

AFS-Computer User's Section, Volume XVII, Number 1



AFSCUS

Spring 2003

AFSCUS Officers

President
Doug Beard
Fisheries and Aquatic Resources Node
USGS-NBII, MS-302
12201 Sunrise Valley Drive
Reston, VA 20192
(703) 648-4215
Dbeard@usgs.gov

President-Elect
Stuart Shipman
Division of Fish and Wildlife
Indiana Dept. of Natural Resources
511 W. Columbia Parkway
Columbia City, IN 46725
(219) 691-3181 Voice
(219) 691-3494 Fax
Sshipman@dnr.state.in.us

Secretary-Treasurer/software librarian
Andrew Loftus
3116 Munz Drive, Suite A
Annapolis, MD 21403
(410) 295-5997 (Voice/Fax)
ALoftus501@aol.com

Software Review Chair
Gary Ash
17312 106th Street
Edmonton, AB T5S 1H9, Canada
(403) 483-3499 Voice
(403) 483-1574 Fax
Gash@rll.ca

Past-President
Michael D. Porter
U. S. Bureau of Reclamation
555 Broadway NE, Suite 100
Albuquerque, NM 87102-2352
(505) 462-3596 Voice
Mporter@uc.usbr.gov

Newsletter Editor
Craig Paukert
U. S. Geological Survey
Southwest Biological Science Center
2255 North Gemini Drive
Flagstaff, AZ 86001
(928) 556-7529 Voice
(928) 556-7365 Fax
cpaukert@usgs.gov

Webmaster
Mark Rogers
University of Florida
Dept. of Fisheries and Aquatic Sciences
7922 NW 71st Street
Gainesville, FL 32653
(352) 395-9617 x 271
mrogers@ufl.edu

Vote!

This issue contains biographies for President-Elect and Secretary-Treasurer candidates. See pages 5-6 for details.

President's Byte by Doug Beard

Technology for the 21st Century, Where Will Be?

I find myself on a plane traveling across the country to start a series of meetings, a technology that is 75+ years old, but I'm always amazed when I can leave my house in Rockville, MD and end up in Portland, OR for a series of afternoon meetings. Do you think that when the Wright brothers were talking about this new fangled flying machine, they ever envisioned how their invention would change how business is done now? They probably did, however, one would guess that they never thought how much of an impact it would have on every day life for the World's Citizens.

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Attend the Annual AFS Meeting in Quebec City: August 10-14, 2003

GIS Symposium

The second annual GIS symposium was held in September. See page 7 for details.

Bylaw changes!

AFS-CUS is proposing by-law changes. See page 10 for details.

Using an Electronic Collection System to Record Field Data

Glenn Hollowell

Alaska Fish and Game Department

Glen_hollowell@fishgame.state.ak.us

Over the last 20 years handheld electronic computer terminals coupled with barcode scanners have revolutionized how freight companies and retail businesses track their inventories. Only very slowly is the potential of this technology to record and collect field data being recognized by natural resource management agencies, industries and universities. Recently, the Alaska Department of Fish and Game, (ADF&G) has begun development of a system to record commercial fisheries data electronically, and where possible to capture those measurements directly using electronic devices.

During the winter of 2001-2002 a system for collecting commercial salmon catch data was developed using portable terminals manufactured by Symbol Technologies. The terminal selected is the LDT-3805 and is shown in use in Figure 1. This device is a handheld batch terminal with an integrated barcode scanner and keypad. This device is DOS based and does not have a Graphical User Interface, (GUI) such as those found on Palm Pilots and Windows CE handhelds, but instead a display showing line commands and textual prompts. Software was developed for these using MCL-Developer. This program is a Rapid Application Development (RAD) program that allows users to create general use software in a graphical environment for Symbol devices without writing software code directly. The software that was created collected a variety of fisheries data from delivering commercial fishing vessels. Data was divided into two tables.

One table stored information specific to the delivering vessel; name, registration number, area fished, dates fished, as well as a timestamp that was initiated at the start of data entry. The second table recorded information specific to the biological samples themselves that came from that vessel. Each of these records also had a field for the timestamp that was generated previously when collection of that vessels data was initiated. This primary key served to link the two tables in the handheld, as well as in the Microsoft Access database into which the days data was uploaded. A variety of data validation components were integrated into the software that was running on the handheld. These components prevented samplers from leaving crucial fields blank, and also rejected errant values when entered. Prior to this system, all data had been recorded by hand on paper forms by seasonally employed technicians. Significant levels of omitted and errant data were frequently encountered. This required a great deal of proofreading and



Figure 1. Entering data

correction before the data could be entered into a database for use by fisheries managers. The system developed for the LDT-3805 terminals was a significant improvement over paper based systems in that it eliminated virtually all of the proofreading that was previously required when this system was in use.

This system however did not measure fish electronically. This system required the traditional method of one person placing the fish on a fishboard and then interpreting the length of the fish and speaking this number to the person with either the clipboard or the portable terminal. Given that this operation takes place in commercial fish packing facilities where there is distraction from heavy equipment and loud rock and roll music playing constantly, there is significant potential for error from miscommunication. Coupled with this, an average sampling crew may sample over a thousand fish in one mind-numbing workshift, this also creates significant potential for error from fatigue.

Currently a second system for the collection of commercial salmon data is under development. This system is being created using MobileBuilder which is a C based Rapid Application Development, (RAD) environment that is produced by PenRight, Inc. of San Jose, California. MobileBuilder allows development of a single application that can then be compiled into several types of executable programs, each for a different type of platform or device under a common platform. A fisheries manager can develop one generic program using MobileBuilder and then compile it to run under Windows CE on a Juniper Systems handheld. The manager can also recompile the same program with limited modification to run on the Symbol PPT-2800, or on a device running the Palm Pilot operating system such as the SPT-1700. Currently there is a very wide array of devices on the market. Many of these units have exclusive features that are not found in others. Palm devices have extremely slow cpus with limited computing ability, but have a battery life that is measured not in hours but in weeks. Windows CE terminals have extremely powerful and fast cpus, but may be limited in their field applications given that their battery life is only a few hours. There are also a wide variety of terminals available which have their own specific hardware capabilities and integrated devices. PenRight currently produces compilers for all of the major hardware and brand configurations, and can produce other compilers if requested. The code produced by MobileBuilder is written in C and is open and accessible to user modification and editing. This is an extremely powerful feature which is not present in

Palm devices have extremely slow cpus with limited computing ability, but have a battery life that is measured not in hours but in weeks.

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Electronic data collection

(Continued from page 2)

many other RAD environments. It allows highly specific implementation of programming code for a given purpose. Pen-Right technical staff have been helpful in assisting in the development of specific C code for our sampling application. Their experience in creating data collection programs for warehouse and delivery applications has proven extremely useful in solving many of the problems encountered and has provided highly relevant insight in how to create a user friendly database frontend using their C based development program. C is an extremely powerful programming language that can be used to create highly specific and efficient source code from which target applications can be compiled.

The software that has been created is stylus driven; involving on-screen buttons and dropdown boxes as shown in Figure 2. The previous system involved terminal manipulation and entry via the rubberized keypad. As shown in Figure 3, there are four main screens that are used to collect data. Screens 1, 2 and 4 collect vessel data that is entered into the Vessel table. Screen 3 is the front end for the Sample table. The Sample table has been made browseable and editable. The user can sample fish from a given boat and then peruse all of that vessel's data before pressing "exit" and locking that data into the onboard database. While it is possible to make the data from previously sampled vessels accessible for browsing and editing, it was decided to limit this ability for the time being until our fisheries samplers become somewhat familiar with relational databases.

Currently, we are focusing on implementation of a system that would limit human interpretation in the measurement of fish. While electronic fishboards have been on the market for over a decade, they cannot be interfaced easily in a rugged manner with a portable terminal and are therefore limited in



Figure 2. Palm dropdown menu.

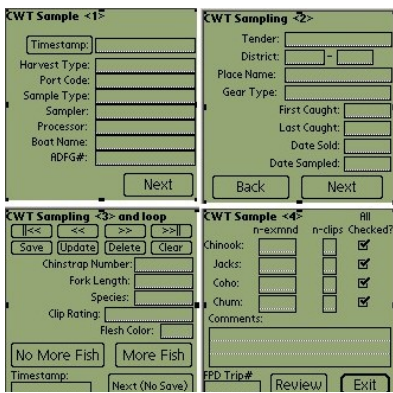


Figure 3. Screen images from PenRight MobileBuilder

this application. They are also fairly expensive and complex to configure. The method of measurement that we have focused our efforts on, involves using thin barcode sections, (strata) stacked on top of each other to form an electronically scannable ruler. A graphic for doing this was implemented using a barcode font and M\$Excel. A section of this is shown in Figure 4.

This barcode image, when printed on Write-in-the-Rain adhesive backed paper, consistently produced good scans even when occluded by water droplets and moderate amounts of fish mucus. Such an image, when adhered accurately to an aluminum fishboard, allowed a technician to align the tip of the fishes snout with the origin of the "barcode ruler" and then using the portable terminal, scan the barcode just past the margin of the caudal fin. The image shown has a resolution of 2mm. This worked well on fish with non-lunate tails, such as Pacific Cod and mature Chinook Salmon. An example of this is shown on Figure 5. However, younger Chinook Salmon and salmon of other species have moderately lunate tails. When placed on the barcode graphic this curve often occluded a portion of the target strata which represented the accurate fork length. This has prompted work on the development of a barcode ruler where the barcode symbols are rotated 22.5 degrees about their origin. This will allow complete scanning of the target barcode which starts at the fork on those fish with lunate tails.

Ideally a hardware provider will eventually outfit waterproof digital calipers with an industry standard Radio Frequency, (RF) emitter which can be used to make difficult measurements, (mid-eye to fork, mid-eye to hypural plate, etc.) more accurately than is possible on a flat fishboard. These units will send the length directly to the portable terminal for storage. Currently a company in Europe is manufactur-

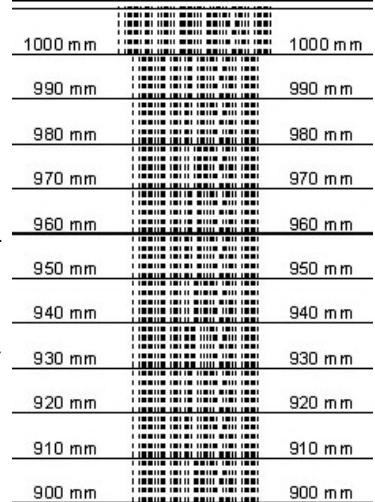


Figure 4. Stacked barcode on fish board. Each strata is a barcode that translates into a number

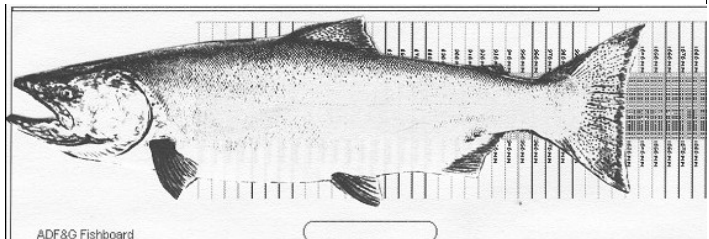


Figure 5. Chinook salmon on barcode fish board

ing such calipers for the timber industry. This device is limited given the highly proprietary nature of the RF signal emitted by this device. A copy of the software compiled for Palm 3.5 and Windows '98/2K/XP can be downloaded from the AFS server. Source code has also been posted for review.

Product names used in this publication are included for scientific completeness but do not constitute product endorsement by the State of Alaska, or the Department of Fish and Game.

President's byte

(Continued from page 1)

When the Computer User Section was started in the mid-1980's its goal was to build a network of microcomputer users, who would share programs and ideas about this relatively new invention the microcomputer. Long before the development of the internet, CUS was trying to provide members a guidebook to fisheries programs and information sources through a variety of different means. Does everyone remember the CUS bulletin board? I don't, it was before my time, but as I was editing the bylaws of the section, I came across numerous references to something called a SYSOP. Luckily it appeared that most of the duties of the SYSOP corresponded well with our web master's duties, but it's a sign of how quickly things have changed in the microcomputer business.

In the 20+ years since the start of the CUS much has changed with electronic technology. With the development of the internet, no longer does CUS corner the market on fisheries software. In fact, when I did a recent google search on the exact phrase Fisheries Software, 132 hits appeared (we were there too!!!!) (I searched using fisheries and software and there were 185,000 hits). As the availability of software and data have increased, the mission of CUS is changing to reflect those differences. CUS will still provide access to fisheries software at reasonable prices (check out FAST and our new product FishBC), however our emphasis has changed to provide more Continuing Education opportunities and to recognize our support of other units in AFS when they make decisions about electronic technology.

I'm excited about our continued development and support of Continuing Education opportunities. Starting with former President Frie and Megrey's microcomputer workshop at the first World Fisheries Congress, CUS has been very active in continuing education. We have sponsored a number of computer courses over the years and this remains a strength of the section. Mick Porter is again teaching his highly successful introduction to GIS applications at this year's annual meeting. We are also co-sponsoring with the student section, a introduction to Website development. One of our own, Fred Janssen has agreed to provide his expertise in web development for future web masters. We also have two courses scheduled for the World Fisheries Congress meeting: a GIS course and a revised introduction to Microcomputer Applications. As your chapter or division looks for continuing education opportunities, remember CUS may be able to help out.

In addition to Continuing Education, at this year's annual meeting we are co-sponsoring a symposium on data management and decision-making. We have an exciting lineup of speakers that will provide updates on the latest in Fisheries databases and analysis systems. We will be continuing our relationship with the student subsection, by once again offering a reward to the best use of technology in student poster paper. We started this award last year and look to it to further promote the importance of technology in fisheries science.

Enclosed in this newsletter are suggested revisions to our bylaws and our first attempt to put together a strategic plan. You must vote on the bylaws for the changes to become official, so I urge you to do so. I would also like you to review the strategic workplan and provide suggestions or comments to any member of the executive committee. We would like to adopt this plan and the new bylaws at this year's annual meeting in Quebec City.

Like all sections in AFS, we are only successful if members participate. If there is something you are interested in or somehow you'd like to help out, please get in touch. We look forward to help wherever we can get it.

I still have an hour in my flight, but my battery has 10 minutes, so it's time to end this message. It appears that in some measures air travel technology still outpaces computer technology, but probably not for long. I look forward to hearing from and working with you in the next few months to implement our strategic plan and make CUS responsive to your needs.

**Don't forget to vote for bylaw changes.
See page 10-13.**

New Book Release from AFS

**Population Genetics: Principles and Applications for
Fisheries Scientists**
Eric Hallerman, editor

The principles of population genetics have important bearing on the practice of fisheries science. However, fisheries managers do not typically receive training in population genetics. This is due, in large part, to lack of course materials in population genetics relevant to fisheries science. This book was born of a need perceived by many fisheries geneticists for the availability of a textbook for a course in fisheries genetics.

Qualified instructors too busy to develop their own course from scratch can use this title as a ready resource text for teaching such a course. Population Genetics is an excellent resource for making the field of population genetics relevant and accessible to students and practitioners of fisheries science.

507 pp., hardcover, March 2003
Stock Number: 550.34
List price: \$69.00
AFS member price: \$48
ISBN 1-888569-27-1

To order:

Online: www.fisheries.org/cgi-bin/hazel-cgi/hazel.cgi
Phone: (678) 366-1411, or Fax: (770) 442-9742

President-Elect Biographies

Gary Ash

As do most fisheries biologists, I use a computer. We use computers for inputting fish data, analysing data, modelling, and even writing biographies. The computer (and many applications using computer technology) is the one tool that has most changed the way we do our jobs over the past two decades. I have been using computers and have been interested in fisheries applications since the days of my undergraduate training (yes, I must admit it was the days of mainframes and punch cards).

I received my undergrad degree from the University of Alberta in 1972 and my M.Sc. in 1974. My graduate research investigated the effects of heated effluents from a thermal powerplant on lake whitefish in a lake in central Alberta. During my graduate research, I used FORTRAN and APL programming languages to analyse my data, and I was one of the first students at the U of A to prepare and format my thesis on the mainframe computer (remember this was 1973-74). After graduating, I worked for an Alberta based consulting company collecting baseline information and assessing potential impacts of planned hydro developments and other resource developments on resident fish populations.

In 1977, I joined BC Hydro in Vancouver BC as a fisheries biologist, where I gained additional experience in impact assessment and mitigation relating to thermal and hydro projects. In 1979, I returned to the field of environmental consulting as a Principal in RL&L Environmental Services Ltd. In 2001, our firm merged with Golder Associates Ltd., a global environmental and engineering company, where I am a Senior Fisheries Scientist and Principal.

I have been a member of the American Fisheries Society since the mid 1970s, and currently am a life member. I joined the AFSCUS in about 1987, and have served as the Computer Users Section Software Review Chairperson since 1998.

As a result of my experience in the field of fisheries science, long-term interest in the use of computers as a tool to help us do better science, and as a long-term active member of the Computer Users Section, I feel that I can bring enthusiasm and dedication to the office of President-Elect. Some of the challenges that our Section faces include the need to maintain and hopefully increase our membership, to continue to actively help facilitate the parent Society, other Sections, Chapters and the members to keep abreast of and take better advantage of ever changing computer technologies and applications. This includes the need for better communications, information management, and methods for sharing fisheries data between biologists. If I am elected, I hope to meet these challenges head on, and with the help of other Section members, continue to promote the Section and provide the continued service to our members and the AFS.

Fred W. Janssen

Candidate Background

Fred Janssen received a B.S. degree from Arkansas Tech University in Fisheries and Wildlife Management in 1989 and a M.S. degree from Auburn University in Fisheries Management in 1992. He worked as a district fisheries biologist for the Inland Fisheries Division of Texas Parks and Wildlife Department from 1992-1995, and has been a data analyst with Texas Parks and Wildlife since 1995. His current responsibilities include statewide database administration, coordinating the development of fisheries management and hatchery applications, GIS analysis, and continued implementation of new technologies as they emerge for the Inland Fisheries Division.

Fred joined the American Fisheries Society in 1988. He is the webmaster for the Texas Chapter, Fisheries Management Section, Southern Division, and Southern Division Reservoir Committee. He also supports many other chapters and committees with their sites as well. Fred was awarded the Special Recognition in Fisheries Work Award in 1998 by the Texas Chapter and received the Distinguished Service Award from the Southern Division in 2000. He served as Chair of the Southern Division Communications Committee for several years and is currently Chair of the Southern Division Reservoir Committee. At the Parent Society level, Fred participated as a member of the Web Editorial Advisory Board and has been a member of the Fisheries Management Section and Computer User Section since 1998.

Candidacy Statement

A big part of my job with Texas Parks and Wildlife is to find ways to harness technology to help our fisheries staff create better products and be more efficient. I think every organization has one or more staff that fill this role, and they probably are members of the Computer User Section. I think we need a mechanism for all of these people to more effectively share their technology expertise with each other. I would like to try to increase the information transfer and outreach capabilities of the Section to keep the membership abreast of what technology does work and what technology doesn't work for fisheries applications. The AFS-CUS has always done a great job sharing information via workshops, symposia, or through special projects such as the National Fish Database Summit. However, a large portion of our members have been unable to attend these events and had limited or no access to the wealth of information presented there. We need to try harder to make all of these resources available to fisheries people at the local level where they can obtain, test, and attempt to implement technologies and techniques for their situations.

Secretary/Treasurer Biography

ANDREW LOFTUS

Andrew Loftus is a natural resources consultant specializing in natural resources policy, communication, and information exchange, and is affiliated with the Conservation Management Institute at Virginia Tech. He has served as the CUS secretary/treasurer since August 2001 and as the CUS software librarian since May 2002. He has been a member of AFS since 1984 and is also a member of the Organization of Fish and Wildlife Information Managers.

From 1990-96, he was the Director for Science with the American Sportfishing Association and Sport Fishing Institute. In this capacity, he was actively involved with numerous resource-oriented and government relations activities designed to fulfill the organization's priority mission of ensuring a healthy and sustainable fishery resource. Concurrently, he was Managing Director of the FishAmerica Foundation, a nonprofit international grants program providing funding to hands-on projects which improve fishery and aquatic resources.

During the 1980s, Andrew was a stock assessment biologist for the Chesapeake Bay with the Maryland Department of Natural Resources Estuarine and Marine Fisheries Program. While there, he concentrated on studying the population characteristics of Atlantic coastal striped bass and Chesapeake Bay fisheries.

Andrew received his Bachelor and Master of Science degrees in Fisheries and Wildlife from Michigan State University, specializing in population dynamics. While in Michigan, he worked cooperatively with the Michigan Department of Natural Resources and Michigan Sea Grant conducting research on lake trout in the Great Lakes. He continued post masters work with the university, concentrating on Great Lakes salmonid biology.

"During my tenure as CUS treasurer and software librarian I have been able to streamline some of the procedures that we use in the software ordering process. In the coming year, CUS will face some opportunities to redefine the services and products that we offer our members. I look forward to actively participating in this process to make sure that CUS remains relevant to our members and to AFS overall."

Have you considered incorporating electronics into your field collection systems? See page 2 for details

How to Vote

Either e-mail or snail mail your choice for President-Elect and Secretary-Treasurer to Stuart Shipman at:

**Stuart Shipman
Division of Fish and Wildlife
Indiana Dept. of Natural Resources
511 W. Columbia Parkway
Columbia City, IN 46725
(219) 691-3181 Voice
(219) 691-3494 Fax
Sshipman@dnr.state.in.us**

**Deadline for voting is
June 30th, 2003!**

Software update

During the past six months, we have received only one software program, which is currently in review:

Program Name: FishBC

Authors: Jason Doll and Thomas E. Lauer, Ball St. Univ.

Platform: PC with Windows 95 or higher and Excel 95 or higher

Description: Software package that computes back-calculated lengths of fish from scales or other ageing structures, using the traditional Lee method, and has the option of performing a regression analysis over the data. Input data can be entered manually or by using an Excel spreadsheet.

Do you have a software program that other fisheries professionals may find useful? Let the CUS review it for you!

Second GIS Symposium Proceedings

Mick Porter

U.S. Bureau of Reclamation

The 'Second International Symposium on GIS/ Spatial Analyses in Fishery and Aquatic Sciences' was composed of 73 presentations, 22 posters and 6 software demonstrations. A total of 40 manuscripts have been submitted for the proceedings, which are expected to be published in early 2004. Abstracts from the papers and posters can be found at <http://www.esl.co.jp/Sympo/sympo10.htm>.

Marine papers were well represented while the freshwater fisheries session was smaller, and more focused. Several software packages were demonstrated for handling marine geographical information, rather depending on adapting ArcGIS or other commercially available software. The techniques for measuring habitat and analyzing spatial relationships with GIS is rapidly becoming more sophisticated.

Though the number of presentations decreased from the previous symposium, the quality has remained high. There continues to be a good mix of new ideas and discussions between sessions were stimulating. The shift in venue resulted in a better representation by European researchers. The size of the meeting and the university venue facilitated conversations with colleagues outside the sessions. This symposium is developing into meeting for keeping up with important developments in fisheries GIS.

The next symposium is scheduled for 2005 in either Africa or Asia to promote the application of GIS and Spatial Analyses in fisheries and aquatic sciences in developing countries.

Past AFSCUS President visits site of world's fastest Supercomputer

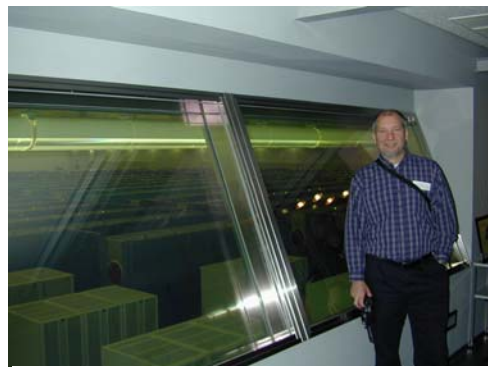
Past president, Bernard A. Megrey, recently visited the Frontier Research System for Global Climate change in Yokohama Japan for a marine ecosystem modeling workshop. This institute houses the world's fastest supercomputer, "The Earth Simulator".



The earth Simulator. Each blue box is a node containing 8 CPU's

The processing speed of the Earth Simulator (40 Tera-flops) is faster than the five fastest U.S. supercomputers combined. The Japanese system, designed by NEC, has 640 nodes with 8 processors per node for a total of 5120 processors, 10 terabytes of main memory, 700 terabytes of disk space and 1.6 petabytes of mass storage. The "computer" takes up the space of 4 tennis courts and is housed in its own seismically isolated building.

The Earth Simulator is used primarily for quantitative prediction and assessment of variations of the atmosphere, ocean and solid earth. The Earth Simulator has already produced promising results through the ocean and atmospheric global simulations with an extremely high resolution of 10km horizontal distance. This fine scale resolution provides the tool for reliable prediction of climate changes. More information can be found at www.cs.utk.edu/~dongarra/esc.pdf and <http://www.es.jamstec.go.jp/esc/eng/> and http://www.time.com/time/2002/inventions/rob_earth.html.



Past President Bernard Megrey in front of the Earth Simulator

AFS-CUS Strategic Plan for the next 2 years

American Fisheries Society-Computer User Section
Strategic Plan 2003-05 (our contribution noted in italics)

Member Services

MS1-Professional Development

1.1-Continued Education:

- Sponsor GIS /web development ws at 2003 annual meeting*
- Sponsor microcomputer and GIS workshops at 2004 World Fish Congress*
- Sponsor GIS workshop(s) 2004 annual meeting*
- Examine current trends and develop workshops/ symposia to meet those trends for the 2005 annual meeting*
- Identify additional technology related workshops to sponsor or support at local and regional meetings (i.e. use of pivot tables, FAST, Fish BC, Fish Statistics)*

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AFS-CUS Strategic Plan for the next 2 years (cont.)

(Continued from page 7)

1.2-Certification:

*Encourage attendance at workshops in support of certification
Provide workshops described in MS 1.1 and others that help members maintain their certification*

1.3-Ensure service and products are affordable:

Maintain reasonable fees for all workshops/symposium sponsored by the Section

1.4-Assess membership needs/satisfaction/ development:

Conduct online membership survey to evaluate member attitudes/ expectations

1.5-Student Membership:

Continue to offer \$100 to student poster demonstrating best use of technology

MS2-Science Based Information

2.1-Host scientific/technical meeting:

*Co-Sponsor "Better resource management through better information; making data available" at 2003 annual meeting
Sponsor symposium on Fisheries Applications using GIS/remote sensing at 2004 annual meeting
Examine current trends and develop symposia to meet those trends for the 2005 annual meeting*

2.2-Improve prestige of Fisheries and journals:

2.3-Improve journal products-increase recruitment of members as authors/reviewers:

2.4-Support AFS technical committees:

Provide support for other units when setting up list-serves and other electronic communication media

2.5-Use market research to update 1995 "Book Plan":

MS3-Electronic Services

3.1-Continue use of internet and other electronic tools for communication

A member of the CUS governing board should be an active member on the web advisory standing committee

3.2-Maintain and improve job announcements:

3.3-Improve membership database:

Offer section expertise to Bethesda in selection of software

3.4-Encourage AFS units to enhance their web sites:

*Continue web-notes to members
Fix bad links and update appearance of website
Continue to provide semi-annual newsletter via the website
Offer Section support to other subunits for website development*

MS4-Diversity

4.1-Develop plan to identify, target, recruit individuals from under-represented groups:

4.2-Units should hold joint meetings with complimentary groups:

*Continue work with OFWIM to identify similar interest and projects
Identify new alliances with TWS remote-sensing workgroup
Work to facilitate implementation of NBII's Fish and Wildlife Data Summit recommendation to develop standards for fish/wildlife IT professionals*

4.3-Units should sponsor outreach to increase social diversity:

4.4-Encourage units to consider diversity when selecting leaders: 4.5-Showcase programs that units offer so others can share/trade ideas:

Continue to add details about collaborative events on the CUS website

4.6-Develop reciprocal membership with collaborating societies:

Develop a reciprocal membership with OFWIM

MS5-Strategic Plan Implementation

Implement CUS strategic plan.

Information Transfer and Outreach

ITO1-Professional Stature

1.1-Enhance AFS leadership role in educating employers about professional standards:

Work with NBII, OFWIM and the Wildlife Society to support development of IT standards for fish/wildlife professionals

1.2-Communicate regularly how they can improve stature as professionals:

1.3-Maintain leadership role in enhancing salary, safety and work conditions:

1.4-Determine which organizations are using AFS certification-promote certification:

1.5-Maintain use of AFS action plan:

1.6-Develop partnerships with other Societies to promote professional standards:

1.7-Communicate to employers the benefits gained through AFS participation:

1.8-Encourage fishery educators to promote AFS benefits and professional goals:

ITO2-Visibility

2.1-Develop and disseminate how-to manuals to units on effective media interaction:

2.2-Distribute AFS press releases and fact sheets:

2.3-Develop and disseminate research based information to policy makers:

2.4-Implement the existing Action Plan for Visibility:

2.5-Develop and disseminate materials about aquatic resource stewardship:

2.6-Develop and maintain media resources to facilitate regular contacts:

ITO3-Collaboration

3.1-Collaborate with other scientific organizations to make science based info accessible:

Continue efforts with OFWIM and NBII to enhance web-based information access

Work with OFWIM and NBII to collect data standards for fisheries databases and make them available to fisheries database professionals

Work with OFWIM and NBII to collect legal standards surrounding the use and dissemination of fisheries information and make it available to fisheries professionals

3.2-Appoint official AFS liaison to other organizations:

(Continued on page 9)

AFS-CUS Strategic Plan for the next 2 years (cont.)

(Continued from page 8)

Consider appointing a CUS member to track OFWIM activities

3.3-Add descriptions of unit based collaboration efforts on the AFS website:

Provide information on collaborative efforts to Bethesda

ITO4-Electronic Information Network

4.1-Encourage units to develop/enhance websites with emphasis on outreach:

4.2-Develop and implement an outreach plan for the AFS website:

4.3-Provide a list of other aquatic mailing lists to facilitate members interaction:

Keep the CUS listserv active

ITO5-Public Policy

5.1-Encourage AFS to use established guidelines for advocacy activities:

5.2-Clarify the development process for position and policy statements:

5.3-Develop process to preserve institutional memory of resource policy:

5.4-Develop and implement a process to enhance communications:

5.5-Review policy and position statement and revise based on changes in information:

5.6-Securing appropriate independent reviews for advocacy materials:

5.7-Implement existing Action Plan for Visibility of fish resources and science:

5.8-Implement strategies for aquatic stewardship promotion, leadership, education:

5.9-Improve the use of the Fisheries Information Network:

5.10-Establish a task force to identify how AFS can improve its public policy (Canada):

Aquatic Stewardship

AS1-Promote Stewardship

1.1-Partner with other science, industrial, conservation, environmental groups to address complex issues:

1.2-Convvene another fisheries leadership conference to evaluate progress:

1.3-Actively advocate for adequate funding for quality management:

1.4-Use the full spectrum of activities discussed under goal ITO:

1.5-Increase the number of AFS conferences, symposia and books on holistic management:

1.6-Inventory, review and expand materials the Society produces on watersheds, ecosystems, restoration, and habitat conservation:

AS2- Stewardship Education

2.1-Encourage units to be more active in contacting groups to offer assistance:

Take credit for World Fisheries Congress workshops and the Puerto Rico workshop that may happen

2.2-Encourage units to develop more materials for educating the public:

2.3-Compile and maintain a clearinghouse of project ideas/materials

on stewardship:

2.4-Develop and update website for non-professionals to address fish issues:

2.5-Partner with other organizations to facilitate/promote leadership/youth development:

2.6-Persuade fishing magazines to write about conservation, management, & habitat protection:

2.7-Use the full spectrum of activities under goal ITO to provide aquatic stewardship:

AS3-Local and Global Leadership

3.1-Disseminate (more widely/with greater impact) existing position and policy statements:

3.2-Sponsor workshops to train members to be more effective communicators:

3.3-Encourage members to become more active in contacting policy makers/media to provide science based information and assistance:

3.4-Develop more timely position and policy statements:

3.5-Establish a task force to assess AFS taking a stronger role in Mexico:

3.6-Review whether units are the most effective way for International concerns to be incorporated within AFS:

3.7-Implement AFS Action Plan for Visibility:

New Book Release from AFS

Nutrients in Salmonid Ecosystems: Sustaining Production and Biodiversity

John Stockner, editor

The proceedings of the 2001 conference "Restoring Nutrients to Salmonid Ecosystems" and the first book of its kind, this volume presents recent information on the role and importance of marine-derived nutrients in salmonid ecosystems. The authors examine how this research can be used effectively to assist in rebuilding salmonid stocks in the Pacific Northwest.

The book contains: (1) Description and management of historical and current nutrient regimes in salmonid ecosystems; (2) Ecological linkages between salmon and productivity of freshwater ecosystems and the ecological impacts of a diminished salmon nutrient shadow; (3) Dispersal mechanisms of marine-derived nutrients in Pacific Northwestern freshwater ecosystems; (4) The effects of hatcheries, harvest, and other resource management regimes on nutrients and their dispersal; and (5) An incorporation of nutrient management into ecosystem restoration.

AFS Symposium 34; 302 pp., paper, February 2003; Stock Number: 540.34; List price: \$60; AFS member price: \$42 ISBN 1-888569-44-1

To order:

Online: www.fisheries.org/cgi-bin/hazel-cgi/hazel.cgi

Phone: (678) 366-1411, or Fax: (770) 442-9742; Email: afspubs@pbd.com

AFS-CUS Bylaw changes

Note: Bold text are additions. Strikethroughs are deletions.
Vote!!! Please vote on these bylaw changes by June 30, 2003. See page 13.

BYLAWS OF THE COMPUTER USER SECTION OF THE AMERICAN FISHERIES SOCIETY

Amended by the Secretary/Treasurer
September 12, 1989

Section I. Name and Objectives

1. The name of this organization shall be the **COMPUTER USER SECTION**. Hereafter referred to as the Section, of the American Fisheries Society as provided for by the Constitution ~~and Bylaws~~ of the Society. In this context the Computer User Section will consist of all individuals interested in the **application of electronic technology to** ~~use of advanced electronic digital equipment in Fisheries.~~

2. The objectives of the Computer User Section are to:

- (a) Develop and maintain an association of persons interested and involved in promoting an understanding of the interrelationship between electronic ~~digital devices~~ **technology** and fisheries.
- (b) Provide an opportunity for exchange of data, techniques, and public domain software for ~~digital~~ **electronic** equipment.
- (c) Provide a forum for fisheries ~~scientists, fish culturists, management biologists, fisheries biometricians, administrators, and educators~~ **professionals** to communicate with other ~~digital~~ electronic equipment users.
- (d) Coordinate and develop programs to disseminate current information on the use of ~~technology~~ **electronic** ~~of digital~~ equipment in fisheries.
- (e) Provide a source of consulting advice or names of qualified individuals who can provide information on the use, techniques, or on available software.
- (f) Promote consumer analysis of ~~digital~~ **electronic** equipment, software, or related equipment for use in fisheries.
- (g) Develop and provide training in the use of electronic equipment and associated software.**

Section II. Membership

1. Membership in the Computer User Section of the American Fisheries Society shall be composed of Society members in good standing who ~~apply for membership after payment of annual~~ **Section** dues.

AFS-CUS Bylaw changes (cont.)

Section III. Officers

1. The Officers of the Section shall be the President, President-Elect, Secretary-Treasurer, Software Librarian, Newsletter Editor, and ~~Electronic Bulletin Board System Operators (BBS-SYSOP)~~ **Webmaster**.
2. The ~~BBS-SYSOP~~ **Webmaster** and Newsletter Editor shall be appointed by the President of the section. All other officers will be elected. ~~The BBS-SYSOP will be appointed for a term of four years.~~
3. **The Webmaster and Newsletter Editor will be appointed for two years, or until a successor is elected.** ~~The Newsletter Editor will be appointed for a term of two years.~~ All other officers shall be elected for a term of two years, or until a successor is elected. The President-elect shall, upon completion of his/her term, accede to the Presidency.
4. Officers shall serve without salary or other compensation for their services. Expenses may be defrayed from funds available to the Section when authorized by the Executive Committee (see Section V).
5. **The following restrictions apply to the election of officers:**
 - (a) The President may not hold consecutive terms.
 - (b) Candidates for office will be nominated by a nominating committee appointed by the President. Nominees may run unopposed, except for the President-elect. Mail ballots will be tallied by the President-elect. Elections will be completed at least one week before the annual Section meeting. Officers shall be elected by a majority of the returned mail ballots, and will be announced and installed at the annual meeting.
 - (c) In the event of a vacated position, the Executive Committee shall appoint a qualified replacement for the unexpired term

Section IV. Duties of Officers

1. The President shall serve as chairperson of the Executive Committee and shall preside at the business meeting of the Section, appoint all committees and serve as an Ex Officio member of these committees. The President shall represent the Section and perform other duties and functions as authorized and necessary.
2. The President-Elect shall perform the duties of the President in the absence of the President and assume those duties in the event the office is vacated for any reason. The President-Elect shall serve as chairman of the nominating committee and will tally all election results. The President-Elect will ensure that Section Bylaws are not violated in the course of Section activities, and will act as chairperson of the Section Bylaws Committee.

AFS-CUS Bylaw changes (cont.)

3. The Secretary-Treasurer shall maintain a current list of the membership, receive all funds, pay all bills, keep an itemized account of all receipts and disbursements, present a semiannual report to the Executive Committee and an annual report to the membership. He/she shall submit a report to the Executive Director of the Society within 30 days after the annual meeting of the Section is held, and at other times as requested by the Executive Committee of the Society.
4. The Software Librarian shall maintain a current list of the software library, keep copies of all software, and distribute software to members as per software distribution rules. He/she will coordinate with the chairman of the Software Review Committee who will receive and send out software for review.
5. The Newsletter Editor shall serve as chief editor of the Section newsletter. The Newsletter Editor shall be in charge of producing the newsletter, soliciting and collecting newsletter items, and coordinating timely publication of the newsletter. At least one newsletter will be published per year.
6. The ~~Electronic Bulletin Board System Operator (BBS SYSOP)~~ **Webmaster** shall have sole responsibility for the configuration and operation of the ~~BBS system~~ **computer user section website**. Duties include ~~maintenance of all electronic messages~~ maintenance of the Section's **Bulletin Board Web Pages**, ~~microcomputer hardware~~, and coordinating any required upgrades. ~~The SYSOP will maintain a current list of eligible BBS participants and take all reasonable precautions against unauthorized use of the BBS system.~~

Section V. Executive Committee

1. The Executive Committee shall have the authority to determine policies and conduct business consistent with the objectives of the Section **and the Constitution, Rules and Procedures of the Society**. These policies and objectives will be outlined in the AFSCUS Procedures Manual. Changes in the manual must be approved by a vote of the Executive Committee.
2. The Executive Committee shall consist of the Officers and the immediate Past President of the Section. All officers except for the Newsletter Editor and ~~BBS SYSOP~~ **Webmaster** will be voting members of the Executive Committee.
3. Meetings of the Executive Committee may be held at the call of the President when a majority of the committee members can meet and conduct business. Business and voting by the Executive Committee may be conducted by mail, teleconference or electronic communications.

Section VI. Voting and Quorum

1. Decisions at Section business meetings shall be in accordance with the Constitution of the Society. A quorum at business meetings shall be ~~±~~ **10** members of the Section.

AFS-CUS Bylaw changes (cont.)

Section VII. Fees

I. Any annual membership fee shall be determined by the Executive Committee and approved by the membership by mail ballot or at a regular business meeting. The Executive Committee may assess those attending a meeting of the Section a registration fee as provided by the Constitution and Bylaws of the Society.

Section VIII. Amendment of Bylaws

I. The Bylaws of the Section may be amended by mailed ballot or approval by a vote of 2/3 of the Section members at the business meeting and by subsequent approval of the Society Executive Committee in accordance with the Constitution, **Rules and Procedures** and ~~Bylaws~~ of the Society.

Section IX. Software Distribution and Receival Rules

I. Rules for receiving, reviewing and distributing software will be published in the AFSCUS Procedures Manual.

Vote on Bylaw Changes

Either e-mail or snail mail your approval (yes vote) or disapproval (no vote) on these changes to:

**Doug Beard
Fisheries and Aquatic Resources Node
USGS-NBII
MS-302
12201 Sunrise Valley Drive
Reston, VA 20192
(703) 648-4215
Dbeard@usgs.gov**

Deadline for voting is June 30th, 2003!