	i, p
		2	V	k, r
What are the main volunteer stages of life?				
Retired	23	12	C	a, b, e, m, s, u, v, z, aa, bb, cc, dd
		11	V	g, h, j, l, q, r, t, w, y, ee, ff
		3	P	ii, pp, ss
Student and/or younger	22	11	C	a, b, d, e, m, s, v, z, aa, bb, dd
[redacted]				
		9	C	

free time available for participating in volunteer activities, particularly in relation to any of the other groups. For instance one respondent noted:

activities. But there are some students that do participate because they see the long term goals, may want to become biologists.

There were a number of factors that came up in relation to the influence of career on volunteer participation, but the limited number of similar responses did not warrant their being listed in the table. One such theme is that areas with post-secondary institutions nearby, such as big cities, are likely to have volunteers participating for career reasons. A few respondents also noted that a community's dependence on some industry (such as forestry) may influence volunteer participation in the case of volunteers who are participating to effect change, and/or for career opportunities.

6.3 Developmental Stage of the Volunteer Group

The next question explores how the life stage of a group (maturity, group age) can influence volunteer participation.

Table 6.3 Influence of Group Age/Maturity on Volunteer Choice

Responses	*Number of Responses*

longer the group has been around, the more confidence they have as a group, and the more likely they are to be able to motivate people to participate. But, according to a number of the respondents, motivation also depended to some extent on the vision and/or leadership of the group, as shown in the following example:

> (k) It has to do with what the group has determined are its priorities. So unless the group was formed to be an advocate for something, it is their prime purpose, it is a difficult area to know what to do, not somewhere where people are empowered, so they are hesitant about stepping forward to say “this is right”, they will look around and wait for someone else to do it.

6.4 Agency Influence

As half of my respondents are employees of DFO (the community advisors), and the other half are individuals who generally interact with DFO in some role (the volunteer coordinators), I used some questions to explore the role of DFO in watershed rehabilitation volunteering. Specifically, I explored DFO’s

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Responses	*Number of Responses*		*Respondents*	
There is insufficient funding and resources for them to be effectively supportive	18	8	C	d, m, p, v, z, bb, cc, dd
		10	V	f, g, h, k, l, n, o, t, w, ff
Bureacracy has limited DFO's capacity to be supportive of volunteers	13	4	C	d, e, bb, dd
		9	V	c, h, n, o, q, r, w, y, ee
There are a number of DFO programs that support volunteers, but they tend to be sunset programs.	6	2	C	u, cc
		4	V	k, o, w, q

Both groups stated quite similarly, twenty-two in total (10 CAs, and 12 VCs), that DFO was very successful in advocating volunteering. Specifically, the CAs, other ground staff, and programs such as SEP were listed as some of the key successful examples of volunteer support. Moreover, the respondents stated that the CAs performed a particularly important role in supporting the volunteers and providing guidance.

A large proportion of the respondents (19), however, felt that the agency was not very effective. In this case, the answers between the two groups of respondents also differed more, with only seven CAs stating "not very", and only twelve VCs. They attributed the agency's ineffectiveness to the lack of sufficient funding and resources available to support and promote volunteering and the projects. But "bureaucracy", as manifested in regulations and limits on the capacity of DFO to support the volunteers, was also listed as a strong hindrance to the effectiveness of agency support. Bureaucracy and insufficient funding also limit the length of time a project can be sustained. Indeed, many projects or strategies tend to be "sunset" projects, in that they are set up to last only a certain amount of time. There were particularly negative views toward the fact that, in a sunset project, a lot of the project's time and resources are exhausted

in the project establishment and management, and little goes to the actual implementation, let alone the later monitoring and maintenance, e.g.:

> (w)The Environmental Farm program (EFP) is another program. It is a sunset program. Great, but sunset program. They talk this word sustainability, but they don't have any sustainable programs, the EFP has just got its feet wet, and will be over in two years

> (k) …..just when things get off the ground, there was the Habitat Enhancement program, they had a great coordinator who was able to bring the FN and non-FN together to work and do some restoration work along the river, but it was only a three year program. In three years you are just starting to build trust, and no time put into actually doing stuff and then the program is pulled. …..said they were there for the long haul, gave lots of money, and even after some very direct questioning, they said "no, we are here, don't worry about it". But then after 3 years, "we are cutting your funding, we have to do all these other plans, so here is a little money, and then at the end of the 5 years, no more money." And the group was like "what is the point?"

6.5 Summary

In summary, the respondents identified location as playing a large part in influencing volunteer motivations towards engagement. Approximately 44% of

> (b) People in rural areas may be less likely to volunteer, but having said that, it is not exactly true, as there is less people there. SO percentage wise, it is probably pretty close, and in fact rural areas may have a higher amount of volunteers. Depends on what using for parameters, if took the number of volunteers and divided by number of people, would probably come out with a much smaller number then the other way around.

Also, while there was more inclination to want to effect some change in the resource where volunteers lived closer to the resource (generally the rural areas), there were also greater restrictions to volunteering in some areas, such as cost restrictions for getting to a volunteer location.

Stage of life had a significant influence on volunteer participation. Overall those individuals with the most time to spare - the retirees and individuals later in life and career - could afford to give the greatest amount of their time, whereas younger volunteers were fewer and tended to volunteer for shorter periods of time. Younger volunteers may be more focused on school, establishing their lives, and/or raising a family; hence they have significantly less time available to participate. Where the volunteers are consumed with raising families, they may

insufficient staffing, etc.), can further exacerbate issues of insufficient resources

bex

7 DECISION-MAKING ENGAGEMENT AND VOLUNTEER MOTIVATIONS

Rehabilitation outcomes are likely to be more effective when local users of a watershed participate in its planning and management (Pinkerton 1991, 2003). Hence, I dedicated a number of questions specifically to exploring the role of volunteer participation in decision-making and resource management. In formulating questions specific to participation in decision-making, I drew from both the literature on collaborative planning, and community-based management. The questions I designed address volunteer motivations in relation to volunteer engagement in decision-making. I also asked the respondents to provide examples in which volunteers were given the capacity to participate in decision-making, such as in councils or boards.

7.1 Volunteer Decision-Making Authority

I began by asking the respondents if they felt the volunteers were more likely to want to volunteer when given opportunities to influence decision-making.

Table 7.1 Volunteer Decision-Making Authority

Responses	*Number of Responses*	*Respondents*		
Are individuals more inclined to volunteer when provided capacity to influence public decision making?				
Yes	26	13	C	a, b, d, e, i, m, s, u, v, z, aa, bb, dd
		13	V	c, g, j, n, o, q, r, t, w, x, y, ee, ff
		13	P	gg, hh, kk, ll, mm, nn, oo, rr, ss, tt, vv, ww, xx
No	9	3	C	b, p, cc
		6	V	h, j, k, l, o, ee

Responses	*Number of Responses*		*Respondents*	
		8	P	hh, ii, jj, mm, pp, qq, rr, uu
What level of exposure are volunteers provided to directly or indirectly influence watershed management decisions?				
Lots	7	5	C	a, b, v, z, aa
		2	V	g, x
Some	22	10	C	d, e, i, m, p, s, u, bb, cc, dd
		12	V	c, j, l, n, o, q, r, t, w, y, ee, ff
none	2	0	C	
		2	V	h, k

The respondents also believed that both the groups and volunteers were only likely to participate in decision-making processes when they could see something come out of it, or they were able to witness an effect from their participation. Furthermore a number of respondents also stated that while the volunteers might be provided ample opportunities to participate, in reality their participation was unlikely to actually result in any change.

A number of respondents also expressed that volunteers participating in watershed rehabilitation-type projects are more inclined to want to participate in hands-on activities. Indeed, that volunteers are more interested in the hands-on experience was an idea that arose in response to a number of questions. For instance, some of the respondents stated that the volunteers were less interested in advocacy and/or monitoring, because they wanted the hands-on experience, the opportunity to get dirty and play with fish, as the following statements attest:

> (d) Most people like to get out and do something, get out and get dirty, get out and do something. Our society is about instant gratification
>
> (j) they want to play with fish, or plant trees, do some beneficial and constructive for the planet, make a difference. Not interested in lobbying or politics
>
> (p) All volunteer groups divide themselves as either those with [illegible] versus those with [illegible] biases.

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organizations and a few examples of decisions in which volunteers have been able to influence some change.

Table 7.2 Decision-making Opportunities

Responses	*Number of Responses*			*Respondents*
What are some decision-making bodies where volunteer have an opportunity to influence resource related management and planning?				
Councils/committees/advisory boards (e.g. SEHAB)	19	11	C	a, b, i, p, s, u, z, aa, bb, cc, dd
		8	V	g, j, o, r, x, y, ee, ff
		1	P	ww

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opinions regarding the effectiveness of volunteer participation in advisory boards, as is demonstrated in the following statements:

> (c) Most of those are closed, or by invite only. That is an inside political thing, and [they] have to really be careful. They stack their tables, the government and political leadership stack the tables to favour their direction. And so they don't want controversy. Roundtables are normally stacked. The level of trust is almost zero for government.

> (q) DFO certainly will come to the group if there are fisheries management decisions for the Quadra Island and area. They rely quite extensively on their recommendations, if it is hard science-based, they will go with whatever the scientists are telling them. But if it is socially-based issues, they will correspondingly listen and take guidance that much more.

Conversely, the respondents expressed that SEHAB seemed to be the most effective organization in which volunteers could actually effect change.

The most common decision or mechanism through which the volunteers help agencies with decision-making was through the provision of local knowledge (22 responses). The respondents stated that agencies do seek information and data from the volunteers fairly regularly. Helping agencies through providing local knowledge or data can include collecting stock information, monitoring data, or even habitat violations. Whereas, only a couple of people mentioned that making independent decisions and changing government policy is a major factor or influence for what made volunteering special and why volunteers wanted to participate (refer to chapter 5).

The respondents also felt that the volunteers participated in decision-making exercises as a way of trying to slow down or arrest development that could damage salmon habitat. A number of responses referred to cases in which

actual data that was being provided was not being used or having much influence on resource-based management decisions. Interestingly, the CAs, who are employed by DFO and are in the most likely position to be requesting volunteer data and feedback, were the majority in responding that volunteers had little influence on decision-making (9 CAs versus 6 VCs).

7.4 Summary

Participation in decision-making that does actually result in tangible effects can encourage greater volunteer moti

Volunteer demoralization has further implications, in that it can lead to a break-down in the sense of community within the group and also discourage actual participation in the physical activities. Hence in a number of volunteer groups, the leaders of the groups or the groups themselves may make a conscious decision to avoid decision-making activities.

8 FACTORS OF SUCCESSFUL VOLUNTEER PROJECTS

Success in a volunteer project can be interpreted in number of ways. This next chapter explores what respondents identified as a successful volunteer project. I asked about the respondents' definition of success, and what they considered good examples of successful projects. I interpreted the responses as a list of "factors" which either characterize or facilitate successful volunteer projects, and I explore each of the factors in more depth within the next chapter.

8.1 Project Success

Prior to my asking the respondents about project success, my hypothesis was that success could be measured by the number of volunteers that came out for projects. However, according to the respondents this is not generally the case as can be seen from the factors listed below as alternative elements of an explanation for volunteering motivations.

Table 8.1 Factors of Successful Watershed Rehabilitation Projects

Responses	*Number of Responses*			*Respondents*
Do you get enough volunteers for the work that needs to be done in the area?				
Yes	11	2	C	b, aa
		9	V	c, f, h, j, k, l, o, q, ee
No	12	10	C	a, d, e, i, m, p, s, v, bb, dd
		2	V	g, r
What is the definition of a successful environmental volunteer project (factors of success)?				
Project success/completion - seeing salmon return (Commitment)	24	12	C	a, b, d, m, p, s, u, z, aa, bb, cc, dd
		12	V	c, f, h, j, k, l, n, q, r, x, y, ff
		2	P	ww, tt

Responses	*Number of Responses*		*Respondents*	
Recognition for tasks and projects - respect from community, government (Receiving recognition)	21	10	C	e, i, p, s, u, z, aa, bb, cc, dd
		11	V	g, h, k, n, o, q, r, t, w, x, ff
		1	P	kk
High volunteer motivation, high number of volunteers (Empowerment)	18	9	C	b, d, e, s, v, z, aa, bb, dd
		9	V	g, j, l, o, q, r, t, ee, ff
		10	P	gg, hh, ii, ll, mm, nn, qq, rr, vv, ww
Education/outreach (Advocacy)	17	12	C	a, b, e, d, p, u, v, z, aa, bb, cc, dd
		5	V	g, h, n, o, w
Availability of funding (Resources)	15	8	C	d, e, i, u, v, z, cc, dd
		7	**V**	c, n, o, q, y, ff

A number of respondents (9) also stated that a project's longevity, or how long a project has existed, is a mark of success (See table 8.1). The respondents reported that successful projects had more longevity in that the volunteers remained committed and accountable for their actions for a longer period of time.

> (m) When I can walk away from a project, and I will be dead and buried, and can know that it will be fine. That usually takes about 2 or 3 years. …..they will be functioning long after he is gone.

Monitoring

Monitoring is good proxy for commitment to a project, as it requires the volunteers to remain consistent in their engagement in order to ensure that a project remains sustainable and effective. A successful project does not just finish when the actual physical work is completed. Ensuring the sustainability of the project may require varying levels and frequency of monitoring, depending on the type of project. To explore the degree of monitoring that occurs for volunteer rehabilitation projects, I asked the respondents about the effectiveness of monitoring following a project's completion.

effect change, can strongly influence participation and motivation. Indeed, when the respondents were asked to identify the most important factors motivating volunteers to participate, the factors “to accomplish something”, and “doing something useful” were both favoured strongly (section 5.2, chapter 5). The volunteers need to feel they are participating in something worthwhile, and actually getting something done in order to continue to be motivated to participate in a project.

8.5 Outreach and Advocacy

Advocacy is to lobby or argue in support of some issue, and often volunteers don’t really want to participate in lobbying-type activities. Whereas, providing education and outreach was also understood by the respondents as a form of advocacy, and when interpreted in this manner, advocacy was listed as a reason many volunteers chose to participate (17 responses – refer to table 8.1). Indeed, looking through the DFO Volunteer Watershed Directory, a large proportion of the volunteer groups are dedicated to education, and most groups, if not specifically dedicated to education, are involved in some aspect of education.

Table 8.5 Volunteer Social Advocacy

Responses	*Number of Responses*	*Respondents*		
Have you found that volunteer groups tend to become advocates?				
Yes	21	10	C	a, b, d, e, s, u, v, aa, bb, dd
		11	V	c, f, g, j, o, q, t, w, x, ee, ff
No	14	4	C	i, m, p, cc
		10	V	c, h, k, l, n, q, r, t, y, ee

A large number of respondents (21) did express the opinion that volunteer groups become advocates. But the overall opinion of the respondents was that the volunteer groups generally avoid formal advocacy, particularly given that it is very time-consuming. Furthermore, a few respondents mentioned that advocacy could be detrimental to a group, given that it can sometimes lead to polarization within the group.

> (o) Screamy, whiny groups are less likely to be listened too as well, versus those that try and work with senior agencies. And it has a lot to do with one individual in the group. There is chance that one person that can poison the group, but they usually end up leaving, or are gently made to feel less welcome

On the other hand the respondents mentioned that advocacy occurred in other more informal forms. For instance, through their participation in rehabilitation activities the volunteers gained a greater environmental ethic and would then be more likely to undertake informal advocacy with friends, family, and neighbors. The volunteers might not consciously join a group to engage in advocacy type activities, but their participation in the rehabilitation can often lead to individual action. Indeed, advocacy often occurs through the act of education, in that being exposed or witnessing others in advocacy roles can often influence a volunteer's level of advocacy engagement.

> (g) Can't stop Joe homeowner from dumping crap in the storm drain, but if his kids confront him and tell them they painted the yellow fish on the storm drains for a reason, it will have a bigger impact, and more of an exponential impact.

> (dd) …that engagement in technical activities, leads directly into advocacy, as there is the sense of ownership

Additionally, as advocacy generally comes about through individual or common group decisions and motivations, what often happens is that groups may make a conscious decision not to be advocates.

8.6 Resources

My preliminary research confirmed that funding and resources are essential to facilitating more successful volunteer projects. The importance of funding was further demonstrated by how often the respondents highlighted the importance of resources in other unrelated questions (e.g. chapter 6).

The lack of funding/resources is listed as a strong deterrent to achieving successful volunteer projects. Volunteer projects are highly dependent on the availability of funding sources and success can often be based on having sufficient and sustainable sources of funding. Unfortunately, many of the respondents also stated that while funding was a key element to success, there generally was insufficient funding or resources to support sufficient volunteers for the work that needed to be done. Furthermore, the lack of funding meant that in many instances, there was not the capacity to undertake projects despite an abundance of volunteers available to undertake the projects. A lack of funding also limited volunteer groups and coordinators in undertaking outreach activities to garner more volunteer or public support for a project.

When asked whether the respondents felt they were getting sufficient volunteers to engage in the activities that were available, a lack of resources was given as a significant limiting factor in not being able to use the volunteer pool.

elaborate on how much communication existed among the volunteers, and how it was achieved. Their responses are listed in the following table.

Table 8.6.1 Volunteer Communication

Responses	*Number of Responses*	*Respondents*		
Do people have a way of communicating with one another?				
Yes	20	10	C	a, b, d, s, u, v, z, aa, bb, cc
		10	V	h, k, n, o, q, r, w, x, y, ff
Somewhat	7	2	C	m, dd
		5	V	c, g, j, l, t
No	4	3	C	e, i, p
		1	V	ee

Most of the respondents reported that there is some mechanism for the volunteers to communicate with one another (20). A number of respondents felt that there was some communication (7), and only a few said there was none (4). The most common form of communication was email whereas informal meetings garnered far fewer responses. Only a few CAs and VCs mentioned newsletters, phone, conferences, and formal meetings. Of the less prevalent forms of communication, CAs stated that newsletters and conferences were more common, whereas VCs felt that phone and formal meetings were more prevalent.

Next I explore what respondents felt was the level of awareness by the volunteers of other projects and activities. Such larger scale awareness might include knowing about regional resource management or landscape level resource plans.

Table 8.6.2 Volunteer Awareness of Larger-scale Activities

Responses	*Number of Responses*	*Respondents*		
How much awareness do the volunteers have of larger scope activities affecting their watersheds?				
Lots	10	4	C	e, s, u, v
		6	V	j, o, q, t, w, y
Somewhat	11	6	C	a, b, i, z, aa, dd
		5	V	c, g, l, r, ff
Little to none	10	5	C	d, m, p, bb, cc
		5	V	h, k, n, x, ee

There tends to be a lot of communication among the volunteers, and to a lesser extent among the volunteers in different groups attending conferences.

An important component of building functioning social networks is cooperation among members and the different parties involved (such as agency officials). When I asked the respondents about communication among members within a group, some of the respondents answered that the groups would do bet2md if there were more coordirtion among the group members. Other respondents also mentioned examples of certain groups cooperating and thus being able to achieve more effective rehabilitation.

leadership was an important factor in facilitating successful volunteer projects (See table 8.1). Respondents spoke of how an individual in a leadership role needs to be able to provide support and motivate the volunteers, while also helping to coordinate and facilitate volunteer projects. According to Morten (2005 pers. comm.) a strong leader is one who understands the volunteers in the group, and can 'prod' and 'delegate' without 'dictating' how the group should act. The leader needs to also be able to care for and understand his/her group, to share their passions and vision, and essentially recognize in what direction to lead the group.

> (bb) very important, one volunteer group has a great leader, and the other just lost theirs, and is now floundering…..And that is true in any group.

Volunteer coordinators, and to a lesser extent the community advisors perform an essential leadership role for the groups. These individuals are generally more energetic individuals, and are more likely to take on activities such as lobbying of governments, and attending public meetings.

The advisors and coordinators also act as liaisons between volunteer groups and other organizations, such as government ministries, etc. In their role as liaisons, they may also act as translators, such that they inhabit two worlds: one world is on the ground, in the streams; the other world is in offices, on the phone, at agency meetings. Through the role of liaison, the advisors and coordinators may translate requests of the volunteers to the ministries, and conversely, communicate new legislation or other government information to the volunteers. In this role they may sometimes act as lobbyists.

Decision-making Style of the Volunteer Groups

To further explore how leadership influences volunteer groups, I asked whether their group was hierarchical or more democratic in decision-making.

Table 8.8.2 Decision-making Style of the Volunteer Group

Responses	*Number of Responses*	*Respondents*		
Are volunteer groups governed by more democratic, or hierarchical decision processes?				
Hierarchical	2	2	C	m, p
		0	V	
Hierarchical because of the leader	9	6	C	e, p, s, u, v, bb
		3	V	q, r, ff
Democratic	12	1	C	aa
		11	V	c, f, g, h, j, k, o, t, w, x, ee
		3	C	d, i, v

felt a smaller group was likely to be more democratic. One respondent stated the following about democracy in a volunteer project:

> (p) Democracy can ruin a project, democracy can polarize the group. For example there was a group that sprang a questionaire which posed the question whether they would allow smoking, half the group were smokers, and often the hardest workers were smokers, and three hours later half the group were like “we won we won”, and the other half ripped up their memberships and walked away. Democracy does not always work.

8.9 Summary

Without some sense of commitment and responsibility for a project or the activities related to a project, it is unlikely that the project will last very long or continue to garner volunteer support. A successful project essentially requires continual volunteer commitment for the duration of the project in order to ensure completion. And a continued commitment requires a marked success in the project. The most common response was that achieving success in a project occurs when the volunteers participate in rehabilitation activities that achieve some specific outcome, essentially, a physical change in the resource.

High volunteer empowerment may also be a strong determinant of the success of volunteer rehabilitation projects, and empowerment is based on how much the volunteers perceive that their participation leads to some positive change for watershed resources. Indeed witnessing the successful completion of a project can provide inspiration and fuel energy to participate in additional activities and projects. For instance, volunteers are more likely to feel empowered when they witness that their contributions to some resource management decision have actually had some influence (refer to chapter 7).

Hence, the ability to perceive evidence of positive resource outcomes appears to be the primary factor in successful projects, and the existence of this condition in turn enhances a secondary factor: commitment

Recognition and trust in the volunteers can also strongly influence volunteer empowerment and motivation. Many volunteers depend on the recognition from agencies and the public for the work they are undertaking in order to gain inspiration. But recognition is not just a feeling that comes from the powers above. It is also felt through the interactions with other volunteers and through seeing the successful fruition of their labours. Hence having a strong sense of community within the group is another major factor which influences volunteer motivation. Furthermore, participating in projects that accomplish something, or having some significant result can also play into a volunteer's sense of satisfaction from participating in a project.

The level of communication and awareness of the volunteers also plays a significant role in volunteer motivation. Volunteers that communicate more among themselves and with other groups are more likely to feel a greater sense of community with the rehabilitation and enhancement "community". The communication also helps to foster greater awareness of larger scale implications on watershed resources, further inspiring more commitment to a project and the activities. Unfortunately, too much participation and awareness can have the opposite effect in some cases, by overwhelming the volunteers. Hence the volunteer coordinators and community advisors have an important

role to play in keeping their finger on the pulse of the group and particularly recognizing and mitigating signs of burn-out in volunteers.

Coupled with cooperation and social networking is the need for outreach and education of people about the need for rehabilitation-type activities. Indeed, when asked whether the respondents felt that they had a sufficient number of volunteers to be effective, the need for more education and outreach to attract and retain volunteers was a topic that came up frequently.

Rehabilitation projects involve more than just the hands-on activities; often there may be an even stronger educational component. Most successful volunteer groups are engaged in education and outreach activities as such activities garner community support by attracting more volunteers and/or resources necessary for sustaining the groups. Indeed, given the plethora of volunteer activities available, it is almost imperative that groups engage in outreach, lest they lose their members totsful

The respondents generally felt, but to a lesser extent than all of the other reasons, that an effective leader was an important component of successful volunteer groups. A strong leader or coordinator is important for empowering the volunteers, but acts more as a facilitator in the decision-making for the group. Indeed, an effective coordinator can be essential for ensuring the organization within a group, especially in the case of larger groups. Conversely, while the majority of respondents felt that most groups tended to be governed in a more democratic fashion, the respondents also expressed that the type of leadership influenced whether a group was more hierarchically governed.

PART 3 CONCLUSIONS

9 CONCLUSIONS

In this chapter I reflect upon the results of my surveys, and particularly

chose also provided a depth of responses from which I was able to ascertain more detailed conclusions. However, I might eliminate a number of questions which were not used in the analysis, and add several additional questions in order to more clearly explore a specific point. For instance, in order to better explore the role of volunteers in decision-making, I would add the question: “Does participation in decision-making influence volunteer motivation?” If I did repeat my research, I would spend time in the field with the respondents. Interacting one-on-one with the respondents would provide a more intimate perspective on both the respondents’ responsibilities, but also their level of interaction with the volunteers.

9.2 Implications

Successful fish-habitat rehabilitation projects occur when there is some perceived improvement in a resource outcome. This in turn reinforces positive personal and group outcomes such as individual self-efficacy and/or group cohesiveness, and acts as a positive feedback loop in increasing the effectiveness of resource outcomes.

This study found that positive social dynamics within a group is a particularly important element of successful volunteer groups. Not only is the desire for camaraderie a strong influence on volunteer motivations, but volunteer groups also serve as a venue for bringing together a diversity of people working collectively to address environmental deterioration. The reciprocal encouragement and recognition among volunteers creates an atmosphere that increases the energy and likelihood of accomplishing significant resource

rehabilitation. Finally, a group has a much louder voice than an individual in lobbying the public and external agencies for better watershed protection. Agencies thus play an important role: ideally creating a favourable atmosphere in diverse situations where groups or group leaders are better able to create a sense of community and encourage camaraderie within the group.

A volunteer's residential location can affect volunteer participation, particularly in cities which have more competing activities and interests to attract volunteers away from a particular project. In such cases volunteer groups would do well to invest more resources in advocacy and advertising in order to gain greater volunteer support. On the other hand, in smaller communities which often have more neighbourly communication, a volunteer group might do better to allocate resources to offset the increased travel costs or provide better support for volunteers to access the activities.

While my research focussed on watershed and fish-habitat rehabilitation, and predominantly in coastal parts of B.C., I see the results as being applicable to almost any rehabilitation project. My research backs up existing literature which states that one of the biggest reasons for volunteering in rehabilitation activities is to put something back into the environment. Regardless of where someone resides, if volunteers are participating to effect change in the resource, they will participate. What will change is the type of resource that is being rehabilitated. But regardless of the resource, where there is a greater sense of urgency to help protect some resource, one will more likely see volunteer activity.

My research focussed on volunteer groups which were predominantly organized or initiated under the auspices of some government strategy. Also, the volunteers referred to in this research generally maintain a degree of continued interaction with a government employee such as the Community Advisors or local fisheries biologists. Hence the research provides a window through which one can glimpse the relationship that exists between government agencies and the volunteer groups. Both of these groups together can use this research to more effectively and selectively nurture the conditions facilitating volunteerism when attempting in future to rehabilitate watersheds.

One of the biggest fact

knowledge and experience. Volunteers can contribute to a more positive relationship as well. For instance, volunteer data - stock assessments, monitoring data, etc. - and expertise is more likely to be used when there is consistency and reliability, which leads to a build up of social capital between the volunteers and the government agencies. Hence the volunteers have a responsibility to ensure that their activities are consistent and particularly involve rigorous methods agreed upon with government agencies.

A final key finding was that an increase in external support to volunteers would likely contribute to more effective and sustainable watershed rehabilitation. For instance, where there may be a break down in a group's sense of community, the Community Advisors may be able to step in and encourage and facilitate communication among the volunteers. Conversely when a group is faltering due to insufficient resources, government agencies can provide funding and resources, or suggest alternate avenues for procuring resources. Additionally, government agencies can help groups attract more volunteers, by assisting in advocacy and advertising.

9.3 Future Research

the local participants to take increasing control over rehabilitation and monitoring of watershed resources (through the streamkeeper modules). Also, while my research may not specifically answer the question of DFO's role in promoting stewardship, one of the main purposes of the Oceans, Habitat and Enhancement Branch of DFO is encouraging fish-habitat and fish stewardship. Accordingly, the respondents stated that the SEPs and CAs, which are key components of OHEB, have been successful in encouraging successful rehabilitation by volunteers.

9.4 Final Remarks

> *Ironically as we work to save the salmon it may turn out that the salmon save us* (Paul Schell, Mayor of Seattle)

As land is developed and subsequently watershed health is compromised, watershed rehabilitation becomes increasingly important. My findings highlight the importance of factors which encourage or discourage sustainable and effective volunteer-based watershed rehabilitation, stewardship, and conservation. My research suggests that the majority of the volunteers (74%) participate in watershed rehabilitation because they want to give something back to the environment and feel like they are working towards something that is going to make a difference on a larger scale. Given the importance of wanting to protect the environment, I originally hypothesized that volunteers would be interested in influencing resource management decisions. This turned out to be only partially true. Some volunteers do specifically participate for these reasons (particularly volunteers participating in boards and roundtables), but overall the respondents stated that the volunteers will be inclined to participate in decision-

making when their participation “makes a difference”. There are at least two ways this can happen. Government rehabilitation strategies can more effectively empower volunteers and promote community involvement when they demonstrate they have incorporated volunteer inputs in resource management decisions. But probably even more important for all volunteers, government agencies can design rehabilitation strategies that are planned to be more long-term, so volunteer groups are not left

APPENDIX A: RESPONDENT SURVEY QUESTIONS

Preliminary Questions

1. What does your position involve,–duties-? What reporting do you do and to whom do you report? What information are you required to collect?

2. Is the position paid?

3. How do you spend your time? What percentage of time spent doing what?

17. Does people's choice of where they live effect the level of volunteering

18. What is the sense of community, are they community oriented?

19. What do you think is a "sense of community"? What is it, what is more/less of it? When and where experience this? What enhances it, and what are essential or minimum aspects?

20. What other factors might matter in distinguishing communities, what other major differences exist in the communities?

21. Are certain groups more democratic, or hierarchical (decision making)?

22. What do you think made the volunteer experience particularly special?

23. How successful has DFO been in constructing a supportive constituency for habitat protection and rehabilitation?

24. How effective have they been at constituting volunteerism?

Main Questions

25. What do you think the underlying reasons for volunteering are? Other reasons?

26. Do you feel the following factors are important for creating volunteer motivation? Can you rate the factor's relative importance?

Factor A: It is important for volunteers to find a sense of community (solidarity) with other volunteers?

Factor B: Volunteers participate because they hope to improve the condition of the watershed/salmon stock (effect change in resource conditions)

Factor C: Career experience, networking and opportunities are key reasons for volunteering?

What proportion of people/groups fall into each category? Do you think some people volunteer for more than one reason? (%)

Sub-questions

27. Do you think some communities are more applicable to a specific factor(s)?

42. Do you think an effective leader and/or coordinator is a main reason volunteers remain with a particular

APPENDIX B: VOLUNTEER SURVEY-FORM QUESTIONS

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