

# **Five-year Strategic Plan**

**The Society for Freshwater Science**

**2014**



**Assembled by the 2013-2014 Long-Range Planning Committee**

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## Preface

During 2008-2009, the Society for Freshwater Science (NABS at that time) undertook developing its first 5 year Strategic Plan. The Long-Range Planning Committee (LRPC), composed of Michael Barbour, Bryan Brown, Ann Hershey, Joseph Holomuzki (Chair), Paula Furey, Seth Reice, and Len Smock were central to that first planning process. From their effort, the first 5-year Strategic Plan outlined 4 overarching goals. **“The Society should: 1) better position itself so as to be viewed as a key source for science-based management decisions and to influence public policy and perceptions, 2) better interact with educators to improve aquatic science education, 3) grow and diversify, and 4) increase the number of individuals with taxonomic certification.”** Several actions were recommended to foster achieving the goals and Society committees devised additional actions. Not surprisingly, many activities that supported the Strategic Plan were implemented with little discussion while others generated a healthy debate within the Society. Several actions, some that were initiated shortly after the Strategic Plan was approved and some initiated more recently, are ongoing and will likely become permanent elements of the SFS. One element of the 2009 Strategic Plan that is still under consideration is the need to establish an Executive Director.

The current LRPC (Mark Luttenton (Chair), Tom Arsuffi, Steve Francoeur, Nick Aumen, Judy Li, Melissa Martin, and Brian Shelley) was asked to review the Strategic Plan during 2013, and to reconfirm and/or revise the existing goals, or conceive new goals that will advance the mission and purpose of the SFS. During the review process, we solicited input from the Society officers, standing committees, and from the membership.

## Society Mission and Purpose

Throughout its history, the Society for Freshwater Science has been dedicated to “promote further understanding” of aquatic ecosystems. The focus of that understanding however, has evolved over time and has been reflected in the name of the Society. As the North American Benthological Society (NABS), the purpose focused on “understanding the role of biological and physical processes in stream and lake bottoms”. To better reflect the full interests and diversity of the members, and concurrent with the change to the Society for Freshwater Science, the focus was broadened to include all “freshwater ecosystems (rivers, streams, lakes, reservoirs, and estuaries) and ecosystems at the interface between aquatic and terrestrial habitats (wetlands, bogs, fens, riparian forests and grasslands)”. The publications of the Society further reflect the broad interests of the members and aquatic sciences in general, and they foster the exchange of information and ideas across the scientific disciplines, reaching an international audience. That information forms the basis of the Society’s effort to inform policy and decision makers at the local, regional, national, and international levels.

Currently, the SFS provides numerous services to its members and the broader aquatic sciences community. These include SFS publications such as the Society journal (*Freshwater Science*, published 4 times annually), Newsletter (*In the Drift*), and Current and Selected Bibliography, available on the Society’s web page. The SFS hosts an annual meeting to foster the dissemination of current information, the open exchange of ideas, and professional networking. The meeting also includes educational workshops and a taxonomy fair. Other services include access to SFS educational materials and pictures, and the opportunity to earn professional certification for taxonomic proficiency with benthic macroinvertebrates.

The 2009 Strategic Plan framed the strategic goals within the context of current and future water issues. Within that context, moving the Society to a leadership position regarding water issues was a common theme of the Strategic Plan. Five years on, the specter of water-related issues has grown and the need for science-based decision-making is even more critical. Given the focus of and expertise in SFS, the Society is well positioned to provide the research to inform decision-makers and educate future scientists, policy-makers, and the public.

Our strategic plan is designed to assist the Society in establishing priorities in the form of goals and objectives that will help direct actions we take to promote the Society’s mission. It is a plan that looks to the future and articulates the future direction of the Society. While the 2014 Strategic Plan may have been drafted by the Long-Range Planning Committee and members of the Society’s leadership, it will be the actions of the SFS membership and Standing Committees that ultimately determines the success of this plan. Implementation of the goals and initiatives contained in the Plan requires the membership to examine all elements of the plan and then through their endorsement, the membership directs the Board of Directors to initiate actions associated with various goals and objectives. As with any strategic plan, the success of this Plan will be a function of how involved the membership is in tackling different goals and objectives. This cannot be done solely by the Board, but must be a collaborative process whereby individual members and/or Standing Committees define an activity that addresses a particular goal or objective, and the Board then assists when resources are needed to implement any activity. Our Strategic Plan is a living and dynamic document which will direct the actions of members in order to ensure the success, vitality and growth of the Society.

## Research and Membership

Issues related to water quality, quantity, and security will be important in the first half of the 21<sup>st</sup> century. Many of the most significant challenges associated with water problems over the next 50 years will require fundamental research and education in the aquatic sciences. The SFS is a focal point for basic research and education in the aquatic sciences and the SFS should be ready and poised to use its collective knowledge as a professional society to address water issues. Its members are well-equipped to conduct basic research and to train the next generation of aquatic scientists that will be called upon to develop solutions to climate-related water problems, such as the conservation of aquatic biodiversity, water allocations and shortages, water-borne infectious diseases and their spread, safe water treatment and drinking water, hydropower supplies, and eutrophication. In response to the central importance of water, professional societies like SFS, the Association for the Sciences of Limnology and Oceanography (ASLO), the Society of Wetland Scientists, and the Coastal and Estuarine Research Federation formed the Consortium of Aquatic Science Societies to address these daunting issues.

Total membership of SFS has declined from a high of 1980 members in 1996 to 1630 members in 2013 (as of 15 May 2013; Fig. 1). While student membership increased slightly since 2008, it has dropped from a high in 2012 of 457 members to 363 members in 2013; non-North American membership also has dropped, from a high of 337 in 1998 to 224 in 2013.

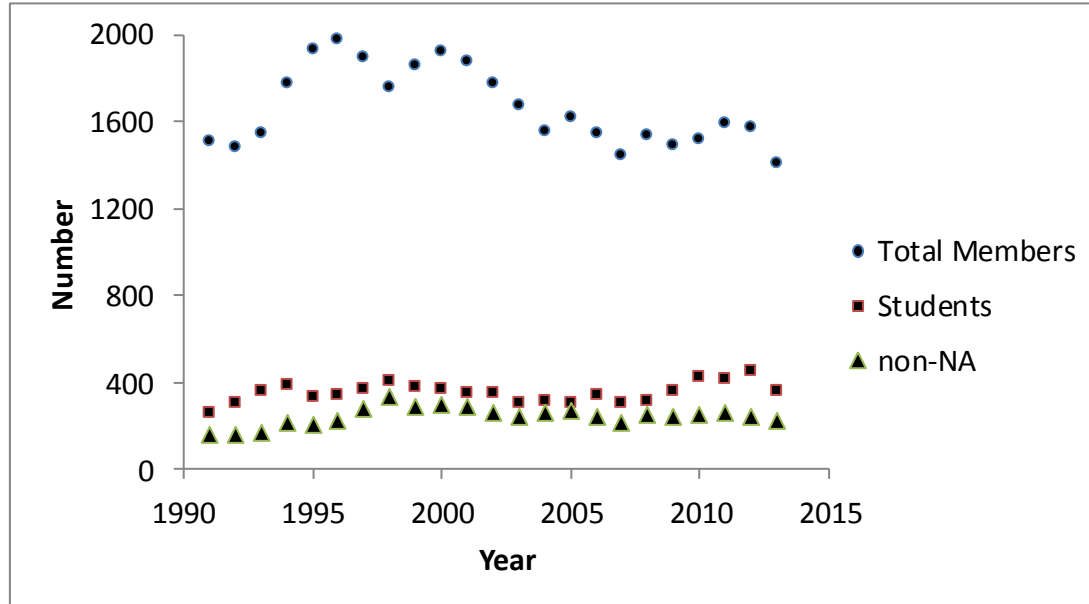


Figure 1. Trends in SFS membership since 1990, including data for overall membership, students and non-North American members.

Although membership has declined slightly, there has been an increase in presentations at SFS annual meetings, both in terms of oral presentations as well as posters (Figure 2). It is assumed that in general, there should be some correlation between the number of members or other individuals attending the meeting and the number of presentations. These data suggest that while membership has declined, there has been an increase in the number of individuals presenting at our annual meetings.

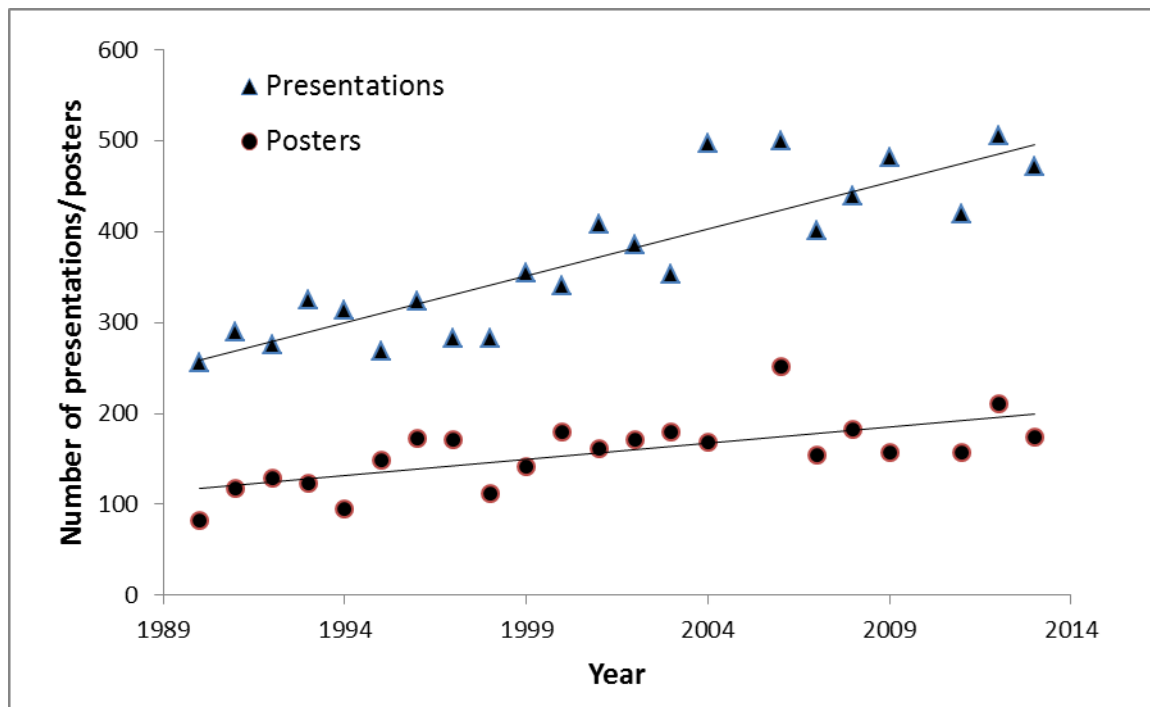


Figure 2. Trends in the number of presentations, both oral presentation and posters, at annual meetings dating back to 1990. Data for 2010 (Santa Fe) and 2005 (New Orleans) are excluded as these were joint meetings, with ASLO and AGU, respectively.

In 2013 (July) 62% of the membership were regular members, 26% were students, and ~6% were young professionals. In contrast, ~57% were regular members in 2012 and ~70% in 2008. Fifteen percent of the membership resides outside North America, unchanged from 2008. The membership was primarily composed of academics (63%), consultants (11%), federal/national government employees (11%), state/provincial government employees (9%), and private industry personnel (3%). The membership is divided relatively equally among 5 age categories including 20-29 (16%), 30-39 (23%), 40-49 (20%), 50-59 (19%), and 60+ (16%). Members holding a doctorate account for ~50% of the membership. In contrast, members holding a Master's account for 28% and members holding a Bachelor's constitute 19% of the membership (Appendix 1). Membership composition has remained relatively constant to that

reported for 31 January 2009 when academics accounted for 60%, consultants 12%, federal/national government employees 12%, state/provincial government employees 9%, and private industry personnel 3%. Approximately 60% of the membership is between 30 and 59 and 15.7% of the membership is between 20 and 29. This represents an 8.4% increase in the 20-29 year age group since 2009.

Similar to the 2009 demographics, a majority of the members study rivers/streams (96%) and lakes/reservoirs was the second most-studied habitat category (44%). Wetlands are also of interest to members (37%) with estuaries (13%) and oceans (6%) less commonly studied by members. Members study a broad range of topics and ecological processes. Areas of primary interest identified by the membership are environmental impact/assessment (60%), ecology (58%), ecosystem processes (33%), nutrient/organic matter processing (30%), life history/behavioral studies (29%), taxonomy/systematics (23%), point source impacts (22%), and primary/secondary production (20%) (% sum exceeds 100% because members could select multiple categories) (Appendix 1). Most members work with aquatic insects (~73%), fishes (31%) and periphyton (18%). Several taxonomic groups were selected by 10% to 15% of the membership (again, % sum exceeds 100% because multiple categories could be selected by members).

## **Committees**

The SFS has 17 standing committees: the Executive Committee, Board of Directors, Finance, Endowment, Elections and Place, Awards, Long-Range Planning, Annual Meeting, Publications, Public Information and Publicity, Constitutional Revision, Student Resources, Taxonomic Certification, Technical Issues, Science and Policy, International Coordination, Conservation and Environmental Issues, Education and Diversity, Sponsorship and Development. Since the 2009 Strategic Plan, there has been some consolidation of committees, most of which were associated with various Society publications being placed into a set of sub-committees under the umbrella of a single Publications Committee. Also, because we have hired outside consultants to assist with meeting management, we now have an Annual Meeting Committee rather than separate Program and Local Arrangements Committees. The new Annual Meeting Committee has worked with both the Schneider Group and more recently the Utah State University Conference Center; these consultants now help with site selection, and they handle all negotiations with conference centers to provide associated annual meeting needs. This leaves the Annual Meeting Committee to develop the program, and also provide assistance planning post-meeting trips, etc., that have been an important part of our annual meetings.

## **Accomplishments Since the Last Strategic Plan**

Probably the most significant accomplishment was the change in our Society name and journal title, which was just one of many initiatives identified in the 2009 Strategic Plan. As part of that effort, the Executive Committee at that time also recommended a restructuring of our Society's management team, to move from appointed positions to a governing board (Executive Committee) to a Board of Directors composed almost entirely of elected members (the only exceptions are the Assistants to each President and the Chair of the Finance Committee, who are appointed). We retained an Executive Committee (EC) which is a subset of the Board of Directors (BoD) and the EC meets monthly by conference call, whereas the full BoD meets quarterly by conference call and for a full day during the annual meeting. Also, the composition

of the BoD now includes elected representatives from different demographic sectors of our Society (early career, international/non-North American, academic and non-academic sectors). Many of the SFS standing committees addressed specific initiatives outlined in the 2009 strategic plan and below is a list of what they have accomplished.

In addition to the change in title, there were numerous achievements by our Journal. The Society established a Publications Committee whose mission is to oversee all Society publications and this committee was involved in the selection of the University of Chicago Press as a publishing partner. Since the title change, the number and scope of manuscript submissions has increased dramatically (>70% increase from 2011 to 2013). Also, since 2011 almost every issue (continuing through 2015) has a special series of papers on topics ranging from Molecular Biology to Fire Ecology. The transition to UC Press is now complete and the first issue of *Freshwater Science* published entirely with our new publishing partner will appear in print on March 1, 2014!

### **Overarching Goals of the Strategic Plan 2009**

**Goal 1:** Better position the Society so as to be viewed as a key source for science-based management decisions and to influence public policy and perceptions. The Society must thus interact with other professional aquatic societies and organizations to provide a collective expertise to deliver workable, sustainable solutions to regional and global water issues.

#### Progress

- Annual meeting in 2010 in Santa Fe, NM was a joint meeting with the American Society of Limnology and Oceanography (ASLO – now the Association for the Sciences of Limnology and Oceanography).
- Annual meeting in 2014, to be held in Portland, OR (18-23 May 2014), will be a joint meeting with three other societies, including the Phycological Society of America, the Society of Wetland Scientists (SWS), and ASLO. The theme of the meeting is: “Bridging Genes to Ecosystems: Aquatic Science at a Time of Rapid Change.”
- Founding member of the Consortium of Aquatic Science Societies (along with ASLO, SWS and the Coastal and Estuarine Research Federation), which has organized two very successful congressional briefings in 2012 and 2013, and these organizations continue to work together to promote international scientific study, education, and outreach on aquatic ecosystems.
- We also send the President and President-Elect annually to the Council of Scientific Society Presidents meetings in Washington, DC (December and May meetings) where we again get involved in promoting science and science education to legislative leaders.
- International Coordination Committee organized a special session during the Jacksonville meeting, “S18. A global perspective on freshwater sciences: Contributions and challenges



faced by the international community.” This session was designed to highlight diversity within the society, while also pointing out challenges facing freshwater scientists in other parts of the world. This effort is important, not only to help better position the Society to address international freshwater issues, but also to help increase diversity within the Society (Goal 3 below).

- Public Information and Publicity Committee has been active in promoting the society and activities of its members. The Committee has been active on social media (Twitter, Facebook and YouTube), has produced many newsletters and entries to Benthos News published on the Society homepage. And in 2012, there was a new initiative to produce podcasts, MakingWaves, seven of which have been produced to date.
- Sponsorship and Development Committee was formed one year ago to solicit sponsorship for the annual meeting and other initiatives, which will also serve to promote the activities of the Society and its members.

**Goal 2:** Better interact with educators, including primary and secondary school educators, to improve aquatic science education.

#### Progress

- Education and Diversity Committee has been active in a number of ways, including partnering with the Stroud Water Research Group to develop a litter decay workshop held during the annual meeting that elementary and secondary school educators attend and that provides educators with materials they can use in their classrooms.
- There is some education material on the website, including four laboratory exercises, as well as links to web sites with teaching resources (6 links) and links to educational programs in other societies.

**Goal 3:** Grow the Society by 3-5% per year for the next five years, diversify it (demographically, and by adding elementary and secondary school educators, and stakeholders from public, private, and business sectors), and retain young members at transitional career stages.

#### Progress

- There are currently discounted memberships for students (\$35.00) and a new category for young professionals (\$55.00), but none for international members or elementary and secondary school educators.
- We initiated a program to encourage the formation of regional and international chapters to help recruit new members and expand the reach of the society. Currently there are 7 chapters, 5 in the U.S., as well as international chapters, including a Latin American Chapter and a South Asia Chapter. This has resulted in almost 60 new SFS members joining in 2014.

- There has been some progress to attract individuals from under-represented groups as a result of the INSTARS program administered by the Education and Diversity Committee. In 2011 at the Providence meeting, SFS hosted 6 Fellows with 3 graduate student mentors, in 2012 in Louisville, there were 12 Fellows and 7 graduate student mentors (including 2 who were former INSTAR participants from 2011), and in 2013 in Jacksonville, there were 14 Fellows along with 8 mentors.
- The Student Resources Committee (SRC) changed their name from the Graduate Resources Committee to better reflect and anticipate ongoing changes in the student membership, as more undergraduate students have started attending the annual meetings. The SRC also created a sub-committee for Undergraduate Student Awards to formalize the role of the SRC in establishing and awarding undergraduate travel awards and the undergraduate research presentation award.

**Goal 4:** Increase the number of individuals with taxonomic certification.

#### Progress

- The number of individuals certified by SFS in taxonomy has grown steadily over the past 5 years, with over 300 to date.
- SFS has supported the program with internal grants, but the major support has come from the US EPA and Environment Canada. Recent grants have focused on increasing the breadth of the program (genus level testing for additional taxonomic groups e.g., mussels, worms, etc.) and transitioning the actual certification tests from specimen based to digital image based.
- The current family level test is all digital. A digital based, genus level test for eastern EPT has been developed and a genus level, digital test for EPT of the western portion of North America is near completion; all of the above have been significantly aided with the great assistance of Clemson University.
- The Technical Issues Committee has proposed to offer courses to help aid individuals in developing the expertise necessary to identify target organisms. The TIC proposes to offer pre-conference courses at three levels of intensity, including Level 3 which instructs taxonomic identification to the genus/species level in preparation for taking the TCP test for genus level identification.

## Goals, Objectives, and Potential Actions

The 2009 Strategic Plan was developed to address several needs of the Society. These included recognition of the diverse interests of the membership, new ways to serve/support the membership, and enhanced communication of our science. The 2014 Strategic Plan builds on the progress made since 2009, expanding some efforts while shifting the focus of others. Thus, some goals and objectives outlined below are based on the goals presented in the 2009 plan. Other goals have been revised based on the input from the membership through a survey conducted in summer 2013. Although the responses to the survey were often as diverse as the interests of the membership, **it is clear that SFS should be first and foremost, a scientific society.**

The Long-Range Planning Committee has identified three primary efforts for the future: 1) The Society and the membership should be viewed as a primary source of scientific information for education and to inform policy and management decisions related to water resources, 2) Attracting new members from a diverse array of professions, disciplines, regions, and ethnic backgrounds, and 3) Retain current members, particularly student and early career professionals. In addition, the Long-Range Planning Committee strongly supports efforts to continue to grow the number of members with technical and taxonomic training and certification.

Four primary goals (bold text) have been defined in this Strategic Plan. Each goal has several objectives and potential actions (italicized) that will help achieve these goals. The lists of objectives are not intended to be exhaustive, but only a starting point. The LRPC has left significant latitude for the standing committees and membership to develop additional objectives as opportunities arise. Clearly, the goals cannot be achieved unless the standing committees and membership at large are supportive and integrally involved in the effort. The 2009 Strategic Plan recommended that .... **“each committee begin to think 5 years into the future and devise their own plans to help achieve the goals of the Society”**. We believe that this is still a valuable approach and have retained this recommendation as part of the current Strategic Plan.

The numeric listing of the goals, objectives, and activities provides an organizational framework and is not intended to imply that one goal has greater priority than another. The individual goals are perceived to have equal priority and value to the Society.

**Goal 1: Given that water resource issues are more important than ever, SFS should be viewed as a key source of information for science-based management and policy decisions. SFS shall provide a collective expertise to deliver information that can be used to help identify workable, sustainable solutions to regional and global water issues.**

**Objectives for Goal 1:**

**Objective 1.1:**

SFS (and its members) will become an important source of science information for the public, educators, legislators, and scientists.

**Activity 1.1.1:** Increase public outreach including the use of more traditional forms as well as the website, podcasts, the Newsletter, Facebook and Twitter, among others.

**Activity 1.1.2:** Support efforts to produce data and white papers on freshwater resource issues that are clear and can be understood by multiple audiences, including educators, legislators and scientists.

**Activity 1.1.3:** Continue to produce and promote high-quality publications.

**Objective 1.2:**

SFS shall assist state and federal agencies by identifying experts in aquatic science that can provide relevant scientific information on freshwater resource issues.

**Objective 1.3:**

SFS shall interact with regional, national, and international professional societies and organizations to exchange information and ideas, build collaborations, and promote science-based management.

**Activity 1.3.1:** SFS shall continue to be represented at the annual meeting of CSSP.

**Activity 1.3.2:** SFS shall continue to collaborate with other CASS participants and collaborate to provide legislators with scientific information relevant to key issues.

**Activity 1.3.3:** SFS shall continue to promote international collaboration through the Societies website, production of translated brochures, the SFS poster, and links to international organization websites.

**Objective 1.4:**

SFS will foster the next generation of science professionals.

**Activity 1.4.1:** Develop workshops that will inform students (and others) how scientists can interact with government agencies, policy makers, and the media.

**Activity 1.4.2:** Develop a student award related to science-based management and policy.

**Activity 1.4.3:** Develop workshops that focus on teaching and research skills.

**Objective 1.5:**

Enhance the image of the Society as a source of information on water-related issues and conservation of freshwater resources.

**Activity 1.5.1:** Survey the membership annually on their activities related to this Goal.

**Activity 1.5.2:** Update the website with current scientific and educational information related to freshwater systems in a user-friendly format and written in a style that is appropriate for its target audience (educators, policy makers or scientists).

**Potential Related Actions:**

- 1) *The Science and Policy Committee (SPC) should be revised and updated to be the central organizer of the SFS voice on emerging environmental issues of relevance to the Society. The SPC shall work with the President to develop white papers describing the best science available on issues related to the conservation of freshwater resources, including informative white papers relevant to current legislative decisions. [Objectives: 1.1, 1.2 1.3 and 1.5]*
- 2) *The Society, through its Elections and Place Committee and the International Coordination Committee, will continue to explore partnering with North American and non-North American aquatic professional societies in annual meetings. [Objective: 1.3]*
- 3) *Form plenary and/or regular sessions at our annual meeting (such as an international water salinization session in Portland, OR) that aggregate aquatic scientists from many countries and professional societies that are tackling water allocation and water quality problems, and formalizing solutions, in a shifting regional and global climate. [Objectives: 1.3, 1.4 and 1.5]*
- 4) *Add workshops at the annual meeting that bring together aquatic scientists, economists, journalists, and policy makers to improve how we communicate water issues/problems/solutions to each other and to the general public. [Objectives: 1.1 – 1.5]*
- 5) *Periodically organize special symposia at the annual meetings of OTHER professional societies whose members affect aquatic biota via water allocation and water quality. For example, working closely with the Entomological Society of America to develop sessions at their annual conference that highlight aquatic insects and other societies to highlight freshwater ecology. [Objective: 1.3]*

**Goal 2: Attract and retain undergraduate, graduate, and early career professional members, and support quality aquatic science education from elementary and secondary levels to post-graduate.**

**Objectives for Goal 2:**

**Objective 2.1:**

Develop activities and services that attract and serve undergraduate students, graduate students, and early career professionals.

**Activity 2.1.1:** Make membership and meetings affordable for students and early career professionals.

**Activity 2.1.2:** Remind current members to encourage undergraduate students, graduate students, and early career professionals to consider membership in SFS.

**Activity 2.1.3:** Encourage SRC activities (e.g., financial and mentoring) that support and include undergraduate students.

**Objective 2.2:**

Develop activities and services that retain undergraduate students, graduate students, and early career professional members.

**Activity 2.2.1:** Develop workshops for students and early career professionals that address relevant issues.

**Activity 2.2.2:** Enhance the online job/internship/assistantship listings.

**Activity 2.2.3:** Continue and enhance networking opportunities for undergraduate students, graduate students, and early career professionals at the annual meeting and throughout the year.

**Activity 2.2.4:** Recognize student service to the Society both on the website and through formal awards.

**Activity 2.2.5:** Maintain and enhance mentoring opportunities for students at all academic levels.

**Activity 2.2.6:** Foster partnerships that help establish research collaborations between students, early career professionals, and established career professionals.

**Objective 2.3:**

Develop user-friendly educational materials offered through the SFS website, educator workshops, and other appropriate venues.

**Potential Related Actions:**

1) *Develop E-links, such as an on-line forum, a list-serve, or live links via web cameras from local research laboratories to local schools that will allow educators and aquatic scientists to interact, and thus generate greater interest in aquatic ecology.* [Objective: 2.3]

SFS should survey the membership to determine how many are already working with local schools. Accordingly, we should reward and honor such efforts, just as we do for scholarly excellence and service for the Society.

2) *Improve our outreach to educators by providing more educational materials on our website. These materials could be linked to national core science standards or built around a theme such as food webs or biodiversity and could include standardized materials (e.g., PPT, handouts, etc.).* [Objective: 2.3]

The availability of these materials should be widely advertised, perhaps through the National Science Teachers Association (also represented at CSSP). Cross-links between our webpage and others (e.g., [www.waterontheweb.org](http://www.waterontheweb.org) and <http://projectwet.org/>) should be created. An obvious link is with NSF-sponsored Centers for Ocean Sciences Education Excellence ([www.cosee.net](http://www.cosee.net); [www.coseegreatlakes.net](http://www.coseegreatlakes.net)) which uses water as a way to communicate science to teachers and provides real time data to the public.

3) *Consider ways to promote elementary/secondary school teacher/student membership.* [Objective: 2.3]

Other professional societies (e.g., the Psychological Society of America) offer unique membership options.

4) *Encourage SFS members to actively recruit undergraduate and graduate students with interests in aquatic sciences.* [Objective: 2.1]

5) *Expand and improve the quality and availability of educational materials on our website that would be useful to a broad audience.* [Objectives: 2.1, 2.2 and 2.3]

6) *Develop strategies to reduce costs of attending the annual meeting, particularly for students and young professionals.* [Objectives: 2.1 and 2.2]

7) *Provide travel funds to graduate students to attend any SFS or joint SFS international (non-North American) meeting.* [Objectives: 2.1 and 2.2]

**Goal 3: Grow and diversify the Society over the next 5 years.**

**Objectives for Goal 3:**

**Objective 3.1:**

Develop activities and services that attract new members from an array of professions, disciplines, regions, and ethnic backgrounds.

**Activity 3.1.1:** Encourage SFS members to actively recruit under-represented groups with interests in aquatic sciences.

**Objective 3.2:**

Develop strategies to retain current members.

**Activity 3.2.1:** Increase retention of young members in transition phases of their careers by continuing to offer a discounted membership rate.

**Activity 3.2.2:** Reduce turnover of the general membership by being proactive with membership management and developing new membership services.

**Objective 3.3:**

Enhance networking opportunities at the annual meeting and throughout the year.

**Objective 3.4:**

Enhance support to establish regional and international chapters that are geographically organized.

**Potential Related Actions:**

- 1) *Increase the diversity of the SFS by offering discount memberships to individuals in developing countries. [Objectives: 3.1 and 3.2]*
- 2) *Foster current and future social media (e.g., on-line forum (perhaps called Freshwaters), list-serve, etc.) so members may better network and interact. [Objective: 3.3]*
- 3) *Encourage partnerships in regions such as Asia with growing interests and expertise in aquatic science. [Objectives: 3.1, 3.2, 3.3 and 3.4]*
- 4) *Encourage SFS members to actively recruit elementary and secondary school educators with interests in aquatic sciences. [Objective: 3.1]*
- 5) *Develop additional products and/or services (in addition to the Annual meeting and the Journal) that will help attract and retain members. [Objectives: 3.1, 3.2 and 3.4]*



**Goal 4: Continue growing the number of individuals with technical and taxonomic training and certification.**

**Objectives for Goal 4:**

**Objective 4.1:**

Offer taxonomy workshops for additional groups of aquatic organisms (e.g. fish, zooplankton, aquatic plants, algae).

**Objective 4.2:**

Offer workshops related to biodiversity and making connections between basic and applied research

**Objective 4.3:**

Offer workshops related to molecular methods and DNA bar coding.

**Objective 4.4:**

Build online resources such as a photo library, video demonstrations for keying difficult groups, and molecular methods.

**Objective 4.5:**

Develop workshops and build online resources such as video demonstrations that provide instruction on commonly used field and laboratory methods,

**Potential Related Actions:**

- 1) *Publicize the Taxonomic Certification Program to other societies and organizations (e.g., state and federal agencies, consulting firms, NGOs) to expand its services.*  
[Objectives: 4.1, 4.2 and 4.3]

## **Revenue and Expenditures**

### **Funding for Strategic Planning Initiatives: 2009 to 2014**

In 2011, the Finance Committee, in response to a request from the President, and with input from members of the Board of Directors, recommended that up to \$25,000 per year from the Reserve Fund be made available to help implement high-priority initiatives listed in the 2009 Strategic Plan. This was approved and Chairs of standing committees were informed of the availability of funding to implement initiatives. Specific initiatives that support the Strategic Plan had to be proposed in writing by the appropriate SFS committee to the Long-Range Planning Committee by August 1, prior to the year the initiative was to be implemented, and they had to include details of how funds will be spent and expected outcomes. The LRPC reviewed the proposals and made recommendations to the Board of Directors which then determined the final funding amount to be distributed by the Treasurer. A short written report on the outcome and results of the funding was to be delivered to the Executive Committee at the end of each calendar year that funds were distributed. This model for submission of proposed projects that address initiatives will continue to be followed over the next 5 years. We recommend announcements be sent annually to all Chairs of standing committees in March prior to our annual meeting so committees can discuss projects during their committee meeting at the annual meeting and then develop a proposal for submission by the August 1 deadline.

### **Source of Funding for Future Strategic Plan Initiatives:**

Currently, we generate about \$20,000 in interest and dividends from the Reserve Account annually, and this has helped pay some of the operating expenses of the Society beyond what our current dues cover. In essence, our current annual expenses are greater than what we generate from membership dues. The difference has been covered by interest and dividends from the Reserve Fund as well as any meeting profits that are not used for matching donations to the Endowment Fund or to bring the President's Discretionary Fund up to \$50,000. We need to develop an accounting procedure that will annually contribute funds to support strategic plan initiatives that can then be disbursed by the Board of Directors. This could be some combination of interest and dividends earned from investments of the Reserve Fund as well as some distribution of meeting profits in years when the annual meeting generates a surplus. However, we have never considered the meeting to be a revenue source for the Society. Taking this step would place a burden on the Meeting Committee to develop a registration structure that would ensure a profit rather than designating an amount that would allow the Society to break even given a reasonable meeting attendance. The Finance Committee in conjunction with the Board of Directors should develop a sustainable plan for generating a source of revenue on an annual basis to be used to fund strategic plan initiatives. This may require a membership dues increase to ensure that Society operating costs are covered by dues rather than a dues structure that does not fully meet Society expenses.

## Executive Director

The 2009 Strategic Plan proposed exploring the option to establish an Executive Director position within the SFS. Discussions primarily related to funding have led to the conclusion that such a position has not been feasible to this point. However, establishing an Executive Director position may be a viable option in the future, consequently we have retained the language from the 2009 Strategic Plan for future consideration. We have also included a proposed Administrative Authority and a list of possible duties that were developed by the LRPC during 2012.

### Section from 2009 Strategic Plan

Given our current administrative structure, it will be the responsibility of all Standing Committees, in cooperation with the President, the Executive Committee Chair, and the Executive Committee, to implement these goals and action strategies over the next 5 years. We recommend that the LRPC initially take the lead and coordinate efforts to begin to achieve these goals. However, **if we grow the Society as suggested, and if a larger membership appears sustainable, then we should seriously discuss creating an Executive Director position (either full- or part-time; perhaps also the services of one Executive Director may be shared between SFS and another professional Society).** The Executive Director's main task would be to implement policy and action plans established by the Executive Committee and assure the efficient running of the Society's business. The Society, as it stands now, is almost too big to be solely run by committees, and is constantly changing leaders, who no sooner understand operations/policies, than are gone. Plus, our leaders and members already are juggling too many other personal and professional responsibilities. Someone needs to be personally and professionally responsible for society business, just as Pam Silver and Irwin Polls are personally and professionally responsible for the journal. Someone needs to make and implement day-to-day decisions and to make sure committees and service providers are doing their jobs. Someone needs to check up on the journal, the Schneider Group, the committee/members responsible for components of the web site, new business models, new initiatives, etc. The exact role of the Executive Director in handling income and disbursement of funds, financial records, and contract negotiations, and how the Director interacts with the Finance Committee and SG, or whether the Director replaces the Treasurer, will certainly require serious discussion. Some functional redundancy is good, but fiscal transparency is a requisite. An Executive Director would give the Society the kind of focused, consistent, year-round and year-to-year attention its business requires. We caution that the true need for such a position may also change depending on the evolving role (and costs) of SG as our business support firm. **We recommend a feasibility analysis in which information on roles and salaries of Executive Directors of other Societies is gathered so we can estimate a membership threshold at which hiring and maintaining an Executive Director is possible for SFS.**

### **Administrative Authority Related to the Position of Executive Director**

1. The Executive Director serves at the pleasure of the Board of Directors
2. The Board of Directors have the authority to hire/fire the Executive Director
3. The performance of the Executive Director will be evaluated by the Board of Directors on an annual basis
4. The Board of Directors may review the performance of the Executive Director more frequently as warranted

### **Duties of an Executive Director for the Society for Freshwater Science**

1. Help oversee daily operations
2. Support the Board of Directors in its policy, fiscal, and governance roles
3. Serve as an Ex Officio member on the Board of Directors
4. Manage SFS initiatives
5. Serve as a point person with other professional societies
6. Assists the Sponsorship and Development Committee with fund-raising
7. Facilitate ongoing strategic planning
8. Work with Board of Directors, the President, and all appropriate committees to insure that strategic initiatives are accomplished
9. Play a key role in annual meeting planning
10. Coordinate Executive Committee Meetings
11. Participate in negotiating contracts when appropriate
12. Manage all contracts and legal records and provide proper documentation when appropriate
13. Regularly review the Business Plan and offer recommendations to the Board of Directors
14. Facilitate SFS committees when feasible
15. Handle copyrights and provide proper documentation
16. Handle mail and phone calls and serve as a de-facto headquarters

With these duties, the ED would alleviate some of the pressure on the President, the Executive Committee, and the Board of Directors, and provide an administrative link to the society management services and professional meeting planner. The ED would work with the Finance Committee Chair and Treasurer to manage the fiscal responsibilities of the Society but would not take on those financial duties. The ED would eliminate the need for an Annual Meeting Advisor and provide continuity between annual meetings.

### **Acknowledgements**

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## Appendices

**Appendix 1.** Summary of SFS 2013 member demographic data. Membership was 1406 individuals as of 15 June 2013.

Employment	Count	%
Academic	881	63%
Consulting	157	11%
Federal_or_National_Government	152	11%
Private_Industry	40	3%
State/Provincial/Regional_Government	122	9%

Age Group	Count	%
20-29	218	16%
30-39	317	23%
40-49	287	20%
50-59	264	19%
60+	229	16%
under 20	5	0%

Education	Count	%
Bachelor's	263	19%
Master's	399	28%
Doctoral	698	50%
Other	34	2%

Primary Interest Areas	Count	%
Administrative	23	2%
Biogeochemical Cycling	219	16%
Climate Change	158	11%
Conservation	210	15%
Ecology	813	58%
Ecosystem Process	79	8%
Environ Impact/Assessment	174	18%
Fisheries Biology	59	4%
Invasive Species	143	10%
Life History/Behavior	402	29%
Nutrient/organic mtr proc	425	30%
Point source impacts	313	22%
Primary/secondary prods	285	20%
Restoration	217	15%
Stats/computer science	186	13%
Taxonomy/systematics	325	23%
Teaching	262	19%
Toxicology/bioassay	187	12%
Other	26	2%

>1 selection applicable; all selections counted for each response

Taxa Group	Count	%
Aquatic Insects/Invert	1031	73%
Aquatic macrophytes	166	12%
Chironomidae	165	12%
Coleoptera	99	7%
Crustacea	151	11%
Diptera-other	99	7%
Ephemeroptera	180	13%
Fishes	437	31%
Meg, Neuro, Hemi	71	5%
Mollusca	177	13%
Odonata	146	10%
Olig, Poly, Hiru	17	1%
Olig, Poly, Hiru, Branchi, Acantho	57	4%
Other Aquatic Organisms	210	15%
Periphyton	259	18%
Phytoplankton	129	9%
Plecoptera	172	12%
Trichoptera	214	15%
Zooplankton	108	8%

>1 selection applicable; all selections counted for each response

**Appendix 2:** Membership fees of professional societies similar to SFS.

**Society for Freshwater Science** membership dues:

Regular \$75  
 Young Professional \$55  
 Student \$40  
 Emeritus \$0 (No Dues)

**Society of Wetland Scientists** has the following income-based, tiered membership:

Active <\$40,000 y at \$75  
 Active \$40,000 - \$60,000 y at \$85  
 Active >\$60,000 at \$95  
 Active, developing country, \$25  
 Student (with photocopy ID) at \$25

Dues of the **Phycological Society of America**:

Regular \$85  
 Student \$40 (for 3 years)  
 Young professional (within 3 y of graduation) \$55

**Association for the Sciences of Limnology & Oceanography** dues vary mainly with print vs. electronic version of the journal:

Member:

Electronic version of journal, \$110  
 No journal, print or electronic, \$75

Early Career:

Electronic version of journal, \$65  
 No journal, print or electronic, \$30

Student

Electronic journal, \$65  
 No journal, print or electronic, \$15