Strategic Review of the Society for Conservation Biology's Social Science Working Group¹

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"One of the anomalies of modern ecology is that it is the creation of two groups, each of which seems barely aware of the existence of the other. The one studies the human community almost as if it were a separate entity, and calls its findings sociology, economics and history. The other studies the plant and animal community and comfortably relegates the hodge-podge of politics to the liberal arts. The inevitable fusion of the two lines of thought will, perhaps, constitute the outstanding advance of the present century"

Aldo Leopold, 1935

"There is a Society for Conservation Biology (SCB), but no society for conservation sociology, or conservation anthropology or conservation political science. These disciplines do not exist as such in universities. They have no journals. They train no graduates."

W.M. Adams, 2007²

¹ Thanks to Mike Mascia and Dan Miller for their excellent support in conducting this review, to Joe Figel for bringing my attention to the Leopold quote, and to Curt Meine for advising me of its source.

² The Leopold quote is from Meine (1999); the Adams quote is Adams (2007)

Introduction

The quotes that introduce this review suggests that Aldo Leopold's hopes for a fusion of the social and natural sciences went unrealized for the rest of the 20th century, and is still only scarcely a glimmer in the first decade of the 21st century. The founding of the Social Science Working Group (SSWG) of the Society for Conservation Biology (SCB) in 2003 thus can be seen a response to Leopold's almost seventy-year old hope. This review of the activities and placement within conservation biology and the broader field of the environmental social sciences of the SSWG is designed as a five-year evaluation, as indicated in the original Request for Proposals (Appendix I), in order to contribute information and analysis for use in SSWG.

The SSWG was created to address one of the significant emerging challenges in interdisciplinary environmental research. In recent years, Leopold's call has finally been joined by many others, with opinions on the need for more interdisciplinary research on the problems of biodiversity conservation intensifying (Mascia et al. 2003; Bawa et al. 2004; McSweeney 2005, Brosius 2006, Campbell 2005; West and Brockington 2006; Medley and Kalibo 2007). From its founding in 1985 the SCB acknowledged the need to integrate the social sciences into research and action on biodiversity conservation, but the reality has been slow in developing. Today, environmental problems in general are becoming ever more converging and "wicked". Changes in the physical chemistry of the atmosphere associated with climate change now clearly are impacting ecological processes and biodiversity, taking human impacts on biodiversity from the local to the global level. But the barriers and suspicions between social and natural scientists working on conservation-related issues remain imposing (Fox et al. 2006; Brosius, 2006). Many conservation natural scientists define themselves as the "voice of the voiceless" in a quite literal sense, while social scientists see themselves as advocates for human welfare, particularly of the poor, rural, and or indigenous peoples who conservation natural scientists historically have criticized and sought to exclude from public protected areas. The lines were never clear, there have always been some ecologists who accept the idea that human presence and biodiversity conservation are not incompatible, and social scientists who held biodiversity conservation as a primary goals, but they have always been in the minority on either side.

It is in this contradictory context of suspicion on the one hand and strongly felt need on the other hand that the SSWG emerged as a determined effort to overcome these contradictions. The SSWG has defined its mission simply as "...to strengthen conservation social science and its application to conservation practice", and took as its three goals:

- 1. Advance the development and dissemination of social scientific knowledge relevant to the conservation of biological diversity.
- 2. Foster the use of social scientific knowledge to resolve conservation problems.
- 3. Develop and carry out organizational core functions efficiently and effectively.

The SSWG was founded in 2003 with an interim board and is thus nearing its five year anniversary. This reviewer was asked by the board to carry out a brief review of the degree to which the SSWG had accomplished its goals and its impact within the SCB and the broader conservation field at the five year mark. The questions posed in the RFP (Appendix I) were used as an organizing tool for what follows, with some modifications for consistency and logical flow, and to raise issues which the reviewer felt to be relevant.

Methods

The method used for collecting data began with a review of published literature on interdisciplinary research, available documents of the SSWG including meeting minutes, annual plans, newsletters, workshop memoria, etc., as well as documents on the history and strategic reviews of the SCB and materials available on the SCB website or obtained from the SCB executive director . Next, a survey instrument was developed, using Likert items and open-ended questions, and sent to current and past members of the Board of Directors of the SSWG through the Survey Monkey website (www.surveymonkey.com). I use the term "Likert items" because technically these were not Likert scales (Uebersax, 2006). A Likert scale is a multi-item scale, and I have not grouped the Likert items into a scale, but have simply added the responses in each item to arrive at a measure of respondent attitudes as a group. Given the very small sample size, and the strong grouping of actual responses, this should not present a problem in capturing attitudes of board members. The survey included 71 questions (see Appendix II). A separate survey undertaken by the SSWG parallel to this one will be measure attitudes of the general membership of the SSWG.

The universe of past and present board members, interim and elected, totaled 21 individuals. Of the 21 people to whom the survey was sent, 11 responded. Of the eleven, one did not finish the survey, so there is complete survey information from ten respondents, a nearly 50% rate of response. Seven of the 11 were current board members. Thus, this is a self-selected sample with a strong bias towards currently active members and is thus not representative. As well, many of the questions ask board members to essentially evaluate their own performance, so this needs to be taken into consideration (social desirability bias). Semi-structured phone interviews were sought with a total of seven people within the SSWG and SCB for complementary information and views, with the questions in the semi-structured interview being adjusted depending on the experience of the interviewee. Of the seven, four responded to the request (Michael Mascia, Brian Czech, Curt Meine, and Alan Thornhill; due to scheduling problems, the Meine interview was finally conducted by email. As well, a brief semistructured interview was administered by email to seven "thought leaders" in the integration of the social and natural sciences, and selected to represent different disciplines. Of these seven, only two responded (Fikret Berkes and Paul Ferraro). Thus, perspectives gathered are partial and it is likely that a review that took place over a longer time and with greater resources and a larger sample might produce somewhat different results. Finally, websites of other professional associations were reviewed, and questions emailed to relevant officers in those associations.

The Social Sciences in the SCB and the History of the SSWG

The idea of merging the biological and social sciences was present at the roots of what would later become conservation biology. As early as 1970, David Ehrenfeld (1970, cited in Meine et al. 2006) said "Biologists are beginning to forge a discipline in that turbulent and vital area where biology meets the social sciences and humanities". From its founding in 1985 one of the four original goals of the SCB was to integrate conservation and biodiversity with the social sciences. As one indicator, a sociallyoriented representative, under varying names, sat as one of several constituent-based representatives on the SCB Board of Governors from an early period. In the 1990s the position was defined as agriculture and ethnobotany, when Gary Nahban occupied the position, by the late 1990s a defined social science seat was created. However, the general impression of observers is that presence of social scientists was slight, and it could be argued that the presence of environmental ethics positions influenced by deep ecology were more present in the emerging "value-laden" field than were the social sciences per se. A 2004 membership survey conducted by SCB did not ask for disciplinary affiliations, but a list of scholarly journals subscribed or read regularly including only one that has significant social science content (*Conservation Ecology*, now Ecology and Society) with 16% of respondents reading it regularly (Ecology was the highest at 44%).

The idea for the SSWG first emerged at the 2002 SCB annual meeting, with a "People and Conservation" theme. Michael Mascia, the current SSWG President, approached several people at that meeting to begin exploring the idea of some sort of social science section or working group within the SCB. Curt Meine, then occupying the Philosophy and Ethics slot on the SCB Board, suggested to Mascia that a first step would be to write an editorial for Conservation Biology and to sponsor a workshop at the meeting the following year. The editorial was written (Mascia et al. 2003, and the workshop was sponsored (Challenges and Opportunities for Social Science in *Conservation Action*), held at the 2003 SCB meetings in Duluth, with some 80 participants present. The founding of the SSWG was then formally announced in the journal in December, 2003, along with a website, a discussion list, and symposia being developed for the next annual meeting (Thornhill 2003). To begin to give the new organization an agenda, a workshop at the 2004 SCB meetings in New York City generated a list of 64 possible activities, with 23 selected for further development and with work plans for 11 of them. The SSWG also held its first business meeting at that conference, electing an 11-member interim board and named several committee heads.

The SSWG as a unit within the SCB

What has SSWG accomplished in terms of meeting its three goals since its inception? Where has the working group had most success and where could it improve? What are the most important lessons for SSWG moving forward? The SSWG has had impressive growth since its founding. As of February 2006, only three years after its founding, the SSWG had 584 members in 55 countries. This remained stable with only minor variations until June 2007 when the number climbed somewhat to 668 members in 66 countries in March, 2008. This implied going from 8.3% of total membership to 12.1% of total membership over this period, a 14.3% growth rate. The growth is particularly notable since the entire SCB actually shrunk over this period by 26.7%. Thus, the SSWG grew in a period when overall membership was declining. The Executive Director of SCB also expressed the opinion that SSWG has been instrumental in recruiting new members into the Society. The SSWG is the largest of the four working groups within the SSWB (the others are Freshwater, Ecological Economics and Sustainability Science, and Religion and Conservation Biology. Looking at all units of the SCB, both regional sections and working groups, the SSWG is the third largest unit, after the North America and Austral Neotropic regional sections. As of June, 2006, 72% of SSWG members were based in the US.

With reference to the first goal, advancing and disseminating relevant social science knowledge, what social science knowledge might be relevant is itself a very open question. The SSWG is engaged in a self-conscious effort to create a new interdisciplinary arena, conservation social science, "Conservation social science is the study of the conservation-relevant aspects of human society, including the relationships among humans and between humans and their environment. Since successful conservation inevitably requires changes in human behavior, drawing upon decades of social science research to better understand what people do, and why, provides valuable insights for conservation policy and practice." (Mascia, SCB newsletter). The SSWG is a social science interest group within an organization founded and still largely composed of biologists. As such, it commonly takes the stance of providing primers on social sciences for an audience which may have been historically suspicious of the social scientists. Its highest visibility efforts have thus been in a non-controversial definition of relevant social science, a "tools" approach, that social science is a set of tools or methods that can be used to promote biodiversity conservation. There is also a tendency to highlight how these social science tools can be used to promote the most traditional mainstream conceptions of the biological sciences in how biodiversity can be conserved. For example, an SSWG newsletter item notes "conservation social scientists can help to identify what strategies will work best in a given context, help make existing strategies more effective (e.g., enhancing compliance with protected area regulations)". The number of social scientists who would find this particular example compelling is probably small, and some would suggest that among the behaviors that need to be changed are those of conservationists. However, as will be discussed more later, the SSWG has also sponsored panels which taken on controversial issues in conservation biology, has presented training sessions where a wide variety of social science issues are discussed, and individual members of the SSWG leadership represent a variety of approaches and opinions about the relationship between social sciences and biodiversity conservation.

Results of Board Survey

Board Characteristics: Of the 11 who responded, nine have PhD's and two have master's degrees. The respondents tend to be recently degreed. Although one received their highest degree in 1991, the next one after that is 1997, and seven of the 11 received their highest degree since 2000. That respondents tend to be fairly junior in their field is reinforced by the fact that of the seven respondents whose primary affiliation is academic, six are assistant professors, or in visiting or student status. Seven are in academic institutions, two with the federal government, one with an international conservation NGO, and one at a natural history museum. Four of the respondents received their highest degree in a traditional social science, five received their highest degree in a traditional social sciences. Eight of 10 belong to another professional environmental organization but 7 of 10 said that the SSWG and SCB were their most important professional organization.

Achievement of Goals: Survey Results and Further Analysis

Most board members strongly agreed or somewhat agreed that the SSWG had achieved its three goals, with only one each somewhat disagreeing or strongly disagreeing on the three Likert items in this category. The strongest agreement was on goal #1 ("advanced development and dissemination of social science knowledge") where activities such as sponsorship of conference sessions, short courses, publications, the online social science tools, online syllabi, and other activities were mentioned. The response to goal #2 (fostered social science knowledge to resolve conservation) was more tempered, with 6 "somewhat agrees" although the comments suggest that the majority lean towards relatively little impact, with one respondent noting "SSWG has played an important role, but we still have way to go for social science to be fully integrated into conservation problems". Finally, there was also strong agreement on the degree of success in goal #3 (carried out core functions efficiently and effectively) with 5 "somewhat agree" and 4 "strongly agrees". Here, the debate over the economic growth statement appeared to have been a factor in some responses.

Most board respondents felt that the most successful thing that SSWG has done is raise the profile and build credibility for social sciences within the SCB, and the leadership of Mike Mascia and Rich Wallace was particularly credited. The factors that contributed to this success were serious, dedicated, passionate and committed leadership, and the timing being right for launching an effort like this within the SCB. There were more diverse opinions on the second most important thing with many of the individual activities of SSWG being mentioned but in general, the SSWG had "created a platform for conservation social science communications". The reason for success tended to focus on the professionalism and dedication of the volunteers.

The SSWG was thought to have had the least success in having an impact on conservation practice and in "not building capacity outside existing social science experts". Issues that hindered the success of the SSWG included ""change takes time and interest and suspicions about what soc. sci. can contribute impede full integration" and "change of committee leadership with new elections, workload of SSWG compared to other professional working groups". The debate over the economic growth statement

is also mentioned as something that hindered the effectiveness of the SSWG. The lessons learned is that the SSWG has an important role to play in integrating social science into conservation activities, and can be a global leader in this regard, leadership is important, and that change takes time and learning from mistakes. I will take another view of the performance of the committees and SSWG governance in the governance section below.

Governance of the SSWG: Structure, Survey Results, and Analysis

The SSWG began with interim boards in 2003-2004 (only four members, all of whom carried over to the next interim board) and in 2004-2005 (eleven members), and had its first elected board for the 2005-2006, and thus has had elected boards only since 2005. According to the current bylaws, the SSWG is governed by an 11-member board, including six representatives by social science discipline (anthropology, economics, geography, political science, psychology, and sociology), four at-large members, one whom is a student, and the social science representative to the SCB Board of Governors (this position is elected by the entire membership of the SCB). The SSWG board then elects from its member's four officers (President, Vice-President, Secretary and Chief Financial Officer). The current President also holds the position of the social science representative to the Board of Governors, but this is by independent electoral processes by the SSWG board and the membership of the SCB, and will not necessarily be true in the future (and was not true in the past). When the current President was elected to the Board of Governors, he resigned his position on the SSWG board as political science representative, as called for in Article 2 of the bylaws.

By its bylaws, the SSWG currently operates nine committees: Conservation, Program, Education, Membership, Nominations, Communications, Policy, Audit, and Student Affairs. Although committees may be chaired by any member of the SSWG, not necessarily on the board, in practice only board members have chaired committees. Committee chairs are appointed by the President with the approval of the Working Group Board. Questions were raised in the survey about a reported practice of particular social science positions "inheriting" particular committee Chair assignments. There do seem to be some issues here which need to be considered, but the practice has also been more flexible than suggested by the inheritance accusation.

Participation rates in SSWG elections are low, which suggests that this is governance by a committed minority, the norm in professional associations and most larger democratic polities as well. The percentage of eligible members voting on the 2004 bylaws and bylaw amendments was 25% and 29% respectively, but in the 2006 and 2007 votes on board membership, only 15.6% and 13.9%, respectively, participated.

By contrast, board commitment time is quite high. The SSWG governance processes has a very high level of activity, meeting seven times in 2006 and seven times in 2008, all by telephone conference calls of up to 1.5 hours and one physical meeting each year at the annual meeting. The Board President has set the time commitment expectation at 2-4 hours per week, or 5-10% of work time, and in the survey a few board members expressed concern about the level of work expected. Turning towards board attitudes towards governance, 7 of 10 surveyed board members somewhat agree or agree that the current governance structure functions well. While a majority feels the governance structure works well, concerns were raised about decision-making processes within the board and in relation to membership, role in policy advocacy, leadership succession and institutional memory, whether there is room for creativity, and the issue of committee assignment inheritance. There was much stronger agreement that leadership carried out its duties well with 8 of 10 strongly agreeing, with comments such as "We've had excellent leadership", although concerns were again expressed about leadership transition. Attitudes were more diffuse with respect to whether committees on which people served had met goals with 3 strongly agreeing, 4 somewhat agreeing, and other votes spread through the other three categories.

Committee functioning constitutes a major governance arena for the SSWG, and the survey asked about attitudes towards each committee. The Program Committee received high approval with 7 of 9 saying they strongly agreed that it had functioned well. The Policy Committee had most disapproval with 4 of 10 strongly disagreeing that it had functioned well, and only 1 strongly agreeing. This was termed by one respondent a significant weakness on the SSWG board, and apparently the appointed individual never carried out the functions. It was also noted that policy procedures need to be clarified, an issue with respect to the economic growth debate. The Communications Committee received high marks, with 8 of 10 strongly or somewhat agreeing that it had functioned well, although it was also thought there was unrealized potential. Opinions on the Membership Committee were evenly divided between agreement and disagreement categories. The Ambassador's Program and Expert's Directory were cited as accomplishments, but it should also be noted that the Membership Chair at the beginning of the period said that he would not be able to devote much time to this function.

The Student Affairs Committee had 5 votes for somewhat agreeing and one for strongly agreeing, with African students scholarships noted as positive accomplishment but declining student membership in the SSWG a problem area. (There appears to be some confusion on the number of students who compose the SSWG, with one report that it is as much as 50%, but other figures suggest it is significantly lower). Six of nine thought the Nominations Committee functioned well, with none disagreeing. Seven of nine thought the Audit Committee functioned well with one somewhat disagreeing. Six somewhat agreed (4) or strongly agreed (2) that the Education Committee functioned well, with no one disagreeing, but it was commented that "there is unrealized promise (e.g. working papers, short courses) and the need to update content (e.g. syllabi). There was even stronger agreement that the Conservation Committee functioned well, with six strongly agreeing and 3 somewhat agreeing, and no disagreement. Comments included "…excellent work, though with a large and ill-defined mandate…..better clarification will help in the future" and "Leadership of Diane Russell and Tara Teel is excellent. Practitioner orientation critical".

Only one person suggested adding committees, proposing a "Governance Reform Committee" with non-board or new Board members. However, four of ten thought the

SSWG should eliminate committees. One suggested eliminating the policy committee, another suggested that conservation and education overlapped, and another specifically that education and communication should be combined.

Thus, the policy and membership committees are the only two that received half or more negative ratings by the surveyed board membership. I will not review the work of each committee because in some cases objective evidence of performance is not clear. However, a review of some of the principal activities of the SSWG, mostly accomplished through the committees, follows.

The SSWG appears to have achieved its clearest success in raising the profile of the social sciences at the annual meetings of the SSWG. The numbers of symposia, workshops, short courses, and contributed papers with a social science focus grew notably in the last three years. At the 2006 meeting, a post-meeting survey showed that "conservation social science was one of the highlights of the 2006 SCB meeting. In response to the open-ended question, "What did you like best about the 2006 meeting?" social science was one of three most common responses (8%; 26 of 330)" (SSWG, 2006).

Table I shows the pattern of SSWG or social science presence at SCB annual meetings since 2003. The growth in activities was impressive in the 2005-2007 period, although it dipped a bit in 2008.

	Symposiums	Short Courses	Workshops	Discussion	Total
				Groups	Events
2003			1		1
2004			1		1
2005	1		1		2
2006	4	2	5		11
2007	11	1	6		18
2008	7	2	6	1	16

Table I: Sessions sponsored or promoted by the SSWG at Annual SCB Meetings2003-2008*.

* does not include individual contributed papers on social science subjects

Considerable effort has been put into the SSWG website, and the social science toolkit in particular, but it is not clear how much it is being used. For example, the December 2007 report on website usage for the entire SCB website only reports at the level of the link for the working groups. For all working groups, there were 1,001 views, which was only 0.25% of all SCB website views, in 637 visitor sessions, and the average time spent was 1 minute 34 seconds. This compares unfavorably to the overall website average of 10 minutes 21 seconds, and suggests that most people who make it there are not making much use of the social science toolkit, which would require more time to peruse. However, there has also been anecdotal evidence and emails suggesting

enthusiasm about the website, including the following comment, "I genuinely found the SSWG website stuff very useful in my last job [UK Joint Nature Commission], particularly in introducing science staff to social science topics beyond economics (which I was forcing down their throat anyway!)" (email to Mike Mascia 5/14/08).

The social science toolkit, two years after it was launched, is still incomplete. For example, in the Methodological Approaches section, of nine methods mentioned, there is text for only four. The Disciplines section is complete except for sociology. The Conservation Interventions section is complete, but the Social Challenge section is missing 6 of 8 categories. The text in each one of these is conceived as basically primers for conservation biologist, although some of them, like Conservation Interventions, are likely to be already familiar to them. The searchable database turns up quite a few sources, but in the age of Google and Google Scholar, not to mention much larger and better-funded databases that include conservation, like USAID's FRAME and the Biodiversity Support Program website, the value-added of this database needs to be closely evaluated. A quick search using the same terms on Google and the SSWG database suggested many more sources in Google (although likely also more chaff to be waded through).

The syllabi section has grown modestly since 2006, from 24 to a current 33 but again, the usage figures at the beginning suggest they are not being heavily used. The working paper series, which has been persistently discussed since the early days of the SSWG, has not been able to get off the ground, although a few manuscripts that were deemed unsuitable have been reviewed.

Other than performance issues, two issues have been raised with respect to committee governance, 1) the duties and relationships between being elected to disciplinary representational slot and assignment to a committee chairmanship, 2) the suggestion that disciplinary seats "inherit" particular committee chair assignments. There are fairly detailed SSWG protocols that cover many issues related to chair responsibilities and procedures but these issues are not covered. First, members are currently elected as either disciplinary representatives or at-large members. However, in practice, they do not in any way represent their disciplines on the board. Although the practice of electing by discipline seems to make sense in an interdisciplinary social science body, it is not clear what function they have "representing" that disciplines when the work of the SSWG is largely accomplished through task-oriented committees not usually connected to disciplinary expertise. This practice needs to be made clear to board members running for disciplinary seats. There remains confusion on the board over this issue, with as of late 2007 and early 2008 protocols apparently being developed separately for the disciplinary positions and the committee assignments. However, it is not clear what protocols might be developed for the disciplinary positions. The simplest solution would seem to be for the SSWG to make it clear in the protocols and to new board members, that while the principal of disciplinary representation seems appropriate and will continue, that once elected the primary role on the board is played out through taskoriented committees. However, this issue will need to be monitored, and flexibility will be necessary to accommodate disciplinary issues as they may arise. Second, concern has been expressed about the "inheritance" issue, which was first mentioned in a July, 2006 board meeting and also became an issue as part of the economic growth debate. In fact, shifts between disciplinary slots and committee assignments have occurred frequently. Since 2005, seven of nine committee assignments have changed from one discipline to another. Nonetheless, there has been some confusion around this issue, and an exact procedure for assigning committee chairs is not in the protocols. Thus, a section needs to be added to the protocols cover this issue. For example, after each election, there could then be an "open season" on committee assignments where board members can express their interest to the President in taking on or continuing with particular assignments, with the President, on the basis of consultations, making the final decisions.

The Future of the SSWG

What are the most important lessons for SSWG moving forward? What range of issues and activities should SSWG consider going forward? Should this be narrowed or expanded from past and current SSWG practice?

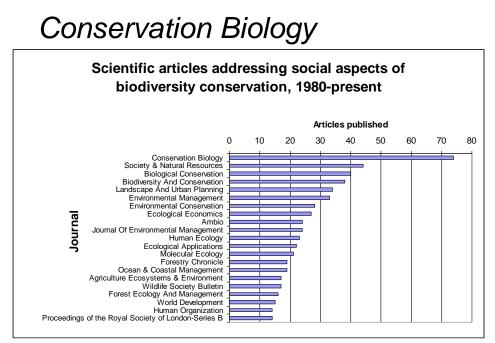
Seven of 10 respondents did not think the SSWG needed to add, eliminate or modify goals, while 3 did. In addition to the suggestion that the SSWG should adopt the economic growth position, it was also suggested that "SSWG should add a clear statement that the goal is to promote co-operation with the biological sciences......Conservation is likely to remain a domain that biologists conceive as their primary field, so "winning over" biologists .and facilitating cooperation and mutual understanding must be a primary target". The responses to the question "What challenges and opportunities do you see for conservation social science and the SSWG in the next five years" were wide-ranging. However, the most common theme that emerged was the need to deepen the work on applying the social sciences to conservation practice. The responses to the question "In rank order, what are the three most important activities for SSWG to undertake in the next five years (specific activities, not goals)?" are listed in their entirely in Appendix III, because there was little agreement on the first-ranked activity, although several activities recurred in the different rank-order positions. It is suggested that the SSWG can use this list to try and arrive at some consensus about priority action items at their next business meeting. The discussion of a question about the Working Group on Ecological Economics and Sustainability Science will be reserved for the following section on the SSWG within the SCB. There were references in several of the SSWG documents and in the survey to one future vision of the SSWG being that it should work itself out of existence. That is, that social sciences should be so intellectually and organizationally integrated in the SCB that there would be no need for a separate social science group. This view recently received partial support in the pages of Conservation Biology, "....we hope that the next 20 years will see the progressive blurring of the edges of conservation biology into a broader conservation science and the emergence of several new transdisciplines-the product of disciplinary fusion and consilience (Balmford and Cowling 2006).

The SSWG within the SCB

What was state of social science within the Society for Conservation Biology before the founding of SSWG? How has it changed since that time? To what extent is conservation social science currently integrated within the structure, activities, and membership of the overall Society? How has SSWG influenced these changes?

As the previous discussion has suggested, the actual presence of the social sciences in the SCB before 2002 was relatively slight and not institutionalized, despite the obvious sincerity of the frequent expressions of the need for it. It could be argued that environmental ethics had more appeal to most members and that "policy" was the focus of most social attention, even in the absence of policy scientists in the organization. Thus, it seems clear that the SSWG has very notably raised the profile of the social sciences within the SCB. The social sciences are now clearly integrated within the structure, activities, and membership of the overall society. The SSWG is now the third largest unit within the SCB, the President of the SSWG sits on the Board of Governors of the SCB (although, as noted earlier, separately elected by the general membership), and the number of sessions of various kinds at the annual meeting is significant. As well, the SSWG is having an influence on other sections, having advised the SCB Africa Section in establishing a Social Science and Gender Committee as a locus for social scientists in that section. Further, there appears to be a consensus within the SCB that the social sciences should play a central role in the development of conservation science. Indeed, one person interviewed suggested that the SCB needed to "rebrand" itself as being about "conservation science", to represent the current reality that goes well beyond just conservation biology. There is also wide agreement of the SSWG board that it has improved the state of social sciences within the SCB (7 of 9 strongly agreeing) and has had influence within the SCB, even if that influence should not be overstated (5 strongly agreeing and 4 somewhat agreeing). Finally, there are is evidence that the journal Conservation Biology as become the leading publisher of articles on social dimensions of Biodiversity Conservation, as evidenced by Figure I below.

Figure I: Scientific Articles Addressing Social Aspects of Biodiversity Conservation, 1980-Present.



Source: July, 2007 Board presentation powerpoint

There are, however, two important unaddressed issues for the SSWG within the SCB. The principal one are 1) the relationship with the WGEESS and the tensions over the economic growth position (although to some degree an internal issue, it is also an issue that has had broader ramifications within the SCB) 2) the status of working groups in general and their relationship to sections within the SCB and the possibility of working groups "graduating" to section status.

The WGEESS was founded in 2006 at a time when the SCB did not have established mechanisms for creating working groups, and its creation was thus not widely consulted or evaluated. The fact that the WGEES has assumed a controversial advocacy position within the SCB resulted in the Board of Governors establishing procedures for the creating working groups and for reauthorizing them every three years. The WGEESS defines itself as based on a "transdiscipline" and not a social science and thus argues that it does not directly compete with the SSWG. It further explicitly states that its "featured issue" is the relationship between economic growth and biodiversity conservation, and has thus vigorously pursued an effort to get the SCB in general to adopt a draft "Position on Economic Growth". Before its creation, the North American section of the SCB had adopted such a statement, and in December, 2005 Brian Czech as Chair of the Committee on Ecological Economics and Biodiversity Conservation of the North American section sent a letter to the Board of Governors with the support of 5 state chapters and one working group proposing that SCB support a statement about the incompatibility of economic growth and biodiversity conservation. The Board declined to consider the matter, and one of the responses was the formation of the WGEESS. Czech, now past President of

the WGEESS, was in 2006 elected to the board of the SSWG in the economics disciplinary slot. From that position, he attempted to get the SSWG to also adopt a statement against economic growth, which the board of the SSWG has also declined to so, although there was some degree of member support. The dispute over this issue has been chronicled in emails that have gone out to the membership of the SSWG, and between individuals, although there is nothing about it on the SCB or SSWG website.

Without going into further details or passing judgment on the merits of the economic growth position, which would not be in the scope of this review, it seems to have raised at least two governance issues thus far for the SSWG. 1) SSWG stance towards policy statements in general. Neither the SSWG nor the SCB had a general policy towards policy statements on behalf of units or the Society as a whole. This has since been rectified, and in March, 2008 issued an amended policy on policies, which governs the policy process in the SSWG as well. So this should prevent in the future some of the confusion that arose around the economic growth policy proposal. 2) The issue of consultation with the membership over policy statements or other important actions of the SSWG. As a part of the consideration process for the economic growth statement within the SSWG, the economics representative conducted an email survey of the SSWG membership and reported on its results. The SSWG also needs to adopt a policy on who can survey the membership and for what purposes.

The second issue has to do with the status of the SSWG within the SCB. Several members of the SSWG have expressed as a goal that it become a section of the SCB and not a working group. Sections different from working groups in several ways 1) Sections are all geographically-based (including marine as a geographical area), and were conceived as part of the effort to internationalize the SCB, 2) Sections receive very modest budgets from the SCB (~\$2,000), 3) Section presidents are automatically on the Board of Governors of the SCB. By contrast, working groups are thematically-based, can request funds from the SCB budget but are not guaranteed them, and do not necessarily receive the same level of institutional support as sections. Working Group heads do not automatically sit on the SCB board, but the social science representative to the board is, by the bylaws of the SSWG, also a member of that board, so in that sense the SSWG is guaranteed representation on the board. There is currently no precedent or procedure in the SCB bylaws for a working group to become a section. There have been discussions with some of the leadership of the SCB about the possibility of a mechanism for such a transition, and support has been expressed. However, the opinion was also expressed by SCB leadership in an interview that no mechanism for transitioning sections to working groups is being contemplated. Thus, this is a matter that the SSWG will have to take up formally with the Board of Governors and the Executive Director of the SCB. It will require a rethinking of the rationale for sections, which are now geographically-based, as well as the representational slots on the Board. Given that this becomes a somewhat complicated governance issue for the SCB, with the existence of varying opinions, this is likely to be a medium-term goal. One solution for the SCB would be to just extend the same support to working groups as to sections, and continue to define sections as geographically-based and working groups as thematically-based, although this obviously has implications for SCB financial and staff resources.

A final larger issue has to do with the degree of real acceptance within the SCB of social science perspectives. The SSWG is clearly fully integrated structurally, and has the support of the SCB leadership. But board respondents to the survey made reference to ongoing suspicions among SCB members, and this surely exists. Mutual suspicions about motives, methods, and values will continue to be a challenge. Fikret Berkes, in an email interview, expressed the perception of a leading common property social scientist who has dealt extensively with ecological issues, "The fact remains that Conservation Biology is really a biology journal that allows some social and interdisciplinary papers.... Maybe what SSWG can do is to work to increase the social and interdisciplinary content of Conservation Biology and Conservation Letters and make them more social science friendly. Right now, I don't think they are." It is likely, on the other side, that some conservation biologists still see social scientists as having a "stealth policy advocacy" for an agenda that places human welfare as equal to or more important than biodiversity conservation. It is, of course, precisely perceptions such as these on both sides that the SSWG is dedicated to overcoming, and it is an imposing but necessary task.

The SSWG in the broader field of Conservation Social Science

How has SSWG affected shifts in the importance accorded to and use of social science to foster more effective conservation interventions in the conservation community? What, if any, other groups are doing similar things to the SSWG? How does SSWG differ from them? Moving forward, how could SSWG be more effective in reaching its goals? How can SSWG best situate itself in the field? Are there emerging opportunities in the field that SSWG should become involved with? "

The board generally agreed that impacts had been made beyond the SCB, with 2 strongly agreeing and 5 somewhat agreeing, and with stronger agreement that the SSWG had a unique niche in the world of professional environmental associations. As one measure, the presence of the SSWG has been mentioned for its significance in at least four journal articles (West and Brockington, 2006; Vayda, 2006; Fox et al. 2006, Adams, 2008). The clearest effort that the SSWG has made to reach out to other disciplinary professional associations is two sessions held in successive years with the American Association of Geographers.

In an effort to understand the role of the SSWG and SCB in integrating social and natural sciences for biodiversity conservation a quick survey was made of a sample of other relevant social science and ecological professional associations. The survey included 16 professional associations and one forum (Appendix IV). This list suggests that the claim of the SSWG to be the most important unit working on social science and biodiversity conservation is well-founded. Of the professional associations surveyed, only one social science association specifically incorporates natural scientists and that as a small minority (5-10% in the International Association for Society and Natural Resources), although such figures are not easily available for most professional associations. The only other organization which specifically mentions biodiversity as one of its important goals is the International Society for Ecological Economics. Given that it

represents an intellectual current of great relevance to conservation biologists, at some point the SSWG may want to seek to establish relations with it. This, of course, is currently complicated by the role of the WGEESS within the SCB.

Most societies do not have the information available on how many social or natural scientists are in its ranks, including the SCB. However, the SSWG, with its 668 members, presumably not all of whom are social scientists, easily leads the field. Social science organizations with environmental sections frequently lump it with other issues (science and technology) and never mention biodiversity conservation as a specific interest. As well, the SCB is the only professional association that specifically speaks of integrating the natural and social sciences for the conservation of biodiversity.

Missing from this brief survey are regional associations (e.g. Latin America, Asian, and African Studies Associations) or other relevant ecological associations (The Wildlife Society), but it can be presumed that the former are almost all social scientists or humanities specialists and the latter almost all ecologists, and integration is not a stated goal. A persistent concern expressed in SSWG board meetings has been to have an impact on conservation practitioners, but there is little available evidence that this may have taken place.

Although the response rate was low, those thought leaders who responded to the survey think well of the SSWG and are clear on the academic difficulty of the challenge it has taken on. In an email interview for this survey, Dr. Fikret Berkes, who has been a keynote speaker at an SCB meeting noted, "I have been to two SCB meetings and have associated with members of the SSWG. I am very keen about the SSWG and I think that it has done a good job carrying out its mandate." Economist Paul Ferraro also noted that he thought the SSWG "was doing a good job"

However, the continued challenges in the larger field of integration are still daunting. As Paul Ferraro also noted for the case of economics,

"If you look at the most high-profile economics work in conservation, it is done (not very well) by ecologists not economists. In addition to the paucity of PhD economists working in this field, the observation that economists have apparently ceded the economic work to natural scientists is a largely a function of (1) economists are unintelligible when explaining their methods or conclusions, (2) economists ask different questions, and (3) economists get the wrong answers (from the perspective of natural scientists). That said, however, there is far less hostility to economics among natural scientists than there was 10 years ago, as well as far more understanding of basic economic issues (e.g., opportunity costs exist; incentives matter, etc.). Among economists, I do see more sophisticated work using biological models (e.g., patch dynamics and metapopulations in fisheries economics), but as noted above, the rewards for such work are limited. Finally, another serious problem is that economists are not professionally rewarded for publications in major science outlets, which have the most influence on conservation policy. So whereas a conservation biologist would receive rewards for a publication in Science, Nature, PNAS, TREE or Ecology, just like any

other natural scientist, an economist would not (in my annual performance review, I was asked if PNAS was a peer-reviewed journal". (email interview, 6/16/08)

Conclusions and Recommendations

The magnitude of the task that the SSWG has taken on is exemplified by the fact that no one had previously attempted it, and the survey of other professional associations suggests that no one else is currently embarked on the endeavor. The vigor and passion with which the challenge has been undertaken by the SSWG is indisputable and clearly the SSWG has larger contributions to make in the future. The SSWG truly represents a historic achievement; it has undertaken the fusion of the two lines of thought proposed by Aldo Leopold in the 1930s. It is the first sustained effort to integrate social scientists into a professional association of biologists. No professional association of social scientists is making any such sustained effort to incorporate biologists. The SCB also has much reason to be grateful to the SSWG, since it is allowing it to realize a long-held but mostly unrealized vision of disciplinary integration. Much credit is due to the young leadership of the SSWG for having the energy and the motivation to make this happen, and it is likely that they are forming the nucleus for a future social science leadership in the SCB. They are devoting much more time and effort to the SSWG than appears to be the case with most other units of the SCB, and have taken on time commitments more characteristic of leadership of an entire association rather than a subunit. The seriousness of purpose and the range of instruments used to evaluate themselves at the five year mark is another indicator of the degree of responsibility the leadership feels about its mission. Their energy may help the SCB move towards a "rebranding" as a society focused on conservation science, the Society for the Conservation of Biodiversity (SCB), an option that was suggested by Alan Thornhill in an interview for this survey. It may help happen, in a shorter time frame, what was envisioned by Balmford and Cowling (2006) "....we hope that the next 20 years will see the progressive blurring of the edges of conservation biology into a broader conservation science and the emergence of several new transdisciplines-the product of disciplinary fusion and consilience".

However, as the SSWG moves forward in a mission of transiciplinarity, it faces several major challenges, both intellectual and organizational.

1) Intellectual Challenges

a) Social Sciences as Tools. The SSWG has thus far, to some extent, highlighted a noncontroversial "social science as tools" approach to integrating the social sciences into conservation biology, and in some publications has focused on their utility for improving protected area management. However, in the panels that it has sponsored at the SCB annual meetings, it has introduced some of the more controversial issues in conservation sciences. These include human rights and conservation, conservation evictions, poverty and conservation, and community conservation areas. This sort of debate should be encouraged and also highlighted by the SSWG. Conservation science will not emerge as a true "transdiscipline", as ecological economics styles itself, unless it continues to engage in the robust debate over methods, evidence, and theory that move the scientific

enterprise forward. Conservation Biology has always been rich in controversies. "Friction was inherent not only in the relationship of conservation biology to related fields but also within the field itself and within the SCB that represented it....Some of it...involved deeper tensions in conservation: between sustainable use and protection; between public and private resources; between the immediate needs of people and obligations to future generations and other life forms" (Meine et al. 2006). Friction over policy issues has recently been exemplified by varying accusations that conservation biology is following "neoliberal" policies and engaging in "stealth policy advocacy" (Büscher, 2008; Wilhere 2008).

SSWG could go further in encouraging this kind of debate³. Some SSWG literature has suggested that a primary contribution of the social sciences is in the development and management of protected areas (Mascia et al. 2006) or even more bluntly "compliance with protected area regulations". It would be useful if the SSWG could also deepen work on not just improving protected area management, but in discussions about, for example, whether conservation evictions are a sustainable strategy and whether they ultimately benefit conservation goals. Another area would be encouraging discussion of the tradeoffs between biodiversity conservation and human welfare or poverty alleviation. Some social scientists would argue that in many situations biodiversity conservation can only be achieved when human needs are taken into account, that conservation as an isolated goal is doomed to failure, which if were proven correct would be a very important social science contribution. Both social scientists and some ecologists may see protected areas, the most common point of contention between social scientists and conservation biologists, as only one of a suite of land use strategies which may contribute in varying degrees to biodiversity conservation and human welfare (Nepstad et al, 2006; Hayes, 2006; Ostrom et al. 2007). Both social scientists and ecologists have argued that an exclusive pursuit of protected areas springs as much from ideology as evidence, and that protected areas in some situations may neither protect biodiversity or improve human welfare, and indeed may be "shibboleths" which need to be more critically examined (Adams et al. 2004; Redford et al. 2006). Of course, the SSWG as a professional association should not be taking positions on any of these issues, but it should continue to encourage debate on them on its website, on annual meetings in panels, and in venues like working papers.

The SSWG may also benefit from encouraging or placing its mission within more theoretical work on the integration of the social and natural sciences for biodiversity conservation. Conservation biology is founded on powerful theories such as island biogeography, niche theory, and community theory. Foundational social science concepts include rational actor models, opportunity costs, theories of collective action, and property rights. But theories that truly integrate these varying concepts are still emerging. Ecosystem management has been taken as one important integrating concept for the practical application of concepts for both scientific areas (Meffe et al. 2002). At a more theoretical level, efforts to define dynamics of coupled human and natural systems

³ I am not here referring to the debate over the economic growth statement, that is not an intellectual debate per se, but whether or not an entire professional association should become formally associated with a particular policy position

and resilience in social-ecological systems are at the cutting edge of disciplinary integration for the resolution of a variety of environmental problems, biodiversity conservation prominent among them (Pickett et al. 2005, Walker et al. 2006; Liu et al. 2007).

b) Reaching out to the practitioner community. The SSWG leadership has often expressed a desire to reach out to the practitioner community. This is an interesting notion. I do not know what percentage of the membership of the SCB in general are practitioners and not academics. In any event, it is likely that most practitioners in the organization are US-based. These practitioners will have access to as wide a variety of methodological tools as they care to pursue, so it is not clear if the social science toolkit is something really useful to them. The usage rates suggest not much. If the SSWG is serious about this goal, they may want to undertake a brief survey of the practitioner membership of the SCB to ascertain what kind of social science "tools" they really need and if the SSWG has a useful role in providing them.

2. Organizational Challenges

The SSWG has accomplished much and has generally functioned well as an organization. The challenge of dealing with the economic growth advocates was clearly difficult but it has also helped both the SSWG and SCB mature as organizations. The survey responses indicate that the issue created much stress and discomfort and affected morale within the leadership. However, now that the SCB has adopted a clear policy on considering position statements, the most difficult aspects of this issue would appear to be behind the SSWG. The remaining organizational challenges the SSWG face include:

a) Youth of Leadership. Most board members are in the early stages of their careers and, when in academia, still in tenure-earning or non-tenure track positions. This is an excellent opportunity for them to gain visibility in an important international professional association and the SSWG has moved forward because of their energy and the time commitment they are willing to make. The SCB itself was founded by young renegade biologists with a vision, and it is likely that SSWG is being driven forward by young renegade social scientists and socially-oriented biologists willing to take a chance with their careers outside the mainstream of their disciplines. There have been a couple of senior social scientists who have been board members in the past, but are not currently serving. That there are not more senior social scientists currently involved is quite likely a reflection of their being few senior social scientists heavily involved in SCB. Also, given limited funds for conference travel, most social scientists will prioritize the meetings of their own discipline. This also makes it difficult to prioritize a professional association still dominated by biologists. Nonetheless, the SSWG would clearly benefit from the recruitment of a few more senior social scientists into its current leadership ranks. However, this may also be difficult because of the current time commitment expectation.

b) Time Commitment. The SSWG has been able to occupy as much space as it has within the SCB because of the willingness of much of the young leadership to give a

large amount of professional time. It has been suggested that officers and committee heads be willing to dedicate as much as 5-10% of their professional time to SSWG tasks. More senior scholars or practitioners, who may serve on multiple boards, are not likely to be able to dedicate this much time.

c) Board Elections, Committee Performance, and Reform. The SSWG has performed well because most of the committees have performed well, although the "social desirability bias" may have led some respondents to overstate the performance success of some committees. The two committees that clear had the most problems, according to the survey, were the policy committee and the membership committee. In each case, this was because the committee chair did not choose to carry out their functions. The obvious solution is to get people in there truly committed to the responsibility. The Program Committee has probably had the highest profile success, with the major expansion of defined social science symposia and other activities at the annual meetings, and this likely has broad if difficult-to-measure impacts. The number of syllabi online has expanded somewhat over the past two years, but it is difficult to know how useful that has been. The Catalog of Social Science Tools also helps to raise the profile of the SSWG, but it is still notably incomplete after two years, and as mentioned earlier, its real utility not clear. Finally, the working papers series is probably the most obvious failure of the SSWG, since none have been issued, although a few have been considered and rejected as unsuitable. It has also been suggested that the SSWG consolidate some committees and it needs to think through the issue of the relationship between the disciplinary seats to which people are elected and the committee assignments which constitute their labors for the SSWG.

d) The Leadership Transition. Survey respondents frequently mentioned concern about leadership transition in the SSWG. The current and founding President has been in office five years, and has clearly been a key figure, with others, in the success that SSWG has had. The SSWG would be lucky to get someone with the same degree of energy and commitment, so the concern is appropriate.

e) The Financing Problem. I mention finances only because they obviously need to be mentioned. Clearly, the SSWG could accomplish more with better financing, and finally what it is able to accomplish will be limited if it has to rely purely on volunteer labor by busy professionals. Without financing, it needs to be realistic in setting its goals. It has used the small amounts of financing it has been able to get effectively on travel grants for LDC participants and student awards, but money is hard to get, and there is no guarantee this situation will change.

f) Projection in the Larger Field. Thus far, the principal organization effort to reach out beyond the SCB, other than the website, is by co-sponsoring symposia with the AAG. The SSWG may want to continue this practice with other professional associations, and aim for some broader interdisciplinary scientific venues. Fikret Berkes suggested a panel at the National Academy of Sciences annual meetings. As well, it was mentioned in a June, 2006 board meeting the possibility of a joint venture with the journal *Human Dimensions of Wildlife* and efforts like this could be pursued.

Recommendations

- □ The survey suggests a wide range of opinions on what the SSWG should prioritize over the next five years, so it should take advantage of its well-conceived strategic review to arrive at a consensus on priorities.
- □ The SSWG may want to recruit some more senior social scientists into current leadership positions, but with the tradeoff that these individuals may not be able to dedicate as much time as has been expected thus far.
- □ The SSWG will need to formally engage various governance levels of the SCB in order to advance discussions of mechanisms for making a transition from a working group to a section. Given that this represents a complicated governance issue for the Board of Governors, this is not likely to be a mechanism that is introduced very soon.
- □ SSWG may want to evaluate the utility of the Catalog of Social Science Tools and survey practitioner constituencies to find out what they really need.
- □ The SSWG may want to prioritize the relaunching of the working paper series, but give it a focus on encouraging debate on the social dimensions of biodiversity conservation and on integrating concepts for the social and natural sciences. It could help move this forward if the SSWG could commission papers with a modest honorarium, but that of course depends on funding.
- □ The SSWG needs to clarify the relationships and duties between people who are elected to disciplinary seats and their committee assignments and possibly institute an "open season" on committee assignments after each election, to try and assure that people have assignments they are enthusiastic about, with the President having final decision-making power on the assignments. It may also want to consider consolidating some committees, or (something not previously mentioned) creating an "advancement" committee that would commit to getting out at least 2-3 funding proposals a year.
- □ As a step towards deepening the integration of the social sciences within the SCB, the SSWG could pursue an idea mentioned in an April, 2006 board meeting, that of a social science special issue of Conservation Biology and a bibliography (or even an edited volume, a "reader) of social science papers previously published in the journal.
- □ The SSWG may want to prioritize outreach to higher profile interdisciplinary scientific societies like the American Association for the

Advancement of Science or the National Academy of Sciences. The SSWG, with the SCB, could seek to organize a panel with prominent figures working in the general area of the integration of social and natural sciences for the conservation of biodiversity

Bibliography

Adams, W. M., R. Aveling, D. Brockington, B. Dickson, J. Elliott, J. Hutton, D. Roe, B. Vira, and W. Wolmer. 2004. Biodiversity conservation and the eradication of poverty. *Science* 306:1146-1149.

Adams, W.M. 2007. Thinking like a Human: social science and the two cultures problem. *Oryx.* 41(3), 275-276.

Balmford, A. and R.M. Cowling. 2006. Fusion or failure? The future of conservation biology. *Conservation Biology*. 20:3, 692-695.

Bawa, K.S., R. Seidler, P.H. Raven. 2004. Reconciling Conservation Paradigms. *Conservation Biology*. 18(4):859-860.

Brosius, J.P. 2006. Common Ground between Anthropology and Conservation Biology. *Conservation Biology*. 20(3):683-685.

Büscher, B. 2008. Conservation, Neoliberalism, and Social Science: A Critical Reflection on the SCB 2007 Annual Meeting in South Africa. *Conservation Biology*. 22:2, 229-230

Campbell, L. 2005. Overcoming Obstacles to Interdisciplinary Research. *Conservation Biology*. 19:2:574-577.

Ehrenfeld, D.W. 1970. *Biological Conservation*. Holt, Rinehart, and Winston, New York.

Fox, H.E., C. Christian, J.C. Nordby, O.R.W. Pergams, G.D. Peterson, and C. R. Pyke. 2006. Perceived Barriers to Integrating Social Science and Conservation. *Conservation Biology*. 20(6):1817-1820.

Hayes, T. M. 2006. Parks, people, and forest protection: an institutional assessment of the effectiveness of protected areas. *World Development* 34:2064-2075.

Mascia, M., J.P. Brosius, T.A. Dobson, B.C. Forbes, L. Horowitz, M.A. McKean, N.J. Turner. 2003. Conservation and the Social Sciences. *Conservation Biology*. 17:649-650.

Medley, K.E. and H.W. Kalibo. 2007. Global Localism: Recentering the research agenda for biodiversity conservation. *Natural Resources Forum*. 31:151-161

Meine, C., M. Soulé, and R. Noss. 2006. 'A Mission-Driven Discipline': The Growth of Conservation Biology. *Conservation Biology*. 20:3, 631-651.

Meffe, G.K., L.A. Nielsen, R.L. Knight, D.A. Schenborn. 2002. *Ecosystem Management: Adaptive, Community-Based Conservation*. Island Press: Washington, D.C. Nepstad, D., S. Schwartzman, B. Bamberger, M. Santilli, D. Ray, P. Schlesinger, P. Lefebve, A. Alencar, E. Prinz, G. Fiske, and A. Rolla. 2006. Inhibition of Amazon deforestation and fire by parks and indigenous lands. *Conservation Biology* **20**:65-73

Ostrom, E., M.A. Janssen, and J.M. Andries. 2007. Going beyond panaceas. *Proceedings* of the National Academy of Sciences. 104(39):15176-15178.

Pickett, S.T.A., M.L. Cadenasso, and J.M. Grove. 2005. Biocomplexity in Coupled Natural-Human Systems: A Multidimensional Framework. *Ecosystems*. 8,3:225-232.

Redford, K. H., J. G. Robinson, and W. M. Adams. 2006. Parks as Shibboleths. *Conservation Biology* **20**:1-2.

SSWG. 2006. *Annual Report*. Social Science Working Group, Society for Conservation Biology.

Thornhill, A. 2003. Social Scientists and Conservation Biologists Join Forces. *Conservation Biology*. 17:1476.

Uebersax, J.S. 2006. Likert scales: dispelling the confusion. Statistical Methods for Rater Agreeement website. http://ourworld.compuserve.com/homepages/jsuebersax/likert2.htm. Accessed 5/29/08.

Vayda A.P. 2006. Causal explanation of Indonesian forest fires: Concepts, applications, and research priorities. *Human Ecology*. 34 (5): 615-635.

Walker, B, L. Gunderson, A. Kinzig, C. Folke, S. Carpenter, L. Schultz. 2006. A Handful of Heuristics and Some Propositions for Understanding Resilience in Social-Ecological Systems. *Ecology and Society* (1):13. [online] URL: <u>http://www.ecologyandsociety.org/vol11/iss1/art13/</u>

West, P. and D. Brockington. 2006. An Anthropological Perspective on Some Unexpected Consequences of Protected Areas. *Conservation Biology*. 20(3):609-616.

Wilhere, G.F. 2008. The How-Much-Is-Enough Myth. Conservation Biology. Online.

West, P. and D. Brockington. 2006. An Anthropological Perspective on Some Unexpected Consequences of Protected Areas. *Conservation Biology* 20:609-616.

Appendix I: Original RFP

Request for Proposal Concept

Strategic Review of the Society for Conservation Biology's Social Science Working Group

Deadline for responding: March 21, 2008

Background

The Social Science Working Group (SSWG) of the Society for Conservation Biology is a global community of conservation scientists and practitioners. Established in 2003, the SSWG is dedicated to strengthening conservation social science and its application to conservation practice. The Working Group's longer-term vision includes the following:

- conservation social science fully integrated within the structure, activities, and membership of the Society for Conservation Biology;
- increased social science awareness and capacity among conservation scientists and practitioners;
- widespread recognition of the SSWG as the leading organization for integration of social science into the science and practice of biodiversity conservation.

Three principle goals guide the work of the SSWG toward this vision:

- 4. Advance the development and dissemination of social scientific knowledge relevant to the conservation of biological diversity.
- 5. Foster the use of social scientific knowledge to resolve conservation problems.
- 6. Develop and carry out organizational core functions efficiently and effectively.

To address these goals, SSWG seeks to create forums and mechanisms for information exchange, promote dialogue and debate, and build social science capacity among conservation practitioners.

The SSWG seeks a qualified consultant or team to implement a program review of its activities and operations from its founding in 2003 to June 2008. The results and recommendations from this review will form the central component of a strategic review process the SSWG is undertaking to develop a plan for its next five years. This process will culminate at a planning meeting of the SSWG Board on the occasion of the July 2008 SCB annual meeting in Chattanooga, Tennessee, during which the consultant or team will present and discuss the results of their review.

Deliverables

The SSWG seeks proposals for the preparation and delivery of a paper and presentation at the SSWG Board retreat that would include:

1) Concise analysis of research findings and assessment of the work of SSWG from 2003-2008 situated in broader context of conservation field during this period.

2) Recommendations for the future course of action for SSWG set within an approximate five-year time horizon.

The final report would be due **by July 1, 2008.** In addition, a 30-minute PowerPoint presentation summarizing the report results should be included. This presentation will be given to the SSWG Board at the 2008 SCB annual meeting, scheduled for the weekend of **July 12, 2008**. Presenters will take part in discussion with Board regarding findings and recommendations.

Proposal Submissions

The SSWG requests that individuals and organizations interested in obtaining this consultancy respond in the form of a proposal concept, not to exceed four pages, describing their qualifications and proposed methods. The proposal should include an estimate of the time required to complete the consultancy, as well as a preliminary proposed budget. \$5,000.00 along with funding to cover expenses related to travel to the SSWG Board retreat is currently available for this project; additional funds are being sought.

In addition to the four-page proposal, responding individuals or organizations may wish to provide additional materials relating to their practical experience in the field. Strong candidates will have a strong robust familiarity with the social scientific dimensions of conservation, the conservation community, and experience in compiling and analyzing institutional information, as well as excellent writing, communication and presentation skills.

Proposals should be submitted electronically to Daniel Miller, Secretary of the SSWG, by **February 29, 2008**. The SSWG Board will interview selected respondents and choose the consultant. We anticipate that the consultant will be selected by March 7, 2008.

To submit a proposal concept or for more information please contact:

Daniel Miller Secretary and Political Science Representative Social Science Working Group Board dcmille@umich.edu Tel: 312.804.2000 Appendix II: Survey of Past and Present Members of the SSWG Board

I. Introduction: Characteristics of Board Members

- 1. Highest Academic degree?_____
- 2. Year Received?_____
- 3. Discipline?_____
- 4. Current Position_____
- 5. Current Institution a) Four Year College b) University c) NGO d) Government e) other
- 6. Name of Institution_____

II. Achievement of Goals

7. The SSWG has advanced the development and dissemination of social scientific knowledge relevant to the conservation of biological diversity.

Strongly	Somewhat	Neiether Agree	Somewhat	Strongly
Disagree	Disagree	or Disagree	Agree	Agree

- 8. Please add any comments or examples.
- 9. The SSWG has fostered the use of social scientific knowledge to resolve conservation problems.

Strongly	Somewhat	Neiether Agree	Somewhat	Strongly
Disagree	Disagree	or Disagree	Agree	Agree

10. Please add any comments or examples

11. The SSWG has developed and carried out organizational core functions efficiently and effectively.

Strongly	Somewhat	Neiether Agree	Somewhat	Strongly
Disagree	Disagree	or Disagree	Agree	Agree

12. Please add any comments or examples

III. Successes and Failures

- 13. What do you think is the single most successful thing the SSWG has done?
- 14. Why do you think it was successful? What factors contributed to the success?
- 15. What is the second most successful thing the SSWG has done?
- 16. Why do you think it was successful? What factors contributed to the success?
- 17. In terms of its original goals, where has the SSWG had the least success? (mention up to two areas)
- 18. Why do you think the SSWG was unsuccessful in these areas?
- 19. What are the most important lessons for SSWG either from the successes or the failures?

IV. Governance of the SSWG

20. The current governance structure of the SSWG functions reasonably well in meeting the goals of the organization..

Strongly	Somewhat	Neiether Agree	Somewhat	Strongly
Disagree	Disagree	or Disagree	Agree	Agree

21. Please comment

22. The SSWG leadership has carried out its duties well

Strongly	Somewhat	Neiether Agree	Somewhat	Strongly
Disagree	Disagree	or Disagree	Agree	Agree

23. Please comment

24. The committee on which I served, as a Chair or member, met its goals.

Strongly	Somewhat	Neiether Agree	Somewhat	Strongly
Disagree	Disagree	or Disagree	Agree	Agree

25. Please comment

We would now like to ask you your opinion on the performance of each one of the nine committees of the SSWG

26. The Program Committee functioned reasonably well in meeting its goals.

Strongly	Somewhat	Neither Agree	Somewhat	Strongly
Disagree	Disagree	or Disagree	Agree	Agree

27. Comments:

28. The Policy Committee functioned reasonably well in meeting its goals.

Strongly	Somewhat	Neiether Agree	Somewhat	Strongly
Disagree	Disagree	or Disagree	Agree	Agree

29. Comments:

30. The Communication Committee functioned reasonably well in meeting its goals.

Strongly	Somewhat	Neiether Agree	Somewhat	Strongly
Disagree	Disagree	or Disagree	Agree	Agree

31. Comments:

32. The Membership Committee functioned reasonably well in meeting its goals.

Strongly	Somewhat	Neiether Agree	Somewhat	Strongly
Disagree	Disagree	or Disagree	Agree	Agree

33. Comments:

34. The Student Affairs Committee functioned reasonably well in meeting its goals.

Strongly	Somewhat	Neiether Agree	Somewhat	Strongly
Disagree	Disagree	or Disagree	Agree	Agree

35. Comments:

36. The Nominations Committee functioned reasonably well in meeting its goals.

Strongly	Somewhat	Neiether Agree	Somewhat	Strongly
Disagree	Disagree	or Disagree	Agree	Agree

37. Comments:

38. The Audit Committee functioned reasonably well in meeting its goals.

Strongly	Somewhat	Neiether Agree	Somewhat	Strongly
Disagree	Disagree	or Disagree	Agree	Agree

39. Comments:

40. The Education Committee functioned reasonably well in meeting its goals.

Strongly	Somewhat	Neiether Agree	Somewhat	Strongly
Disagree	Disagree	or Disagree	Agree	Agree

41. Comments:

42. The Conservation Committee functioned reasonably well in meeting its goals.

Strongly	Somewhat	Neiether Agree	Somewhat	Strongly
Disagree	Disagree	or Disagree	Agree	Agree

43. Comments:

[Questions 44 and 45 were duplicates of questions 39 & 40.]

46. Should the SSWG add committees? Yes_____ No_____

- 47. If yes, what should be added?_____?
- 48. Should the SSWG eliminate committees? Yes_____ No_____
- 49. If so, what committee(s)?_____

V. The Future

50. Should the SSWG add, eliminate or modify any of its goals? Yes_____ No_____

51. If yes, please comment:

52. What challenges or opportunities do you see for conservation social science and the SSWG in the next five years?

53. In rank order, ,what are the three most important activities for SSWG to undertake in the next five years (specific activities, not goals)?

54. There are now two working groups focused on the social sciences in the SCB, the SSWG and the Working Group for Ecological Economics and Sustainability Science (WGEESS). Do you think there should be more specialized social science working groups within the SCB?

Yes_____ No_____

55. Comments:

VI. The SSWG and the SCB

56. Since the founding of the SSWG, the state of social science within the SCB has improved.

57. Give an example(s) of how the state of social science within the SCB has changed

58. The SSWG has significant influence within the SCB

Strongly	Somewhat	Neiether Agree	Somewhat	Strongly
Disagree	Disagree	or Disagree	Agree	Agree

59. Please comment.

60. Any other comments on the role of the SSWG within the SCB?

VII. The SSWG and the wider environmental/conservation field.

61. The SSWG has had some impacts with reference to integration of social and natural sciences to address environmental problems beyond the SCB.

Strongly Somewhat Neiether Agree Somewhat Strongly Disagree Disagree or Disagree Agree Agree

62. Comment:

63. Does the SSWG have a unique niche in the world of professional environmental associations? Yes_____ No_____

64. Comments:

65. Do you belong to another environmentally oriented professional organizations? Yes______ No_____ 66. If yes, what is the name of the organizations?_____

67. Is the SSWG/SCB your most important professional association? Yes____No____

68. If you could found a new interdisciplinary professional conservation science or environmental science organization, what would you call it?

69. What would its focus be?_____

70. What are two things the SSWG could be doing to raise its profile and be more effective in the broader conservation and environmental fields?

71. Any final thoughts on the SSWG that have not been elicited by any of the questions above?

Appendix III: Responses to Question on Future SSWG Activities

Question (9 responses): In rank order, what are the three most important activities for SSWG to undertake in the next five years (specific activities, not goals)? Activities ranked number one: SCB special symposia. Set clearly defined, achievable goals and follow them up in a strategic manner. Identify unfinished projects and finish them off (dot i's and cross t's. Measure our impact. Further develop online resources. Firm up/clarify internal governance and leadership succession plans. Support the effort toward SCB adoption of a position on economic growth. Help SCB adopt some of the SSWG's goals as their own (like ensuring a strong and well-organized social science program in each annual meeting without SSWG having to mastermind the effort). Promotion of the SSWG & the need for social science. Activity ranked number two: Update Web resources. Internationalize. Seek sectionhood w/in SCB. Train conservation personnel in social science. Publicize resources so they are used and interactive. Broaden membership and deepen member participation. Reform the SSWG committee structure such that committees are more organically derived and less oligarchically directed. Increase our membership social capital - i.e., increase the number of active SCB members willing to work - i.e., devote time and energy to - the goals of integrating social and natural science for conservation. Continue its capacity building activities. Activity ranked number 3: Boost Conservation Letters. Promote SSWG achievements/tools, thus broadening its impact. Fundraising to support % of SSWG Board/officers time. Increase our presence in SCB. Survey practitioners and academics for needs and case studies. Develop policy work and advocacy in coordination w/ scb generally. Development of a North/South ethical framework for allocation of conservation resources and distribution of conservation benefits. Clarify our strategic plan and better elucidate the connectivity between each committee's mandate and between the committees collectively and the overarching SSWG goal. Reaching out to new audiences, increase membership.

Appendix IV: Social Science and Biodiversity Conservation in other Social Science and Ecological Professional Associations

Association	Section	Yr. Section Founded	No. of Members	Comments
American Association of Geographers	8 sections on environmental issues	Tounded	Wembers	No specific mention of biodiversity conservation (BC)
American Anthropological Association	Anthropology and Environment		529	Interest in ecology, environment, and Environmentalism. No BC.
American Psychological Association	No dedicated Section			Conservation psychology an emerging field but no institutional presence. BC not mentioned on website
American Political Science Association	Science, Technology and Environmental Politics			No mention of BC
Society for Applied Anthropology	No dedicated section			No mention of BC
Society for Human Ecology	NA			Promotes the use of an ecological perspective in research, education, and application. No mention of BC.
American Sociological Association	Environment and Technology		419	Promote sociological research and professional activity in relation to environmental and technological issues. No mention of BC.
International Association for Society and Natural Resources	NA	2002	~850	Research pertaining to the environment and natural resource issues. 5-10% natural scientists. No BC
The International Society for the Study of Religion, Nature & Culture	NA	2006	200	Critical inquiry into the relationships among human beings and their diverse cultures, environments, religious beliefs and practices. No BC.
American Economics Association	No dedicated section			
International Association for the Study of the Commons	No dedicated section	1989	~800	fostering better understandings, improvements, and sustainable solutions for environmental, electronic, and any other type of shared resource that is a commons or a common-pool resource. No BC.
Rural Sociological Society	Natural Resources Research Group		161	Society seeks to enhance the quality of rural life, communities and the environment. No BC.
International Association for People-Environment Studies	NA	1981	250	study of the transactions and interrelationships between people and their socio-physical surroundings (including built and natural environments) and the relationto other social and biological sciences No BC
The Poverty and Conservation Learning Group	Note: Forum, not an association. Included because of direct link it makes between conservation and human welfare			: To promote better understanding on the links between conservation and poverty linkages in order to improve conservation and poverty policy and practice
Association of Environmental and Resource Economists	NA	1989	800	Exchanging ideas, stimulating research, and promoting graduate training in resource and environmental economics. No BC.
The International Society for Ecological Economics		1989		. advancing understanding of the relationships among ecological, social, and economic systems for the mutual well-being of nature and people address management of local biodiversity
Ecological Society of America	Six sections concern human dimensions			Applied ecology, agroecology, environmental justice, human ecology, traditional ecological knowledge, urban ecosystem knowledge