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**Grassroots 2.0.
Social change through the social Web**

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Grassroots 2.0

Social change through the social Web

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Abstract

The Internet presents a wide variety of capacity-building opportunities for the nonprofit sector, especially grassroots-based organizations with geographically dispersed members. These opportunities have become more accessible and practical for laypeople with emergence of Web 2.0 and the prevalence of social network sites like Facebook and MySpace in contemporary life, theoretically making it easier even for under-resourced organizations to leverage the Internet to increase outreach, fundraising and recruitment capacity. This report details the participatory action research basis and findings of the accompanying practical component of the thesis project which entailed the development of a new Web 2.0-enabled website for Sierra Club Canada, the country's foremost grassroots environmental nonprofit organization. With no other organizations in the sector taking full strategic advantage of the Internet to improve campaign capacity, this new website will establish Sierra Club Canada as a premiere online presence and a resource for a growing number of grassroots activists and supporters of environmental causes.

Acknowledgements and Dedication

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This thesis is dedicated in memoriam to the author's grandparents, Kurt and Margaret Hirsh, without whose generosity, foresight and encouragement he may never have pursued higher learning in the first place.

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1. Introduction

Nonprofit organizations are not using the Internet to anywhere near its full potential. There has never before existed such a ripe opportunity for clubs, associations and groups to dramatically and affordably increase their organizational capacity in terms of fundraising, internal and external communications, exerting political influence, engaging new supporters and increasing organizational profile. Still, the vast majority of nonprofits languish in terms of leveraging their online presence. With the emergence of Web 2.0, however, they now have the opportunity to achieve a superior level of direct and two-way communication with their stakeholders, a much sought-after ability especially among grassroots organizations.

Most nonprofit websites are static, classically “Web 1.0” in design (i.e. a collection of manually updated linked web pages, in which the user’s only influence on his/her own experience is by choosing which links to follow or filling in a form), and function mainly as a sort of electronic brochure. Many organizations are also using their websites as rudimentary fundraising tools, hoping to catch passersby with a “Donate Now!” button and entice them to make a monthly credit card payment.

Web 2.0 hallmarks such as wikis, blogs, and shareable links can all be incorporated into modern websites without excessive technical wizardry, and the organizations that do this well create relationships with their visitors that encourage them to get involved and give more of their money or time (Godin, 2006). Web 2.0 (defined in detail in the next chapter) offers unprecedented opportunities for the sort of democratic participation desired by grassroots

organizations, providing functions such as rating, voting, reviewing, tagging, etc. that can allow even a small nonprofit to create a more meaningful and productive relationship with its constituents (Chandler, 2007).

There is a particular need for increased organizational capacity in the environmental non-government organization sector. Environmental issues require by their very nature massive participation from everyone possible in order to mitigate the effect humans are having on the environment. While issues such as climate change affect the entire planet, the environmental movement is simultaneously global and local in reach and focus, requiring both political and citizen action. With an increasingly globally aware populace, and with ever more direct and often violent evidence of climate change (in the form of more frequent and intense natural disasters), the Internet presents significant opportunities for mobilization and organization across expanses of geography that would otherwise make it impossible for activists to collaborate (Van Aelst & Walgrave, 2002). Web 2.0, with its increased emphasis on two-way communication, empowerment of users as participants, and the connection of disparate individuals through social networks, presents an ideal opportunity to link and engage ever growing numbers of people to take environmental action.

This paper is one half of the outcomes of the Grassroots 2.0 thesis project, detailing the research basis and findings of the practical component of the thesis. This second component is embodied in the form of a new website built to demonstrate how Web 2.0 can enhance grassroots organizational capacity for Sierra Club Canada (SCC), the nonprofit organization that participated in the research. The specific capacity-building objectives included publicity, public

education, fundraising, volunteer recruitment, service delivery, advocacy, research, and communication. The development of this improved online platform for the organization has enabled a greater understanding of the potential benefits of Web 2.0 for grassroots organizations.

SCC was chosen as the beneficiary of this project, being one of the country's leading environmental organizations and one of the most extensive and effective grassroots networks in Canada. Another factor in selecting SCC was the fact that the author of this paper is a member of SCC's elected board of directors and thus has the degree of access and influence necessary within the organization to make an effort such as this possible.

Operating nationwide since 1989, SCC has its national office in Ottawa and regional chapters, groups and a youth coalition spread across the country. With campaigns ranging from climate change and energy issues to biodiversity and human health, SCC is home to an extremely committed network of both grassroots volunteers and staff campaigners. SCC has established itself among politicians and the media as a credible national voice for the environment by maintaining a non-partisan, science-based approach to political and social activism. This influence can be seen in the fact that in 2005, SCC registered more media hits than any other Canadian environmental organization, and the organization is often consulted by many levels of government. SCC is also the only environmental organization in Canada that deals with a full spectrum of environmental issues (rather than focusing exclusively on one aspect, such as climate change or wildlife protection), and the only such organization that

responds to emerging local environmental issues and supports grassroots campaigns such as the Sydney Tar Ponds or the Digby Neck Quarry.

SCC has a strong history of effectiveness in using traditional methods of campaigning to prevent and minimize serious environmental damage across the country, through such tactics as letter-writing, petitions, demonstrations and political lobbying, as well as educating individuals and influencing changes in lifestyle. As a member-based organization with an elected board of directors, SCC is very sensitive and responsive to the needs of its grassroots.

SCC has, however, noticed a decline in its influence in recent years as larger and better funded organizations such as World Wildlife Fund and the David Suzuki Foundation have increased their own public and political profile in Canada. Unable to compete on the same level as these more finely-tuned and centrally structured nonprofits, SCC has begun to explore alternative means of communicating its message and recruiting new members, volunteers and funders to support its campaigns.

In 2005 SCC identified the Internet as a cost-effective means of building organizational capacity by raising money online and reaching more people with its campaigns. Unfortunately, the organization's website has never been much more than a typical Web 1.0 site as described above, ill suited as a platform to engage new and existing members. There is also a general lack of experience or interest in using online tools, as staff and long-time volunteers are already very well versed and effective with traditional methods of campaigning such as demonstrations, media relations and lobbying politicians and decision-makers.

Otherwise lacking the resources or expertise to re-engineer the organization's online presence on its own, this research provided SCC with the opportunity to have a new, Web 2.0-enabled website custom-built based on the organization's needs and goals. In many respects, SCC's decentralized and democratic structure makes it an ideal candidate for applying Web 2.0 to enhance its organizational capacity. Grassroots activism dovetails naturally with the Web 2.0 phenomenon, especially in the way both value a "people-powered" and collaborative approach. In effect, Web 2.0 can allow an organization to use its website to better respond to its supporters and constituents needs and expectations. It can engage them in a conversation not only about what content should be on the website but also how the organization itself operates and governs itself. It also provides a number of tools that can be creatively applied to benefit outreach and fundraising efforts, vastly increasing the potential reach of Web-enabled campaigns over more traditional person-to-person methods of activism.

Given the nature of the subject matter, an action research approach was chosen to study how grassroots nonprofits can use the Internet to increase organizational capacity. This involved an iterative process of research, practical application of findings, evaluation of the results and acceptance or rejection of the changes made, then recommencing the cycle.

The central purpose of the research was identified as follows:

Research Question: In what ways can grassroots environmental nonprofits like Sierra Club Canada increase their organizational capacity through the use of Web 2.0?

This question was explored throughout the process of creating a new Web 2.0-enabled website for SCC, as well as by enhancing other elements of the organization's online presence through the use of social network sites like Facebook, YouTube and MySpace. The final product of this research was a launch-ready website for SCC to use as a central tool with which to educate, engage and recruit the public, as well as to coordinate and promote grassroots environmental campaigns across Canada.

Although focused explicitly on one organization, an additional goal of this research was to demonstrate the attainability of a Web 2.0 presence for almost any nonprofit with the vision and the energy to take it on. Neither the researchers nor SCC staff had any experience coding or developing a dynamic web site, let alone a site with extensive social media functionality. Nevertheless, free and open-source tools found online made it possible for the author to build an exceedingly complex site based only on his limited grasp of the programming languages used in its development. All that it took was time, curiosity and a willingness to experiment and learn.

2. Literature review

2.1 Web 2.0 and Social Network Sites

In his quintessential article *What is Web 2.0*, the concept's originator Tim O'Reilly (2005) outlines the key principles of the social web. These include the idea of the Web as a platform; the ability to harness collective intelligence; the importance of semantic data; continual roll-out of improvements to software as they become available (as opposed to scheduled upgrades); cross-platform and standards-compliant programming models; software that can be used via multiple hardware devices; and the provision of rich user experiences. Many aspects of what has come to be known as Web 2.0 have been in existence since long before the term existed, but the evolved use and integration of these tools and systems have brought about a fuller realization of the Web's potential. In other words, the combined effect is greater than the sum of its parts.

Citing websites such as Flickr, Amazon, Digg and Wikipedia as early examples of this phenomenon, O'Reilly (2005) points to the fact that each site relies on users to make recommendations, provide comments, assign metadata tags (in lieu of rigid taxonomy) or in other ways participate in enriching the site's content. By their very nature, social media sites get richer and better the more people use them, because there is more content and interactivity for users to enjoy.

O'Reilly (2005) also points to Really Simple Syndication (RSS) as an unsophisticated yet important enabler of Web 2.0 in that it allows internet content to be viewed in a context other than a browser, such as on a mobile device or a stand-alone desktop application. RSS also

allows all manner of information to be "pushed" to users, rather than requiring them to regularly visit a site in order to receive the information. This ties in to the fact that users have an expectation that modern (i.e. Web 2.0) sites feature regularly updated content, with RSS providing a means of quickly notifying subscribers when new content becomes available without the user having to visit the site itself.

Social network sites (SNSs) are among the most prominent and popular manifestations of Web 2.0 in evidence today. SNSs can be defined as web-based services that allow users to create a public or semi-public personal profile, list other users of the same service with whom they have established a relationship, and explore their list of relationships and the lists of others in the same service network (boyd & Ellison, 2007). The visibility and substance of a user's profile may vary from site to site, and access to content can often be restricted based on customizable privacy settings. Users can also generally enrich their profiles by adding content such as photos, videos and web links, as well as allowing their network contacts to leave them messages. As in the case of Web 2.0 itself, most of the elements that comprise a modern SNS was in existence before the phenomenon itself (e.g. profiles were in use on dating sites; friend lists were evident in chat services like ICQ and AIM), but the SNS phenomenon represents an amalgamation and a maturation of these elements.

The first recognizable SNS was SixDegrees.com, launched in 1997 but closed three years later because the site's creators had failed to develop a successful business model for the venture (boyd & Ellison, 2007). Significant evolution of the concept and business models took place in the ensuing years with the launch of more niche-based SNSs, eventually leading to the

milestone of News Corp.'s purchase of MySpace for \$580 million in 2005. The acquisition of what had previously been a quasi-underground phenomenon by one of the world's most powerful corporations attracted significant media attention (particularly in North America) which effectively thrust the SNS concept into the mainstream limelight. Facebook, launched in 2004 as a SNS exclusively for Harvard University, opened its doors to high school students in September of 2005. In response to massive demand, Facebook soon thereafter opened its site to corporate networks and eventually members of the public at large.

While massive SNSs like MySpace and Facebook account for the majority of SNS use worldwide, some sites explicitly seek a narrower audience based around common interests, passions or identity (e.g. professional, cultural, sexual) (boyd & Ellison, 2007). There also tends to exist a significant difference in popularity among the various SNSs in different countries around the world - for instance, Google's Orkut receives virtually no attention in North America, but has overwhelmingly become Brazil's social network of choice. To narrow the field even further, services like Ning.com allow users to create their own SNS based on anything they choose, from a local neighbourhood association to a worldwide anti-poverty project.

2.2 Nonprofits and the Web

While most of the activity and innovation on the Internet is driven by for-profit entities, the opportunities presented by Web 2.0 are of even greater potential benefit to non-profit organizations that would otherwise remain limited to traditional methods of organizing, campaigning and fundraising (Fine, 2007). Nonprofits, for whom the ultimate strategic goal is the fulfillment of some social mission, have made tentative steps toward leveraging the many

available free online tools and services to meet their organizational goals, but few have made a concerted effort to realize the potential of these tools.

The nonprofit world is rife with a deep sense of poverty. Too little money; too little time; too few staff; too little recognition for the hard work they do. One area in which many NGOs do tend to consider themselves wealthy, however, is in the quality and dedication of their people. Be they members, volunteers or supporters in any capacity, most organizations count their personal and professional networks among their key resources. Slowly but surely, these organizations are starting to make use of social networking sites like Facebook, YouTube and MySpace to advance their cause, raise funds and build support. The fact that there has been little significant innovation from the non-profit sector in terms of capitalizing on the Web's potential as a low-cost means of interacting with constituents can perhaps be attributed to the day-to-day stress of running a non-profit organization. It is difficult for organizational leaders to have a vision for an engaging online presence when their own expertise is rooted in on-the-ground campaigning. As a result, there are few clear leaders in terms of NGOs making use of the social web.

This is especially unfortunate because so many of the most effective organizations are defined by their grassroots supporters and campaigners. This potentially disparate group of constituents forms the base from which most meaningful outreach is conducted, and in many progressive organizations the grassroots are carefully considered or consulted in decision making processes. It is all too often lamented that geographically dispersed members of the same organization have few or no opportunities to interact person to person, to build solidarity

and to share skills, success stories and encouragement. The larger the organization, the more apparent this becomes, especially when various local groups or individuals are running similar campaigns across the country or around the world.

Almost all nonprofits have websites, although the bulk consist of "brochureware," presenting only basic information about the organization and its mission in a manner that does not take advantage of the Web's power to engage (Hackler & Saxton, 2007). This is largely a result of a lack of resources, specifically financial and expertise, exemplified by the fact that almost a third of nonprofits' websites are designed and updated by volunteers (Yeon, Choi & Kiouisis, 2005).

In general, most nonprofits' websites are not designed to make best use of the Web's potential to attract more visitors and fulfill the organization's public relations goals (Kang & Norton, 2003). They tend to function mainly as public billboards for organizations' campaign information, press releases, publications and contact information. Most sites lack such basic features as RSS feeds for regularly updated content, but on the other hand few of these sites show evidence of frequent updates in the first place. This is especially the case with the sites created by organizations that identified themselves as "grassroots" in nature. In general, they provide basics like email, telephone and postal contact information, as well as opportunities to sign up for email newsletters and donate or join the organization through a secure online form, but little else of any engagement value to users. Some nonprofits have started to use media-sharing sites (e.g. YouTube and Flickr) and social bookmarking sites (e.g. Digg and del.iciolus) to

conveniently host or publicly share videos, photos and links related to their cause, although few demonstrate a coherent strategy in their use of these tools (Hackler and Saxton, 2007).

Nonprofits need to adopt proactive strategies that reach out to potential volunteers and donors more effectively, as well as providing ample opportunities for two-way communication with supporters and clients (Yeon, Choi & Kiouisis, 2005). They must also realize that despite the fact that they may not be competing in a for-profit market, their publics expect them to maintain the same standards of design and services as their for-profit counterparts. The downside of an increased overall awareness of information technology is the fact that it has significantly raised the bar in terms of expectations of lower-capacity organizations like nonprofits (Hackler & Saxton, 2007; Yeon, Choi & Kiouisis, 2005)

Much of this deficit in Internet engagement by nonprofits may be rooted in the fact that the leaders of many established NGOs came of age in the early days of the environmental and civil rights movements, when hierarchical decision-making and proprietary information systems were the order of the day (Fine, 2007). They may relate better to the organization's long-standing members, who tend to prefer communications by phone or by post, than they do with the organization's younger members who might spend most of their days online. It is then understandable that these key organizational figures may have more difficulty developing the vision necessary to see the Web's potential to motivate, engage and converse with their grassroots.

Nonetheless, it is crucial that organizational leaders such as executive directors, senior staff and boards of directors show support and enthusiasm for making better use of the Internet, as

this has been shown as a critical factor in ensuring the successful implementation of new technology programs (Hackler & Saxton, 2007). Technological visionaries or champions in senior leadership positions in an organization are also more likely to make links between the technology and the organization's mission itself, thereby increasing the strategic value of the effort.

The Internet provides the most cost-effective and engaging opportunity to reach out, attract and retain the supporters of an organization's communities of interest (Fine, 2007; Hackler & Saxton, 2007). It is therefore necessary for nonprofit leaders to recruit capable staff and/or volunteers with well-developed Web skills or hire consultants to start establishing the organization's presence in this increasingly important realm. Chances are good that many or even most of the organization's existing supporters are already online to varying degrees, and there are ample opportunities to attract and engage new members and donors. Providing supporters with new ways to participate in the organization can be an excellent means of attracting, engaging, linking and retaining an increased number of volunteers in a meaningful way.

The web is a particularly appealing area to explore for grassroots organizations seeking to engage people to take action because individuals tend to be more likely to participate in online activism than in physical-world activism (Brunsting & Postmes, 2002). Use of online tools like email, forums, chat rooms and SNSs can reinforce social unity and thus encourage participation in collective action. There is also a perception among activists and non-activists alike that the Internet is a viable platform for collective actions, especially in terms of persuading or

pressuring a target group or individual. Online actions also tend to be more inclusive of peripheral group members (i.e. more mainstream who may not identify themselves so readily as "activists") because of the lower threshold for participation and less perceived likelihood of alienation. In general, online actions are more appealing among people who do not traditionally take part in any actions, demonstrating that online activism is an effective way to engage a broader number of supporters for a grassroots campaign or movement.

2.3 Social Networks Explored

Among the first to develop social network theory, Granovetter described in 1973 the underlying principles affecting the success and fascination surrounding the explosion of social network websites thirty years later. In his study of the social networks of individuals, he distinguishes "strong" and "weak" ties between nodes (i.e. individuals as represented on a social graph) as analogous to "friends" and "acquaintances" (Granovetter, 1983). Though the relationships in a set of friends tend to be stronger ties, the weak ties among acquaintances can provide important avenues of dissemination between groups of tightly knit friends, such as in the case of the spread of a rumour through a school. Thus, individuals with few weak ties are exposed only to the information provided to them by their close friends while being deprived of news and views from further afield in the social system.

Conventional wisdom indicates that influence is the province of individuals with significant expertise, a high number of contacts in their social network and exceptional persuasive abilities. Nevertheless, it has been shown that so-called e-influentials (highly-connected online elites) are not necessarily more important in the process of generating online word-of-mouth

publicity than the weakly connected majority of individuals (Smith et al, 2007). Even weak ties in social graphs are beneficial, because these often represent inter-links between different networks that would otherwise remain un-connected. In the phenomenon of viral marketing of a product or issue, weak ties are crucial to reaching a massive and diverse audience.

This is particularly relevant in the contexts of both social networking sites and grassroots movement building. Membership in goal-oriented organizations tends to result from being recruited by friends and acquaintances, therefore weak ties between groups of friends allow for a message or idea to spread further afield than if these groups remained completely isolated (Granovetter, 1983). This means that social movements have the potential to grow in much the same way as SNSs, whose users tend to invite their personal networks of both strongly and weakly tied individuals.

2.4 Grassroots Environmental Organizations

Grassroots organizations are generally locally oriented, volunteer-run, informally structured, nonprofit and motivated by a social cause (Smith, Stebbins & Dover, 2006). The members of these associations perform most, if not all, of the organization's activities on a volunteer basis. They often adopt a do-it-yourself attitude and aesthetic due to limited funding and experience, making the most out of whatever free, inexpensive or donated resources can be obtained. As is the case with Sierra Club Canada, grassroots groups may also be local manifestations (e.g. chapters or groups) of a supralocal association at the regional or national level. These organizations tend to value democratic participation of members in their decision-

making processes, and often rely heavily on the efforts of geographically dispersed volunteers to develop any project or campaign.

Looking at the expression as an extended metaphor, “grass roots” are at ground level, are mostly unseen, and they prevent soil erosion and degradation through their interlinked network of roots and fibres. Grassroots power is often defined as being spread out at the bottom of the political pyramid (i.e. the general population), usually in opposition to the power concentrated at the top (i.e. high-level elected and appointed government and corporate officials). Also, the web of social ties among grassroots members provides a solid foundation of support to prevent the degradation of social justice and environmental wellbeing (Smith, Stebbins & Dover, 2006).

The grassroots environmental movement is extremely diverse and sometimes fractious, which has led to a history spotted with counter-productive competition among organizations for credibility, funding and influence. There are, however, some principles and beliefs shared by most grassroots environmentalists (Freudenberg & Steinsapir, 1992). For example, there is a strong belief in the right of citizens to participate in decision-making processes that have environmental implications. Grassroots environmentalists often seek open public consultations and risk assessments that they expect will support their contention that new development projects (e.g. energy extraction, mining, construction) will have detrimental effects on the life and livelihood of local residents, not to mention the overall environmental health of the area. They are most often attracted to a cause or issue as a result of being directly affected on a

personal level, such as when a child becomes sick after a new factory is built in town. In this way, environmental issues themselves tend to produce grassroots activists (May, 1996).

3. Research Design

Action research was determined to be the most appropriate form of study for this project in part because of the way in which this strategy so closely resembles the iterative model used in the development of software and websites. Given the combined practical and experimental nature of this project, it seemed most appropriate to adopt an action research approach to analyzing and progressing the development of the envisioned online presence for SCC.

In their 1978 report, Susman and Evered assessed the scientific merits of action research against what they described as the deficiencies of positivist science in terms of solving organizational problems. They also identified the need to adopt a different set of critical standards for judging the validity of action research due to its inherent differences from other established research methods. Contrary to the more typical notion of separating theory from practice, action research is introduced as a way to solve a number of problems faced by organizational science researchers. Defining "positivism" as the approach to science which considers scientific knowledge to be obtainable only from independently verifiable sense data, the authors present the argument that problems of interest to organizational science are often difficult to address meaningfully from a strictly positivist approach. Presenting the action itself as both the means of changing a system as well as generating critical knowledge about it, they describe action research as a way in which practitioners and researchers can collaborate in finding solutions to bring about the needed changes in the system. In this way, they maintain that action research is corrective of the positivist approach by means of six characteristics: a)

orientation towards the future; b) collaborative by nature; c) implies system development; d) generates theory grounded in action; e) remains agnostic; f) is situational.

With the goal of solving existing practical problems while expanding scientific knowledge, action research seeks to create change while simultaneously analyzing and attempting to improve the change process (Baskerville & Myers, 2004). Based on the philosophy of pragmatism, action research employs the logic of controlled inquiry, in which careful consideration and planning is interspersed with the implementation of the plans themselves and the collection and evaluation of data.

Action research also considers the social context of the action in question, which allows for a highly relevant and “real-world” perspective to be achieved, thus making the resulting research far more likely to be examined and applied by actual practitioners in the field being studied. This is the intention with the research project being undertaken, as it focuses on the creation of a new practical research-based tool for Sierra Club Canada. Action research involves four key premises: 1) establishment of the purpose for any action; 2) practical action in the problem setting; 3) formulation of theory based on practical action; 4) social situation of both reasoning and action (Baskerville & Myers 2004). As applied to this research, these phases are analogous to the cycle of environmental scanning, site development, testing and evaluation that was repeated continuously throughout the project.

Action research is a particularly relevant model in the case of Web 2.0 applications, which diverge from the model of scheduled software releases and updates espoused by non-web-based software developers. Web services are far more likely to make ongoing improvements to

their software and launch them as they become stable or ready for market, rather than waiting for a whole slate of updates to be ready before shipping them to consumers as a software patch.

The site re-design begins with securing the support of SCC's Executive Director, National Operations Director, Webmaster and the organization's National Development Committee and Marketing Committee. Once it is established that there is a genuine interest in proceeding with the project, these stakeholders are asked for their general ideas in terms of features that they would like to have added to the site and ways that they see SCC improving its online activities.

Along with staff, a number of Club members and volunteers from across the organization are approached for their input on the project. These are people who have previously expressed an interest in seeing the Club make more effective use of online resources, some of whom have direct experience in web development or are already active web users. In total, 15 people are approached by the researcher on an individual basis and asked if they would help test the new site, and approximately 30 more are invited during presentations at meetings of the board of directors or marketing and development committees. Although enthusiasm for the site re-design is generally high in principle, very few people go so far as to actively participate in testing beyond logging in to the new site once or twice. The bulk of the testing is performed by seven participants (four staff, two volunteers, one non-Club-member), all of whom are between the ages of 20-40.

An environmental scan is conducted to observe the best practices in use by other similar organizations, as well as monitoring blogs and resource sites dedicated to nonprofit technology

uses and Internet solutions (e.g. TechSoup.org, NetSquared.org, “nptech” tag on del.icio.us).

These sites often feature posts that highlight the use of Web 2.0 by other organizations, which are then examined for best practices.

The ideas for new features and structure of the proposed site re-design are presented to key SCC staff and volunteers to ensure they fit with the organization’s goals and strategic direction. SCC’s executive director and webmaster/communications officer each participate in a 45-minute semi-directed interview before site construction begins (see Appendix B for interview questions). These staff are interviewed in their offices and chosen and invited to participate by the researcher based on their roles in developing and implementing the organization’s overall communication strategy as well as their ability to influence the successful uptake of the new site throughout the organization. These interviews are conducted in order to determine the participants’ general attitudes, experience and expectations with regard to online tools, as well as to ensure that site development follows a direction that is consistent with organizational goals (see Appendix A for interview protocols).

The rest of the site development follows the iterative pattern of action research as a process of identifying issues (informed by research and talking with site testers and SCC staff), developing and implementing solutions, then testing the efficacy of these solutions.

Environmental scanning continues throughout the course of site development, so that new tools, trends and technologies can be taken into consideration for application in the re-designed website. As features are added to the site, feedback is sought from site testers and other key stakeholders as to the usability and efficacy of these tools, whether or not they are

likely to be used, and what barriers may prevent them from being used by staff and volunteers throughout the Club.

After many iterations of this cycle between December 2007 and October 2008, a launch-ready website is produced, incorporating a variety of new Web 2.0 and community-oriented features. The final stage of field research consists of demonstrating the re-designed site's functionality for SCC's Executive Director and webmaster. Their feedback is recorded for background research purposes.

4. Results

4.1 Lay of the land

An overall lack of organizational capacity has often been identified by staff and volunteers as a major limiting factor in SCC's growth. As a result, there was a sense of genuine enthusiasm for the prospect of using Web 2.0 tools to build a new website that would increase organizational effectiveness and member/public engagement. Ever since email became such a fundamental aspect of daily life in the mid 1990s, SCC (and many other nonprofits) have dreamed of launching an effective viral marketing campaign but always lacked the resources with which to carry it out. The site re-design project undertaken for this thesis presents a way to integrate some of the benefits of viral marketing with other effective campaign tools, as well as creating a venue for increased communication and collaboration among volunteers, campaigners and activists focused on environmental issues across the country.

An ongoing scan of nonprofits in the environment sector revealed very little in the way of innovation or even concerted effort in using Web 2.0 or the social network phenomenon to benefit a cause. During the initial stages of the project (November 2007-January 2008), most of the websites visited were classically Web 1.0 in design. Eight months later, a few more sites had started blogs, many had added links to Facebook groups and other sharing services, but none showed any evidence of a strategic or creative use of Web 2.0.

4.2 Building the site

Based on the results of the best practices review and on the consensus of the key stakeholders consulted throughout the Club, it was determined that SCC should turn its own site into an effective example of using the web to engage, support and grow the organization's grassroots base through use of the social Web.

Rather than creating a walled-garden style SNS like Facebook (boyd & Ellison, 2007) where only members can get a full experience, we took a social media approach more typical of YouTube. A new visitor should have an interesting, engaging and informative experience on the site, and should ideally be moved to join the Club, make a donation or take some form of political or lifestyle action. Meanwhile, the framework underlying the site must be designed to support the communications and fundraising needs of a diverse and dispersed network of grassroots campaigners. This would be accomplished by adopting some of the more useful and democratizing Web 2.0 tools (comments, content approval ratings, forums, wikis, etc.) that can be used to engage active members of the environmental community in an ongoing dialog.

The genuine organizational need for this new tool became more evident in the social-political context unfolding during the time of this research. Sierra Club Canada, like many nonprofits, is facing uncomfortable financial prospects in the medium-term due to the general economic downturn. Large funders had already begun to warn their grantees not to expect much support in the next year or two, which resulted in SCC beginning to take measures to scale down its unfunded operations in anticipation. This led to a consensus being struck at SCC's September 2008 board of directors meeting that the organization must do more to

engage its volunteer grassroots supporters in their local actions, and provide support to an increased number of other campaigns supported by new volunteers. Alongside this consensus was the agreement that one of the most practical and affordable opportunities available would be increased and more creative uses of the Internet. These efforts will help mitigate the effect of reduced staff capacity across the country as a result of the funding squeeze, allowing SCC to continue to exert pressure at the local and national levels.

In order to create the kind of dynamic, database-driven website that SCC needed to join the Web 2.0 era, their existing site had to be retired and the content moved to a new site. The old site was a collection of completely static pages, with each page requiring manual updates. A new site was built using an open-source content management system called Drupal, enabling the development of a site that generates each page dynamically on the fly based on variables such as the currency, availability and popularity of new content, or the user's personal settings.

4.3 Content

One of the most fundamental ways in which the re-designed site differs from the original site is the way in which content is posted, organized and displayed (Fig. 1). The creation of a database-driven site allows for web pages to be generated dynamically based on the availability of new content, user preferences, and other configurable variables. It also means that content can be categorized and cross-listed throughout the site, making it easier to browse and search.

Figure 1. Content

Original SCC Website	Re-designed SCC Website
Static front page	Dynamic front page
Requires webmaster to keep content up-to-date	Provides automatically updated lists of latest content
Offers several different links to join the organization, donate, sign up for email newsletters	Integrates these options more thoroughly into the site navigation
Provides a link to SCC's Facebook group (requires Facebook account to be viewed)	Provides links to SCC's Facebook Page, MySpace profile, YouTube Channel and Flickr Group (all of which are publicly accessible without needing to log in to these services)
Static navigation	Dynamic navigation
Four different navigation menus with	Site navigation consolidated to two menu systems
Inconsistent menu design and links throughout the site	Menus remain uniform throughout the site
	Menus are automatically updated site-wide when new sections or subsections are added
	Hierarchical menu system with fly-outs allow easier navigation with fewer clicks (e.g. new campaigns are added as sub-menu items that pop out from their parent campaign's menu listing)
Regularly updated content is difficult to find and distinguish from static content	Most new content is featured on the front page as soon as it is published, as well as on relevant campaign pages and cross-listed in appropriate sections (e.g. a volunteer posting appears on the front page when it is first published, as well as on the associated campaign's blog and the "Volunteer Opportunities" page)
Webmaster designs and maintains entire website	Webmaster designs and maintains overall website, with some users (e.g. campaigners, organizers) able to design and maintain elements within the site
Webmaster posts all content	Users are able to post content
Webmaster acts as gatekeeper: any new website content must be sent to webmaster with instructions for where and how to post	Webmaster acts as facilitator/moderator: she assists users with posting when necessary, otherwise focusing on general site maintenance

	Types of postable content are based on user's level of access (e.g. normal users can't post volunteer opportunities, but campaigners can)
Content types (posted by webmaster as soon as possible)	Content types (posted immediately by users)
Blogs: one blog, regularly updated by SCC campaign staff during 2008 federal election, currently defunct	Blogs can be maintained by anyone who is granted sufficient site access privileges (e.g. campaign director, campaigners, volunteer coordinators, etc.)
	Campaigners (staff or volunteer) can maintain a blog for their campaign
News releases	News releases (categorized and cross-listed)
Reports, studies and publications	Reports, studies and publications (categorized and cross-listed)
Action alerts	Action alerts (RSS-enabled)
	Immediate action opportunities such as electronic petitions, email campaigns, etc.
	Volunteer opportunities
	Campaign updates
	Forums (provide opportunities for users to discuss and plan around issues, strategy and tactics, as well as to facilitate site support in a transparent manner that may benefit other users with similar issues)
RSS integration limited to blog posts	Extensive RSS integration throughout site
	All content streams such as blogs, lists of headlines, etc. provide their own RSS feed for syndication (e.g. press releases, campaign updates, publications, etc.)
Content is manually organized and placed in various places throughout the site	Content is categorized under established taxonomies (e.g. Campaigns, SCC Chapters, etc.) as well as allowing free tagging with relevant descriptors
	Allows the ability to search and browse content more conveniently
	Allows submitted content to be cross-listed to each relevant section on the website without needing to re-post it
	Videos (including YouTube, etc.) and podcasts are embeddable within posts
	Podcast streams are iTunes compatible

A significant improvement inherent in the new site is its ability to generate and display content according to set parameters such as content type (blog, wiki page), popularity (e.g. average five-star rating), taxonomy (e.g. campaign categories, keywords, tags) and time of publishing. This means that dynamically generated pages can show the newest and most popular content in places (such as on the front page) where they are likely to help create a positive impression on a visitor. Meanwhile, the content listed on the front page display can also appear cross-listed in the appropriate spaces elsewhere on the site. For instance, a new blog post that was categorized by the author as relating to the Quebec Chapter would show up on the front page of the site in the "Latest News" section as well as on the Quebec Chapter's own page, without the need for a webmaster to manually cross-post the item (as had been the case with SCC's old site). To new and regular users alike, a frequently updating list of current content is a sign of the presence of a healthy online community, and increases the incentive to return to the site.

The addition of RSS feed-generating capabilities is another significant advantage of the new site. Any list of content can be made to generate an RSS feed, which allows the website to offer users a fine degree of choice in what content the site streams to them. For instance, a journalist writing an environmental column may be interested in the Club's frequent press releases. In addition to viewing the list of press releases on the website, he/she has the option of grabbing the list's RSS feed. This would allow him/her to be updated immediately through his/her feed reader whenever a new press release is posted, without requiring him/her to check in at the website on a regular basis.

4.4 User Experience

In addition to improving the flexibility with which content is displayed and organized, a database-driven site allows for a membership login system to control access to different areas or features of the site, as well as creating a more customizable user experience by letting users set site preferences that persist from one session to the next.

Figure 2. User Experience

Original SCC Website	Re-designed SCC Website
Ability to sign up for e-mail newsletter	Improved self-administration options for e-mail newsletter
Ability to sign up for membership or submit a donation through online forms	Allows integration of membership and donation forms with SCC's new constituent relationship management suite Will allow SCC members to update their own donor info (e.g. billing address, monthly donation amount, etc.)
Click-through links to send an e-mail (e.g. to the Prime Minister) from the user's own e-mail service	Users can fill in a form and submit an email from within the site
	Ability to rate (out of five stars) and comment on most content types (blogs, press releases, action opportunities, podcasts, etc.) without being a member of the site
	Higher rated content is promoted to more prominent areas (front page, top of lists, main campaign pages, etc.)
	Users can vote on polls and see current results of the vote
	Addition of third-party widgets allowing visitors to chat with campaigners via text, voice or video
	Ability to register free of charge as a member of the website (does not require a paid membership with SCC)
	Increases ability to customize the site according to the user's interests

	Ability to post certain content types (e.g. contributing to wikis)
	Users can choose to be notified by email when new content is posted to the site
	Ability to create a rich user profile listing detailed information about the user for the benefit of other users (with configurable privacy settings)
	Includes the ability to use OpenID profiles to log in, increasing site accessibility
	Registered users are diverted to their "Dashboard" upon logging in
	Consolidates the display of user's most relevant information and services, such as his/her personal message box, new content of potential interest, buttons to post new content, as well as comments or replies to any of their own posts.
	Users accumulate points based on the number of items they post
	Points can serve as an incentive for posting
	Points can be used to earn increased site access privileges
	Points can also be used to earn titular status upgrades (e.g. from Blogger to Super-Blogger upon earning 250 blog points)
	Badges can be assigned to different types of users to symbolize their role in the organization or within the online community (e.g. Campaigner, Volunteer, Member, Staff, etc.)
	Badges can be assigned based on the points system
	Ability to solicit advice and assistance on environmental issues through the Enviro911 feature
	Ability to submit user's own FAQ question to be answered and added to master FAQ list

In the spirit of allowing users more choice in the way they consume SCC's online content, registered users are able to sign up for email updates triggered when new content is posted that may be of interest to them. In this way a user who is not comfortable or familiar with RSS can choose to receive a weekly email with the headlines of all his/her favourite blogger's posts from that day. Not only does this provide additional flexibility for the user, but it increases the likelihood that he/she will receive any SCC information at all because it does not depend on him/her to think about checking in at the site itself. Another e-mail option that is available to site members and non-members alike is to sign up for SCC's e-mail newsletter "SierrAction" through a form placed in the sidebar of every page. This has the added benefit of potentially adding a new e-mail address to a "warm list" for future solicitation (the user may opt out of future contact, per ethical conduct guidelines espoused in the nonprofit sector).

4.5 Grassroots Tools

On the grassroots enhancing front, the most significant change is the ability to enable more people to add content and help build the site, as well as the ability to browse and contribute to the organization's online archive of historical documents. Any site member can be granted the ability to create various content types or make changes to certain aspects of the site, which means that control of the site's content can be de-centralized and democratized as more campaigns begin to make use of the site to help build their outreach and fundraising capacity. The size of the website and its underlying database is limited only by the physical media on which it is stored, which means there is virtually limitless opportunity to expand the site as more volunteer-run grassroots campaigns develop in the SCC network.

Figure 3. Grassroots Tools

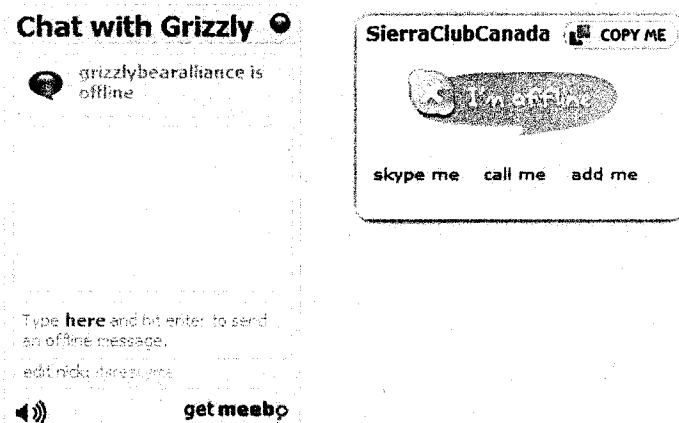
Original SCC Website	Re-designed SCC Website
<p>“How to be an Activist” handbook by Elizabeth May available in HTML format, as well as extensive reports, studies and information resources on campaign issues</p>	<p>All documents transferred to new site, with categorization and placement to facilitate their discovery and use</p>
	<p>Opportunity for users to submit their own environmental campaign issue or idea for inclusion on SCC’s website</p>
	<p>Users can identify and directly contact campaigners to find out how to get involved with the campaign (via instant messaging, Skype, or the site’s user-to-user message system)</p>
	<p>Users can identify other users with similar interests to help organize collective action across the region or country</p>
	<p>Users can read and contribute to wiki pages about their issue, group or tactics as part of SCC’s EnviroWiki of grassroots activist resources and information</p>
	<p>Forums are provided in which to discuss and plan campaign activities as a group</p>
	<p>Forums also provide additional indexable content for search engines to find, raising the page rank value of the site</p>
<p>Staff and select volunteers may search and download many organizational documents, templates and graphic files through a dedicated “extranet” website.</p>	<p>Ability for site members with sufficient access privileges to search SCC documents and templates such as logo files, business card templates, board meeting minutes, etc.</p>
	<p>Ability to broadcast and record public SCC meetings live from the website, as well as receiving text chat responses from remote audience members (i.e. board, executive committees, annual general meeting)</p>
	<p>Extensive list of third-party online tools for creating an engaging Web presence for campaigns (including web site building, creating widgets and petitions, etc.)</p>

One of the ways in which the new website supports grassroots campaigns of all types is by providing useful information and links to resources that can be used to build an issue-based campaign of one's own. With fewer staff the organization is less able to provide direct support for as many campaigners and volunteers, and therefore the website must fill the gap by pointing potential new campaigners in the right direction to get them started.

SCC has historically distinguished itself from other environmental nonprofits in its willingness to take up causes brought forward by local activists facing an issue of environmental significance. The idea of creating an Enviro911 hotline service has been discussed within the Club for several years, but no funding was ever allocated to setting it up nation-wide. The new website incorporates an Enviro911 feature, allowing site visitors to submit a query or concern about an environmental issue of importance to them, and have an SCC staff or volunteer respond as quickly as possible via e-mail with the appropriate information or resources. This will help strengthen SCC's existing profile as the go-to organization for local efforts organized by volunteer campaigners.

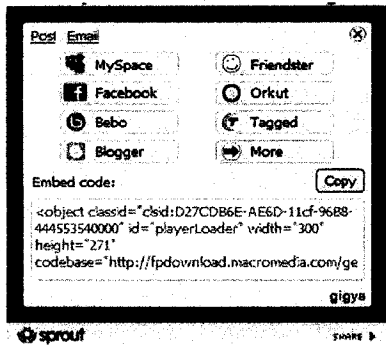
The re-designed website also provides new ways for campaigners to interact with the public, and vice versa. Text and voice chat widgets can be added to web pages [as seen with the Meebo and Skype widgets on the Grizzly Bear Alliance page (Fig. 4)], providing a new avenue of communication between campaigners and prospective supporters or donors. More immediate and personal channels of communication such as these are more likely to foster the kind of relationships on which grassroots networks are built.

Figure 4. Sample Meebo Chat and Skype VOIP Widgets



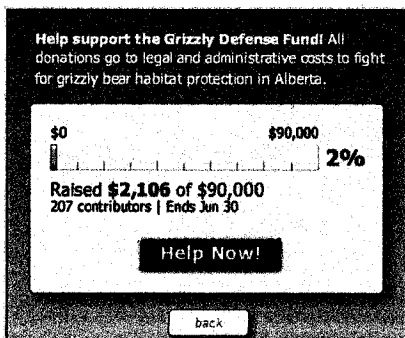
Widgets are one of the features of Web 2.0 with the most potential benefit for nonprofits. Generally Flash- or Javascript-based boxes that load within a web page, a widget is essentially a bridge between a source website and the rest of the Web. It can be provided to bloggers or website owners as cut and pastable chunks of code that require little or no programming knowledge to add to their sites. When placed on a web page, it can draw content from a source website and present it within the widget anywhere on the web. By their very nature widgets embody the Web 2.0 paradigm by dramatically increasing the portability of online content and the opportunities to present it in contexts other than that in which it was originally published, beyond the control of the publisher. The attractiveness for use by nonprofits is increased by the fact that most widgets are inherently viral because they allow any viewer the opportunity to copy the piece of code to use in his/her own blog, website or SNS profile (Fig. 5).

Figure 5. Example of Widget Sharing Options



One such widget was built as a rudimentary demonstration of a general, all-purpose SCC promotional piece, and another was made for SCC's Grizzly Bear Alliance (GBA) as a demonstration of how it could be used for a campaign. Built with the free SproutBuilder.com widget builder, these widgets feature the latest pertinent blog posts, volunteer opportunities, action updates and videos from SCC's site, along with links to the membership and donation forms. The GBA widget also features a fundraising tool provided by ChipIn.com which allows users to contribute (via PayPal) any amount of money to a funding drive, with the widget itself displaying progress toward the financial goal of the campaign (Fig. 6). These widgets were placed on SCC's Facebook and MySpace pages, as well as consolidated and posted for anyone to use on a special "Widgets" page in the re-designed website's "Action Centre."

Figure 6. Sample ChipIn Widget



4.6 SCC and the Social Web

In order to employ a full Web 2.0 approach to SCC's capacity building efforts, the Club's presence was strengthened on several major social networking sites, in particular Facebook, MySpace and YouTube (being the most prominent sites of their type in Canada). This allows the Club to take advantage of the person-to-person quasi-viral aspect of SNSs (one of the original bases of appeal for a proprietary SCC social network site), while potentially tapping a far greater existing audience than is likely to join SCC's own site.

Figure 7. Integration with Social Network Sites

Original SCC Website	Re-designed SCC Website
One button linking to SCC's Group page on Facebook (access restricted to Facebook members)	Buttons linking to SCC's MySpace page, YouTube Channel, Flickr group and Facebook Page (accessible by anyone) from every page on the SCC site
	New content from SCC's site is automatically cross-posted to SNS profiles via RSS
Some SCC media is hosted on sites such as YouTube and Flickr (but not embedded in SCC's site)	Some SCC media is hosted on sites such as YouTube and Flickr and embedded on SCC site
	Users can share SCC content elsewhere on the web using a variety of third-party services (and e-mail), such as on SNS profiles or social bookmarking services (via AddThis widget on each post)
	Provides widgets for SCC and its campaigns so that users can show their support by embedding them on their own blog, website or SNS profile

As with many nonprofits, SCC started a Facebook Group (March 2007, independent of this research), but this group saw little active administration or updating, and was only sporadically used to update members (numbering 480 at the time of this report). In order to maximize the effectiveness of the Club's presence on Facebook, an SCC Page was created by the researcher and populated with videos, information and links. Facebook Pages are a new site feature that have been launched since the establishment of SCC's Group, offering far greater flexibility in terms of targeting notifications to specific demographics and the ability to customize the Page with widgets and information in much the same way as a personal profile page. A YouTube Channel was also created as a place where SCC's videos can be collected and displayed in such a way that users can subscribe to updates and participate in online discussions about the content featured. SCC started a MySpace page in March, 2007, but little was done to brand or maintain it. It has now been updated and cross-linked to the re-designed site.

5. Discussion

The predominantly static design of SCC's previous website was a significant barrier to creating a more engaging Web 2.0 user experience for the Club's members and the general public. The dynamic, database-driven site that was built to replace it is inherently more user-friendly and interactive, and allows greater flexibility in adding further functionality to the site as required in the future.

The imminent launch of this website will place SCC at the forefront of national environmental organizations in terms of online presence, although it will require some ongoing re-alignment of priorities and procedures within the organization to make use of this new strategic advantage. The re-designed website also provides a new set of tools for improving intra-organizational communication, project management and community building, all of which are useful for growing, supporting and mobilizing a national grassroots movement.

5.1 Social Context

With its re-designed web site, SCC is now better equipped to take the national lead in the field of online environmental activism, education and grassroots organizing. No other Canadian environmental organization has such a sophisticated web presence nor as many ways to engage, educate and recruit site visitors. While there are a few sites in this sector that allow users to log in to participate in forum discussions, they do not provide authenticated users any degree of personalization or the ability to contribute other types of content. These other environmental nonprofits are also for the most part not using their websites as a central organizing tool to empower their constituents to assist in campaigning and fundraising.

These advantages are expected to help SCC challenge better resourced organizations (e.g. David Suzuki Foundation, World Wildlife Fund) in an increasingly competitive market. SCC can use its new website to establish a unique niche within the pantheon of national environmental organizations, being the only Web 2.0-enabled grassroots-driven organization of its kind in Canada. In combination with the organizational re-structuring that is underway to cope with the impending financial difficulties, the new website will enable a reduced number of staff to support a larger number of volunteers. This will help re-orient SCC as being primarily grassroots-driven at the local level, while maintaining the ability to act as a credible voice on environmental issues at the national level. It is expected that the new website will help make SCC the number one site for Canadians who want to take action on environmental issues.

5.2 Organizational Culture

Effective implementation and use of the website will require a significant shift in SCC's organizational culture, a shift which started to occur in 2007-2008 partly as a result of this research. In order to be truly cutting edge in its use of technology such as Web 2.0, evidence shows that an organization must re-think its framework rather than try to fit the new tools into its old framework (Cronk, 2007). This is a difficult proposition for almost any organization, let alone one that is practically and ideologically "grassroots" by nature. While Web 2.0 can be extremely useful in nurturing and supporting a grassroots movement, this can be more challenging when the grassroots are already well established and find comfort in the status quo.

SCC has historically been a locus for traditional activists, many of whom have been involved in the environmental movement for over twenty years. These people are not typically inclined to spend a great deal of time online, nor are they likely to seek out online solutions to assist in advancing their campaigns. These existing SCC supporters will likely take some time to grow accustomed to the organization's new web-facilitated approach, and are more likely to come on board once the site's early-adopters have established a significant amount of user-generated content and demonstrated the site's effectiveness as an organizational tool.

On the other hand, SCC's existing base of supporters has tremendous room for growth, especially among people under the age of 40 (who happen to be more Internet-savvy). This group was identified by Environics (2006) as a key demographic to be targeted by SCC, as these people are more likely to identify with environmental issues and get actively involved with them. This is also the age group that has made sites like Facebook and YouTube such worldwide phenomena. Although these younger supporters are less likely to make large financial contributions, the convenience and immediacy of an online donation form encourages them to donate a smaller amount. As in the case of Howard Dean's presidential candidacy campaign which raised over \$20 million in small online donations (Chandler, 2007), a large enough quantity of small contributions can add up to major financial windfalls. By creating a more user-oriented web site, SCC increases its potential to engage those who are already immersed in online culture, and more likely to make electronic donations.

In the meantime, however, there is a significant challenge in the fact that most of SCC's existing staff and volunteers are not particularly experienced or interested in using online tools

for campaigning and organizing. This was evident from the lack of participation in actively assisting in site development and testing for this research. While everyone was quite enthusiastic about the idea of using online tools to increase capacity, very few had any notion of how that could be accomplished and even fewer were willing to give time to help in the effort.

There is also the understandable apprehension that these tools will add to the already overwhelming workload faced by staff and volunteer organizers, a fact which is difficult to dispute in straightforward terms. While there is general acceptance of the fact that SCC must begin to use the Internet more effectively in order to remain relevant, there is a concern that this will create more work and require unavailable time and energy to learn to use the tools. This will be mitigated by the availability of SCC's webmaster and this report's author as ongoing resources for support and assistance after implementation, and by the availability of training materials (e.g. tutorials, screencasts, support forum) on the website that describe how to do specific tasks such as posting an update to the website for their campaign's page, or sending a newsletter to a Facebook group.

The main obstacle is an overall lack of familiarity with the online world. Once people start to spend more time using the Web in general they will start to develop more skill and comfort with the new tools they have been provided. It is likely that this lack of understanding is what leads to the perception of online tools as akin to bookkeeping - tedious tasks that do not feel much like they're contributing to campaign or organizational goals. There is a notion that applying an online strategy means the addition of a discreet set of new jobs to be performed as

maintenance, such as keeping a blog. A well-integrated Web 2.0 approach requires a new way of looking at outreach, applying the tools throughout the workflow wherever they can enhance the overall effect.

5.3 Implications for Capacity Building

In many cases, online tools can provide the opportunity to achieve more outreach with less money, often in a shorter timeframe (due to the viral strategies used for online campaigns) than traditional means would require. As an example, an online-optimized campaign may take more time to generate and post new content on a regular basis, but it likely also means that fewer envelopes will have to be stuffed, addressed and stamped. Hard-copy mailings also don't allow the recipient to respond conveniently and immediately with a donation, not providing instant links to more information, nor being easily shareable with his/her contact list in the same way as their online equivalents.

Postal mail-outs will continue to be useful, but they are a significant drain on staff and financial resources and can therefore only be used on such major occasions as annual appeals and donor drives. This is not the case with online media, however, as there is no financial disincentive to frequently sending out announcements, invitations, appeals or anything else that might be of interest to supporters or of benefit to the campaign. The immediacy of online media is also an advantage to grassroots campaigns because it allows rapid diffusion of information (e.g. news of the impending destruction of crucial wildlife habitat) coupled with the opportunity to take constructive action (e.g. signing an electronic petition, sending an email to city council, etc.).

While it may seem tedious and labour-intensive to perform such mundane tasks as cross-posting new videos in three different places, this is time well spent if those three places are YouTube, MySpace and Facebook. By exposing them within these massive communities, each video may be seen by hundreds or thousands more potential supporters than if they had only been posted on SCC's website. A relatively small investment of time to keep all the campaign's different profiles up to date can yield significantly further reach, education and engagement to action than traditional methods of activism.

Using third-party sites like these has the additional benefit of making posted content more readily indexable by major search engines, potentially driving even more traffic toward the site and generating impressions on a broader audience. Sites like YouTube and Flickr also have the ability to expose SCC to completely new audiences who would otherwise never have heard of the organization if it were not for "suggestions" of related content dynamically generated by the website.

5.4 Implications for grassroots movement building

SCC has made it a strategic priority to support and enable its grassroots in order to increase campaign capacity while reducing the reliance on paid staff across the country. This effort is facilitated by the new website's capacity for users to connect with one another, share information and resources, and collaborate on projects in a way that transcends the limitations of physical geography and long distance telephone charges.

With its built-in social media functions and membership system, the website provides a way to build community and solidarity among SCC's dues-paying members as well as independent

supporters who register on the site. Though these non-SCC-members may not be financial contributors, they can still benefit the organization and the environment by getting involved with local or national campaigns in a way that demonstrates broad public support for SCC's efforts. They are also likely to have found the website by searching online for information about a cause or issue (as opposed to through a personal connection) which means that they may be members of social communities that SCC has never before penetrated. As a result, these non-SCC-members can act as "weak links" between SCC's community and their own social network, assisting in the viral spread of campaign information and personal activism.

By incorporating instant, nearly barrier-free communication tools into the website like Skype (a free voice-over-Internet-protocol and video chat application) and Meebo (a free cross-platform text chat utility), site users are explicitly encouraged to initiate direct personal contact with campaigners. This has the potential to develop the kinds of person-to-person connections on which grassroots action has traditionally been built, without the delay inherent in email exchanges or the expense of long distance telephone charges. These connections can potentially create even more links, both weak and strong, to help spread the campaign message even further. Communications tools such as these have the potential not only to build solidarity within SCC's grassroots, but also to decrease the sense of isolation often inherent in activism (especially in rural areas).

With the goal of becoming the number one go-to website for environmental activists in Canada, SCC is further expanding its "big tent" philosophy to potentially encompass an even broader variety of issues. Being one of the only remaining all-purpose environmental

organizations in Canada (as opposed to choosing a niche like climate change, wildlife conservation, water issues, etc.), SCC is positioned to become a major resource for do-it-yourself activists. These new grassroots supporters will benefit from the name recognition and resources of a credible national organization in developing effective campaigns of their own.

The organization's grassroots will also be strengthened by the centralization and sharing of organizational knowledge. The website is intended to serve as a repository for such documents as committee minutes and agendas, organizational bylaws and policies, etc. providing easy access through the site's menu, taxonomy and indexing systems. Allowing these non-confidential documents to be browsed by site members will increase organizational transparency, further enhancing grassroots democratic engagement and participation. The site's modular architecture also allows users to add further productivity tools like project management software and shared calendars that can facilitate coordination of group members on a campaign team, regardless of each member's physical location.

Finally, the environmental movement as a whole will benefit from the increased engagement of online activists. As more Internet-savvy users become involved with SCC's campaigns through its website, the nature of online campaigning itself is expected to evolve. These users will almost certainly start to use the site in new, creative and unforeseeable ways using the website as a platform (Jackson, 2007). Volunteer campaigners will begin to discover ways to build mashups combining features of SCC's website with tools from third-party sites in order to present more engaging online campaigns and fundraising opportunities (e.g. creating Google Earth layers to show the effect a hydro dam has had on wildlife habitat). This will help

to create genuinely new and viable forms of political and social influence that are more than mere transpositions of traditional forms of activism to online manifestations (e.g. petitions, letter-writing campaigns).

6. Future Opportunities

6.1 Training and Hiring 2.0

Online tools and improved web presence are useless if they are not being effectively and creatively applied. In order for SCC to make the most effective use of its new web presence, staff and volunteers will need training to help them understand how to incorporate the new tools and functionality into their campaigns. It will be necessary to demonstrate how these tools can benefit campaigners and organizers in their work, which can be accomplished by choosing a new or existing campaign to use as an exemplar. This report's author (who is committed to assisting SCC in implementing their new online strategy) will then work with the lead campaigners to create a rich online presence for their issue across a variety of platforms. This will then serve as an example of how the new tools can be used to increase campaign capacity, and the staff or volunteers responsible for the exemplar campaign can act as advocates and resources to help others make effective use of the tools.

It is especially important for senior staff and board members to "lead by example" in registering themselves and beginning to use the site, as it has been shown that these leaders play a significant role in surmounting resistance to implementation of new technology programs (Hackler & Saxton, 2007).

In addition to providing training for staff, any new hiring action should (as appropriate) consider a candidates' experience in blogging, social networking sites and other online media as

valuable assets. At a bare minimum, experience in these fields should be listed as "desirable qualities" in any job postings.

6.2 Democracy 2.0

Sierra Club Canada holds annual elections each spring to fill available positions on the board of directors. This process has always been a tedious, expensive and time consuming act of democratic diligence, though it has seldom yielded a satisfactory voter turnout. Holding SCC's elections online would greatly reduce the staffing expense of stuffing thousands of envelopes and counting hundreds of ballots, not to mention a significant financial savings in terms of staffing and postage costs. A mail-in option would continue to be available for members who prefer it, but the convenience of reading candidates biographies and then conveniently voting for them online could help encourage greater participation in the elections. In order to secure the elections, members would be required to verify their identity (using their SCC member number and billing address, for instance) and connect to a secure page with an encrypted connection (similar to the security already used in processing credit card payments).

Proceeding from this research project, SCC made history by webcasting its annual general meeting for the first time on September 14, 2008. The author set up the broadcast using a free live webcasting service (Ustream.tv) to stream video from a camera at the board's retreat location (off the coast of Vancouver Island) to a player embedded on a page on SCC's website. On this page, members could view and hear the annual reports being presented by leaders of the organization. The page also featured a chat screen, where viewers were invited to pose questions or comments throughout the meeting. This feature was used several times when

online participants asked the speaker for clarification or repetition of a point, and to share information about activity in their own region to add to the national perspective. The panel was projected on a screen in the meeting room, where presenters and audience members could see and respond to what remote viewers had typed. This exercise was acknowledged by all of the organization's leaders as a resounding success and a quantum leap forward in terms of making the workings of the organization accessible even to those who can't afford to travel to such meetings. It also served as an effective demonstration of some of the benefits this research offers to the way in which the organization operates, increasing the overall interest and understanding of how online tools can be made relevant and useful to support grassroots organizing.

As innovative as it may have seemed for the meeting attendees (physically and virtually present), it represents just a fraction of what will be possible with web conferencing in the near future. It is already a simple matter to have a person-to-person video call through services like Skype, which in itself could save a great deal of money for a nationwide organization. As communication paradigms continue to shift, more synchronous communication will be conveyed on the Internet and previously impossible (or unaffordable) notions such as webcam conference calls will become commonplace. This will help accomplish some of the effect of much-vaunted face-to-face meetings, in which participants always seem to feel more productive when they can look across the table at the person who is speaking.

Using the Internet to further democratize the organization also involves making more of the organization's historical documents available to members online. Many of these documents are

already in electronic form, but they have been made available only to inner-circle staff and volunteers. The re-designed website is structured such that these documents could be published and made available for perusal and download by members of the organization.

6.3 Mobility 2.0

Mobility is the most significant upcoming near-term shift in communications technology that NGOs should anticipate, with portable electronics devices becoming more and more sophisticated and affordable (Griswold, 2007; Yakatami, 2007). This will mean that web content and functionality that has until now been accessible only through large-screen computers will be increasingly available through small-screen devices such as telephones and personal media players (Dawson, 2007). Aside from potentially significant changes in online behaviour and degree of personal connectivity, this will also require a re-thinking of how online content is designed and formatted (including standards-compliant coding and consideration of limited data transmission and storage capacities inherent to mobile platforms) (Ankolekar et al, 2007).

With present innovations in software and hardware development, mobile communications devices will soon enable nonprofits to design applications that “live” on mobile devices and serve up information in much the same way as the widgets described earlier in this paper. Capitalizing on the RSS functionality already built into the site, content can be streamed to various applications on mobile devices. This allows a supporter to receive the most personally relevant content as it becomes available, directly to a device in his/her pocket. The ability to supply content proactively (e.g. informing the user of the result of a key vote in Parliament) is a key enabler of Mobile 2.0 (Griswold, 2007).

The future of social networking involves a significant shift towards mobility, as well. Where SNSs currently act as destination sites where users go to view and share online content while keeping in touch with their friends and acquaintances, in the near future a user's mobile device will be another likely access point for this type of information and entertainment. Combined with geolocate services like GPS or SkyHook (WiFi signal triangulation) that can map data in relation to a user's own position, mobile social networking applications will become fixtures of daily life. It is therefore all the more important that nonprofits begin to explore and integrate SNSs into their operations immediately, in anticipation of them being as much a part of daily life as email has already become.

7. Conclusion

If massive change in human behaviour is needed to bring climate change under control, then massive outreach, education and engagement is required to meet the challenge. To that end, environmental organizations have no better or more efficient means than the Internet to mobilize support for their causes. The tools to achieve these objectives are readily and often freely available online, and they are increasingly sophisticated and yet easy to implement. All that seems to be lacking among leaders in the environment sector is the vision to see the social web's incredible potential to bring about social change.

This research was initiated as a project to help bring Sierra Club Canada into the 21st century, based on the question of how grassroots nonprofits like SCC can leverage Web 2.0 to increase organizational capacity. Over the course of nearly a year of action research involved in the design and testing of SCC's new online presence, it has become clear that Web 2.0 presents one of the best opportunities for environmental organizations to make efficient use of their grassroots resources and build further support and action. The longer these organizations wait to catch up with the standards and expectations of their online competitors, constituents, and observers, the more they will have slipped compared to both current and emerging competition. The environmental organizations that are most effective in their online capacity building will be those which make continual efforts to improve their online presence both for the benefit of existing supporters as well as those who are drawn in to the site by the content it offers. Most importantly, future-oriented nonprofits' staff and volunteer leadership must take

an informed interest in re-shaping the organization's strategic framework to incorporate information technology as a factor in operational decision-making.

Creative use of the Internet can be a cost-effective way to increase the organizational capacity of environmental nonprofits by allowing them to vastly increase the potential audience for their messages and appeals. The Web can be a highly engaging and effective medium for presenting educational and informative content, with RSS allowing a direct channel through which supporters of a particular cause or campaign can subscribe and receive regular updates and information. It also provides a versatile means of fundraising and recruiting members through issue-based funding or membership drives, auctions, online donation forms and targeted email appeals. Web 2.0 also puts a new spin on traditional campaigning tactics, allowing greater versatility and further reach. Email writing campaigns targeting corporate and government officials can be facilitated through web-based entry forms, and electronic petitions are more easily and quickly circulated among networks of friends and acquaintances than the pen-and-clipboard variety. Support for an issue can be further demonstrated by inviting reader feedback in the comments on a blog post or by starting a group page on a popular SNS like Facebook and taking advantage of the viral messaging potential of the social Web.

The interactive and flexible nature of Web 2.0 is particularly useful as a capacity-building tool for grassroots organizing and communication because it can enable greater democratic participation of members and supporters and engage them in an ongoing dialog about how the organization should operate and campaign. In addition to giving a voice to all stakeholders, use

of the Internet can enhance organizational transparency by allowing access to historical and current documents and files such as bylaws, strategic plans, financial statements, etc.

The Internet is not likely to replace the kind of activism and campaigning at which organizations like SCC have excelled for so many years. Phone calls, press releases, demonstrations, media relations, etc. will all remain important outreach and influence-building tactics for years to come. The Internet does, however, change things for such organizations and adds some layers to what can and must be done to remain effective and relevant. Rather than adding to the amount of work required to conduct a successful education or lobbying campaign, an online-integrated strategy adds new outreach options that can prove far more time- and cost-effective than traditional tactics used on their own. For most of SCC's current staff and volunteer campaigners, however, some training is needed so that they have a sense of the scope of new possibilities open to them. On the other hand, the availability of more frequently updated and higher interest value content is likely to attract new visitors to the website, perhaps eventually to be enticed to join in the online community and become grassroots activists themselves.

The emergence of Web 2.0 into the mainstream comes at a most fortuitous time for the nonprofit world, with economic forecasts looking increasingly bleak for every sector. If wisely applied, online tools can give nonprofits a capacity-building boost right when they are facing the prospect of dramatically reduced sources of funding in the near future. Use of these social media and Web 2.0 tools can enable individual campaigners, organizers, volunteers and citizens at large to do much of the work that might normally have been done by staff. As campaigners

learn how to build and coordinate online and offline campaigns that creatively interlink, they will begin to find new ways to accomplish age-old tasks as well as to come up with innovative applications for the tools that are as yet to be developed or even imagined.

With the updated website, SCC is set to distinguish itself in the new world order by creating its own special blend of online and offline presence. On the one hand, it now has a sophisticated and modular website that can be used as a platform for broadcasting campaign updates, newsletters, videos, volunteer opportunities, etc. from across the organization, and to offer campaign-building tools such as templates and toolkits, blogs, forums, build-your-own petitions, email lists and other ways to communicate with and engage supporters. On the other hand, a sense of community and solidarity can be enhanced among Club supporters using the website and other popular social network sites to which its members already belong. So much of the work of grassroots organizations is based on relationships and teamwork, and collaborative relationships are made possible and affordable across great distances with online communication tools like Skype, chat/instant messaging, and online project management.

No website could ever replace the benefit of having seasoned campaigners on staff to ask for help and advice. If an organization is primarily grassroots-driven, however, it is all the more important to consolidate as much organizational knowledge and institutional memory as possible in an online archive where it can be easily perused by members. To that end, the new website provides a staff- and user-contributed repository of high quality do-it-yourself materials for building, promoting and financing grassroots environmental campaigns. It can be used to bestow SCC's seal of affiliation upon any willing volunteer organizer or local group,

giving them their own platform on which to build an online campaign. In principle, this could enable a motivated individual or group to mobilize around an issue on the foundation of SCC's credibility and using the infrastructure and tools provided on the website as a means to be an effective local advocate for the environment.

The very existence of SCC's new website serves to contradict the prevailing wisdom in the nonprofit sector that funding, technical knowledge and experience are barriers to achieving a more sophisticated online presence. Web 2.0 has made it far easier for laypeople to engage in the creative and communicative aspects of the Internet that were once the exclusive domain of software engineers and web designers. This is not to minimize the undertaking, however, because while most of the online strategies described in this thesis may be free of charge, they nevertheless require some kind of outlay of resources. The most important investments an organization can make in an effort to improve its online presence are those of time and energy: staff or volunteers must be tasked with developing and implementing an online strategy, and they must be willing and able to embark on a potentially steep learning curve requiring hours of experimentation to learn to use the new software tools.

In many organizations, staff members are busy enough with their regular duties and do not have the capacity to take on projects of such magnitude. These organizations need to find creative ways to either engage volunteers or barter for professional services if they want to keep up with the times. If rebuilding their own website is not feasible, they can nevertheless take serious strides in the right direction by learning to use SNSs like Facebook, MySpace and YouTube to increase awareness of their issues and recruit supporters and donors. They can also

take advantage of hosted online tools like Ning.com's build-your-own social network service, or Google Sites, both of which are free of charge and require no programming knowledge while offering a high degree of customization.

While many organizations may find these prospects daunting, online communications are an increasingly important reality of the world in which they operate. With technology continuing to evolve at an astounding rate, nonprofits will do well to make the big jump from their Web 1.0 site to a more modern online presence before the gap grows even wider. In order for these organizations to remain relevant and effective in an increasingly wired-up world, it is essential that they learn to leverage their online presence using the increasing number of opportunities created by Web 2.0.

The field is still wide open, and SCC now has a powerful tool with which to begin taking the lead in online environmental campaigning. The challenge remains to strike the right mix of quality content and user engagement to build a vibrant online grassroots community to support SCC's campaigns across Canada. In this way, Sierra Club Canada will be among the first national nonprofit environmental organizations to realize the true potential for online action to bring about change in the real world.

Appendix A: Glossary of Web 2.0 Terms

Widget: In Web 2.0 parlance, a widget is a web page element that offers the user some degree of interaction or information. Widgets are often used to embed content from third-party sites (e.g. YouTube videos) or to provide a specific type of interactive functionality to the web page (e.g. a Skype widget). Implementation of widgets on a web page require a bare minimum of technical knowledge because they are often generated automatically by the service providing them, only requiring the web page owner to insert the code provided in the appropriate location on the page.

Viral Marketing: Marketing phenomenon that facilitates and encourages people to pass along a marketing message via electronic means, potentially bringing about exponential growth in the number of individuals exposed to the message. E.g. forwarding emails or posting content to a SNS profile.

Social Network Site: Web-based services that allow individuals to develop a public or semi-public profile within the system, display a list of other users of the same site with whom they have a relationship, and view their list of connections and those made by others within the site.

Appendix B: Guiding Questions for Interviews

Initial interview:

1. How would you describe your level of comfort and experience with using the Internet for personal or organizational business?
2. What is your level of understanding of Web 2.0 and social networking sites? Do you use them in your personal or professional life?
3. How/where does the Internet and its various applications fit in with your organization's current strategy?
4. How do you feel about your organization's current website? How does it fit in with your daily work routine? How can it be improved to help you in your work?
5. Can you name some organizational goals that could be advanced through more effective use of the Internet? Which would be the most desirable to you?
6. Do you see any potential for Web 2.0/social networking sites to play a part in meeting your organization's goals?
7. In what ways can you imagine using the Internet to further your organization's goals?
8. What would be your wish-list of features and tools for a new website for your organization?
9. What is your sense of other organizations in your field – are they using the Internet more or less effectively than your organization? Are there any organizations or tactics that come to mind as good examples of effective use of the Internet? Who would you consider a leader in this regard?

Follow-up interview

1. What are your general impressions of the new website framework?
2. Do you see any added benefit from the new features and tools built into the site?
3. Can you imagine using these tools to help with your work? Will they help make you more effective?
4. Do you see these tools as potentially adding to or diminishing your workload?
5. What kind of internal communication will take place to inform staff and volunteers of the new functionality?
6. With the new site functionality in place, where does your organization now stand in comparison with other similar organizations?
7. Are there further refinements/additions you would like to see made to the site's functionality?

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