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

AFSCUS

Spring 2001

Vote! This issue contains biographies for President-Elect and Secretary-Treasurer candidates. See pages 8-9 for details.

President's Byte *by Michael D. Porter*

With spring already upon us, I am looking toward the future of both the American Fisheries Society and the Computer User Section. Gus Rassam has proved capable in bringing the budget into line for the parent society. He has initiated several projects, with more ready to start as funding becomes available. Gus is open to new ideas while moving forward and keeping the society solvent. Working with Gus and his staff we have established listserver capability for AFS units through the parent society. This opens the potential for all AFS units to utilize electronic communications for conducting business.

Computers have become ubiquitous in fishery science for data collection and analysis. The Computer User Section continues to fill an important niche in bringing together experts and

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Inside this issue:

New Newsletter Editor

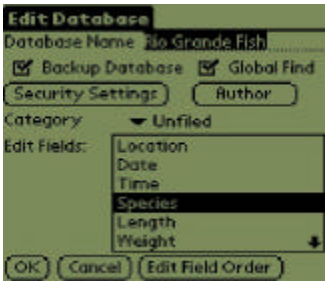
Beginning with this issue, Craig Paukert has taken over for Robert Ball as newsletter editor. Any comments or suggestions about the newsletter can be directed to Craig at Craig_Paukert@sdstate.edu

Field testing HanDBase 2.5 on the Palm III for data collection *by Michael Porter*

HanDBase is a flexible database program for handheld computers. It is available for both Palm OS and Windows CE computers. The strength of the software is the ability to customize the database in the field or on the desktop, and transfer the data into a spreadsheet or other program for processing. The Palm III is carried in a waterproof GPS bag on a lanyard, with a spare stylus tied outside.

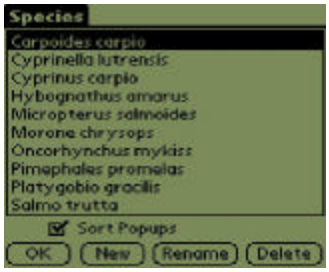
The HandBase database program used on a Palm III computer for an electrofishing survey on the Rio Grande River

The project involved designing two databases for an electrofishing survey on the Rio Grande. The sample sites database consisted on the basic location data, date, time, crew, water chemistry data, and shocker settings. Location names included a number to indicate which segment of the specific river reach we were sampling. The date and time fields were set to use the internal clock to timestamp each new record. I created a popup list for crew members, adding to it each day as new people were rotated into the crew. During the trips I added popup lists for the electrofisher settings, and will create habitat popup lists before the next surveys.



Sample sites database for the electrofising survey

The fish collections database has fields or columns for location, date, time, species, length, and weight. The location field was linked to the sample sites location through the database (DB) popup function. When the location field is chosen, it transfers the user to the list in the other database. This ties the current observation to the chosen site and environmental data, and the site name will be exported with the record. The date and time used the same timestamp functions used for the location data, recording when the measurements occur. I created a species popup list and sorted it alphabetically. For convenience, the user might construct the list in order of frequency, with the more common species at the top of the list, and rarer species toward the bottom. For each fish, tapping the species field brings up the list, and the name is selected. I initially set the length and weight fields to integer values, which causes the program to initiate the fields with a 0. After having to remove the zero before entering the data, I switched the fields over to decimal numbers. When number fields are chosen, a calculator keypad pops up, and the numbers tapped out on it. The onscreen keypad is easy to use, though numbers can be written using Palm Graffiti at the bottom of the screen.



Fish collections database

Records are added by tapping the New button either from the data table view or the record view. The user can scroll through the records in the table view with the scroll bar or from the record form using the +/- in the upper right corner of the screen. Scrolling through the data table becomes slower as the number of records increases. The records can be sorted in the field by any three fields, in ascending or descending order. It has search and filters for assisting in locating particular records.

Editing records in HanDBase 2.5

The databases can be transferred between Palm computers by infrared beaming, and to a desktop computer through a HotSync. The records can be edited through the HanDBase desktop, and exported into comma separated variable (csv), Excel (xls), Word (doc), web (html) or XML (xml) file formats. I used the csv format to import the data into a StarOffice spreadsheet for further data analysis.

Overall, the Palm III using HanDBase met the challenges of electronically recording field data fairly well. We recorded data for 29 sites and 596 fish in four days on the river. The software itself is a major step beyond other database software previously available for handheld computers. Other packages I have evaluated require database form design on the desktop, which is then exported to the handheld computer. Field testing becomes essential before distributing the program for general use. HanDBase allows for changing data types, adding variables/fields, and creating new databases in the field. That level of flexibility by itself brings the handheld computer quite a bit closer to the field databook.

> ***"Overall, the Palm III using HanDBase met the challenges of electronically recording field data fairly well. We recorded data for 29 sites and 596 fish in four days on the river."***

The waterproof cover worked except when rain and melting snow droplets accumulated on the plastic. Wiping the droplets off allowed the computer to respond to the stylus. Reflections on the plastic with varying sun angles is a nuisance, the anti-glare sheets for the Palm screen don't help under the plastic. Another caveat with handheld computer is cold temperatures will diminish battery output, and display contrast. Response

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HanDBase 2.5

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time is unaffected by temperature. Keeping the computer on a lanyard under your coat will keep it functioning. There are newer waterproof cases available for handheld computer this year. A heavy duty ziplock bag may work as well as any, particularly if it is carried in a sturdy case while working.

Before going into the field, spend some time using HanDBase and your particular databases on the handheld computer. New users especially will benefit from a 30-60 minute session on data entry and editing. The software is powerful, and about as user friendly as database software can be. Both the handheld and desktop interfaces are easy to navigate. The ~600 fish records used 66 KB of space, leaving plenty of space before requiring transferring the database to a desktop and clearing the records.

HanDBase is available as shareware ($25-30) from Handango (www.handango.com) or direct from DDH software (www.ddhsoftware.com/solutions.html or www.handbase.com) The new HanDBase 2.75 has achieved Platinum status for Palm OS software with improved conduit for merging changes between desktop and handheld databases. If you have a handheld computer, I highly recommend this program for managing your data. It handles simple and complex data needs with ease, the learning curve is short, and data transferability is good.

President's Byte

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novices to share ideas, software, and techniques. Our combined expertise is demonstrated by section interest in geographic information systems, handheld computers like the Palm, and operating systems like Linux.

I want to remind section members of two topics that must be continually addressed. These are feedback from the members to the officers, and recruitment into the section. While e_notes has been a successful mechanism for stimulating member responses from time to time, the officers rarely hear from the members. Contributing your ideas and questions will help us steer the section toward your interests. Your comments also help the section president communicate your priorities to the AFS parent society. The number of members allows the section to actively support symposia, meetings, and workshops.

I hope the section members will help Doug Beard in broadening our base through recruiting, directing colleagues to our resources, and contributing whenever possible. The section continues to be involved in AFS projects, including development of the electronic Infobase. Phase I of this project will be transferring our journal archives into an electronic format for distribution via networks or DVD. It will provide access to an important scope of fisheries research. I want to encourage our resource agencies and administrators to support this project with seed money and using the final product.

I have enjoyed my term as section President, and serving the diverse interests of our members. I want to thank Bob Ball especially for his work as newsletter editor, Darren Benjamin for updating the software library, and Stuart Shipman for keeping the accounts straight. I will continue e_notes as an conduit for bringing news and information to section members.

Don't forget to vote! See pages 8-9 for candidate biographies

Summarizing field data rapidly using a spreadsheet *by Michael Porter*

The ability to collect field data with a handheld computer like the Palm III using HanDBase and transfer the data to a desktop computer, facilitates rapid evaluation using a spreadsheet.

The examples in this article were done in StarOffice StarCalc. The spreadsheet functions used below can be found in most spreadsheets like Excel, Lotus, and Quattro Pro, but may have slightly different requirements in syntax and placement. In StarCalc, the database ('d') functions must be placed in the same column as the data, and use the same headers. The d-functions define three regions within the function: the database, the database field, and the search criteria. For the following exercise, the database and database fields are the same block on the spreadsheet.

A	B	C	D	E	F
Location	Date	Time	Species	Length	Weight
Escondida-1	3/2/01	10:24:00	Cyprinus carpio	394	800
Escondida-1	3/2/01	10:26:00	Hybognathus amarus	85	

The search criteria is a block in a different area, but in the same columns as the database, with the specific search criteria. The header block is required for the search criteria as shown below with locations as the variable used for the dcount function.

Dcount in the Starcalc spreadsheet depends on the header block, so for each successive location in the list, it counts all the criteria in the defined block. The '$' in each cell address allow the formula to be copied down the rows. For the number of fish at San Acacia-1,

=DCOUNT(A$1:E$597;A$1:E$597;A$600:E601)

is placed in the cell under Fish Counted. The database and database fields are the same block (A$1:E$597), and the search criteria is A$600:E601.

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A	B	C	D	E	F
Location	Date	Time	Species	Length	Weight
San Acacia-1					
San Acacia-2					
San Acacia-3					

To adjust for the cumulative count defined by the A$600:E603 block, you can subtract out the count from the previous locations in the cells above the current row (SUM(B$634:B635)). So the function

=DCOUNT(A$1:E$597;A$1:E$597;A$600:E603)-(SUM(B$634:B635))

would return the number of fish at San Acacia-3, by counting all the rows with San Acacia-1 through San Acacia-3, and substracting out the counts for San Acacia-1 to San Acacia-2.

A	B	C	D
	Fish Counted	Time	CPUE (10 min units)
San Acacia-1	24	419	34.37
San Acacia-2	32	562	34.16
San Acacia-3	45	514	52.53

The time values were pasted in from a separate location block, and CPUE calculated using the function

=B636/(C636/600) for the San Acacia-3 row.

Because the header must be included with the search criteria, and the awkwardness of subtracting out previous counts, an alternative approach is used. The search criteria for each species is set up with a separate header producing specific search blocks as shown below.

These search blocks allow the user to count the number of fish and calculate statistics on other measurements such as length or weight. This approach eliminates the requirement for subtracting out previously counted individuals, but demands a little more time creating the search criteria block. The number of individuals of each species caught used the formula:

A	B	C	D	E	F
Location	Date	Time	Species	Length	Weight
			Ameiurus melas		
Location	Date	Time	Species	Length	Weight
			Ameiurus natalis		
Location	Date	Time	Species	Length	Weight
			Carpoides carpio		

=DCOUNT(A$1:E$597;A$1:E$597;A$668:D669)

Average length was calculated using the formula:

A	B	C	D
Species	Number	Average Length	
Ameiurus melas	1	203.0	
Ameiurus natalis	0	0.0	
Carpoides carpio	85	169.5	

=DAVERAGE(A$1:E$597;A$1:E$597;A$668:E669)

We can perform these same analyses through sorting by species, and using statistical functions on each block of data. The application of these functions becomes more useful where you have larger numbers of individuals (100+) in the database, or have repeated sampling at the similar sites. Once the search criteria blocks are created for the location and species summaries, they can be copied into a new spreadsheet for the next data set. I recommend setting aside a large block of space for incoming data, placing the search criteria and data summary areas at the top of the spreadsheet. The data can be downloaded from HanDBase into the spreadsheet, and the sample sites copied into the first search criteria block. The summary statistics are

GIS proceedings now available

The Proceedings of the First International Symposium on Geographic Information Systems (GIS) in Fishery Science (2-4 March 1999) are now available. It was the world's first global integrated fishery GIS conference, stimulating tremendous interest world-wide C both pre-and post-Symposium C and providing a strong incentive for documentation of the discussions by publication of the Proceedings. The Proceedings are 486 pages including 54 pages of full color GIS maps.

The First International Symposium on Geographic Information Systems (GIS) in Fishery Science was held in Seattle, Washington, U.S.A., 2-4 March 1999. The Proceedings differ slightly from those that restrict themselves to the presentation of original scientific research papers. Due to the nature of GIS, we have included not only original scientific research papers, but additional papers on GIS-related issues (reviews, education, database, computer systems, and software development). As a consequence, the Proceedings are composed of three major parts: the keynote address, 27 scientific research papers, and 11 papers presenting reviews, concepts, education, research in progress, and GIS related software, databases and computer systems. Most papers contain several pages of GIS thematic color maps providing an overview of recent GIS products in fishery

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science.

The Proceedings will be an important reference for the application of GIS to fisheries science and management. In addition, the Abstract Proceedings (a separate publication) will provide a summary of all 130 papers presented at the Symposium, providing readers with a broader background for fisheries GIS. Anyone needing a copy of the Abstract Proceedings should contact the Fishery GIS Research Group at (esl@esl.co.jp).

The primary aim in publishing these Proceedings is to present state-of-the-art scientific papers, and provide a useful reference source for potential Fisheries GIS users or beginners. The Proceedings will illustrate what types of GIS techniques are available and effective for specific research topics, how different types of GIS techniques work, and what are the existing problems. Hence, potential GIS users can select the most effective methods to enhance the application of GIS in fishery science.

The range of the 39 papers is very diverse, encompassing examples from small geographic areas (Himalayan streams, Oregon watersheds, Austrian lakes, etc.) to large geographic areas (Gulf of Alaska, Mediterranean Sea, New Zealand waters, Georges Bank, Sea of Japan, South African waters, etc.). They also cover broad ranges of species and life stages, from fresh water creatures to marine living resources (catfish, shellfish, kelp, small pelagic fish, epibenthos, demersal fish and, further, to highly migratory species like salmon and tuna). Furthermore, the contents cover various types of GIS methodologies including simple mapping, multi-dimensional presentations, sophisticated overlay techniques, spatial numerical analyses and remote-sensing, as well as multi-species/ecosystem management and predictions.

Detailed review of the 130 papers presented at the Symposium, and consideration of other relevant recently published papers, suggests that the application of GIS in fishery science might appropriately be categorized into four areas. These are:

(a) simple presentation of parameters in fishery science;
(b)ecological/ecosystem research or fisheries oceanography in marine science;
(c)spatial numerical analyses and space-based stock assessments; and
(d)space-based management and predictions.

Most applications are qualitative analyses (simple mapping and overlay in ecological research). This situation reflects the current situation for GIS application in fishery science. The primary reason for qualitative than quantitative analyses is probably the nature of the terrestrial GIS software. The terrestrial GIS is probably rather inappropriate for tackling numerical and complicated spatial analyses for unique fishery information that exhibits marked differences from land-based information. As mentioned, 95% of the papers presented at the Symposium used terrestrial-based GIS software. In their papers, a number of the authors who conducted qualitative analyses discussed difficulties associated with immediate extension to quantitative applications using the current terrestrial-based GIS software. Several papers dealing with sophisticated and advanced numerical applications using terrestrial GIS software were presented.
There is a need for more user-friendly and fishery-specific GIS software which is capable and effective for quantitative spatial analyses and presentations of 3D-4D fishery information. Development of such software will be one of the most challenging areas in fishery GIS application in the immediate future. In fact, some terrestrial GIS software firms have already started to expand their products= applicability to fishery GIS information. In addition, a few marine-specific GIS software products are under development, able to handle both qualitative and numerical spatial analyses for fishery and oceanographic information including 3D-4D data. If such new products are effectively developed and are really user-friendly, then it may be anticipated that there will be significant improvements in GIS application in fishery science for both quantitative and qualitative spatial analyses. As has been the case for terrestrial applications, progress in user-friendly software development can enable analyses to proceed without a requirement for the involvement of specialist GIS experts.

Though there are many areas for future improvement in GIS applications in fishery science, you should nonetheless find value and enjoyment in the variety of GIS Maps and Figures presented in this Proceedings. They illustrate the international proverb Seeing is believing- one GIS Map can tell us everything, much more effectively than thousands of words. A map corresponds to an international common language and communication tool, so that anyone can readily understand the information presented. Maps enable anyone to overcome the frustration of an illiteracy syndrome that difficult words otherwise impose.

We will soon circulate the announcement for the >Second International Symposium on GIS in Fishery Science, to be held in 2002 (venue to be decided soon). In the three years since the First Symposium, there has been tremendous progress on applying GIS in fishery science. Hence, we encourage you to participate in the second symposium, to present updates on research with GIS and on other GIS-related projects.

Ordering the GIS Proceedings

The cost of the Proceedings are US $80.00 each for orders received by 31 July, 2001, and two or more copies are US $60.00 each. After July 31, 2001, single copies are US $ 170.00, multiple copies will remain at $ 60.00 a copy.
Airmail fees and handling costs are included in the price. Payment can be made by check payable (in US $) or University Purchase Order (USA) to:

Fishery GIS Research Group
c/o Environment Simulation Laboratory,
2F, Noble Building,
2-4-1, Arajuku, Kawagoe-city, Saitama-ken,
Japan 350-1124
phone: 81(Japan)-492-42-9262

Studying catfish behavior using SONAR

by Shane Luttrell and Jim Chambers, National Center for Physical Acoustics, University of Mississippi; and Doug Minchew and Rachel Beecham National Warmwater Aquaculture Center, Mississippi State University

Catfish farming has become the 4th largest agricultural commodity in Mississippi, generating more than $2 billion dollars in revenue in 2000. Unlike cattle and chicken, whose behavior and life-history are known, there is no such data for catfish. The dark, murky water of a catfish pond does not allow direct observation of the fish, and much of the behavioral and feeding research of the fish are done under controlled circumstances out of the actual pond environment. Our group is working on using SONAR to find, track, and size fish in a pond, and in doing so learn more about a catfish's behavior and feeding habits.

The current system is a redesign of an older SONAR device, which lacked the sensitivity and flexibility needed to size the catfish. The new system is designed for field deployment and is based on embedded PC104 hardware. The operating system is a custom built Linux OS, which was chosen for its reliability, networking capability, and flexibility. While many of our components are commercially available, parts of the SONAR system such as high-voltage SONAR transmission boards, and a wide dynamic-range receiver board, are built in-house. In addition to the PC104 stack, the device also includes a 420kHz narrow-beam SONAR transducer, and the mechanisms needed for rotating the transducer. The user is able to run a remote X-terminal, or an application such as VNCServer into the SONAR system over ethernet, and run graphical control and analysis applications from the shore.

"Our group is working on using SONAR to find, track, and size fish in a pond, and in doing so learn more about a catfish's behavior and feeding habits."

Our current system is in the final stages of testing here at the NCPA's test tank. Within the next few weeks, we will place the system into an empty pond, and test the hardware and software using placed targets of known range and size. The SONAR will then be deployed in a populated catfish pond for testing under actual field conditions. We are confident that our system will be able to determine the biomass of the fish within a pond, as well as the positions of fish masses. Whether or not we have the resolution needed to size individual fish within a pond using a single SONAR remains to be seen.

There is still much work to be done before the system can be considered finished. Battery power and wireless ethernet will be added to the SONAR so that power and ethernet cables are no longer needed. In addition client/server software needs to be finished that allows the user to interface with multiple SONAR systems at once. This will allow more than one SONAR to be used in a single pond, increasing the coverage (right now, the system will scan a 75m radius, assuming a cool water temperature). The biggest change in design will be switching from mechanical beam-steering to an electrically steered beam. Mechanically rotating the SONAR dish leads to errors in the counting of the moving fish (A full 360 degree sweep takes almost a minute to complete). Ultimately, we would like to design the system as a phased-array SONAR, eliminating the mechanical system altogether. This will enable much more rapid

BASS bioaccumulation and fish community model

The Ecosystem Research Division of the USEPA=s National Exposure Research Laboratory is pleased to announce the release of a generalized Fortran 95 model designed to predict the population and bioaccumulation dynamics of age-structured fish communities that are exposed to organic chemicals and class B metals that complex with sulfhydryl groups (e.g., cadmium, copper, lead, mercury, nickel, silver, and zinc). The new model BASS (**B**ioaccumulation and **A**quatic **S**ystem **S**imulator) was developed from FGETS (Food and Gill Exchange of Toxic Substances) which was published by Barber et al. (1987, 1991) and which has been available from the USEPA=s Center for Exposure Assessment Modeling since 1989 (http://www.epa.gov/ceampubl/ceamhome.htm). Unlike FGETS, however, BASS simulates trophic and population dynamics of user defined fish assemblages.

BASS's bioaccumulation algorithms are based on diffusion kinetics and are coupled to a process-based model for the growth of individual fish. The model=s exchange algorithms consider both biological attributes of fishes and physicochemical properties of the chemicals of concern that determine diffusive exchange across gill membranes and intestinal mucosa. BASS simulates the growth of individual fish using a standard mass balance, bioenergetic model (i.e., growth = ingestion - egestion - respiration - specific dynamic action - excretion). A fish's realized ingestion is calculated from its maximum consumption rate adjusted for the availability of prey of the appropriate size and taxonomy. The community=s food web is specified by defining one or more foraging classes for each fish species based on either its body weight, body length, or age. The dietary composition of each feeding classes can be specified as a combination of benthos, incidental terrestrial insects, periphyton/attached algae, phytoplankton, zooplankton, and one or more fish species. Population dynamics are generated by predatory mortalities defined by community=s food web and standing stocks, size dependent physiological mortality rates, the maximum longevity of species, and toxicological responses to chemical exposures. The model=s temporal and spatial scales of resolution are a day and a hectare, respectively.

BASS is distributed free of charge to any interested party. At present BASS=s user guide and software can be obtained from Craig Barber (barber.craig@epa.gov) by request. Although BASS must currently be executed as a DOS application, a graphical user's interface for the model is expected to be completed within the next two months.

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Barber, M.C., L.A. Suárez, and R.R. Lassiter. 1987. AFGETS@ (Food and Gill Exchange of Toxic Substances): A simulation model for predicting the bioaccumulation of nonpolar organic pollutants by fish. U.S. Environmental Protection Agency, Office of Research and Development. EPA/600/3-87/038 PB88-133558.

Barber, M.C., L.A. Suárez, and R.R. Lassiter. 1991. Modelling bioaccumulation of organic pollutants in fish with an application to PCBs in Lake Ontario salmonids. Can. J. Fish. Aquat.

Digital data system to improve fisheries management: New system successful in field trial

May 2 - The U.S. Commerce Department's National Oceanic and Atmospheric Administration's fisheries research fleet is being fitted with a new, user-friendly, on-board fisheries data collection system that will give researchers immediate access to fisheries survey data, the agency said on Wednesday.

The first of its kind in the United States, the system will profoundly speed the delivery of data from ship to shore and into the data banks of the scientists and managers who use it.

The Fisheries Scientific Computer System, or FSCS, was tested extensively aboard the NOAA ship Albatross IV, based in Woods Hole, Mass. The FSCS trial period ended April 30 at the completion of a six-week survey, and the system was declared operational.

During the trial, survey data was recorded electronically, and then successfully transmitted in near real-time to scientists at NOAA's Northeast Fisheries Science Center in Woods Hole for analysis.

"The Fisheries Scientific Computer System will cut two to three months from the time data is collected to the time it is ready for analysis," said Dennis Shields, a software engineer with NOAA's Office of Marine and Aviation Operations.

"This represents the single greatest improvement in data collection over the 38-year history of the survey," said Tom Azarovitz, chief of NOAA Fisheries' Ecosystem Surveys Branch, which conducts the work.

"Until now, we have used paper logs to record a variety of information about each fish brought up during a survey trawl. Analysts waited up to three months after a survey cruise to work with the data while it was transferred to a database and audited. With FSCS we will be able to begin analysis almost immediately to update stock assessments important to fishery managers," Azarovitz said.

The Office of Marine and Aviation Operations, which equips, operates and manages NOAA's ships and aircraft, will install the new system on the seven remaining vessels in the fisheries research fleet. The next vessel to be outfitted is the Delaware II, also out of Woods Hole.

Computer User Section Financial Report

July 1, 2000 to March 31, 2001

Balance brought forward July 1, 2000	$8,012.06

INCOME

AFS dues allotment (through Dec. 31, 2000)	1,656.00
Interest on Account (3/31/01)	51.21
Software Sales	788.40
Cont. Ed. workshop- Midwest F & W Conf.	4,186.42
Total Income	$6,681.63
SUBTOTAL	$14,693.69

DISBURSEMENTS

AFS raffle	100.00
AFS Listserve	300.00
AFS Website	100.00
Auburn University (FAST software sales)	1,170.00
EXCOM Travel (Ash & Shipman annual meeting)	759.10
NCD Continued Education Workshop Expenses	4,186.42
Newsletters (two mailed during reporting period)	304.76
Section Poster	27.30
Software returned check	15.00
Software (Acrobat for newsletter editor)	230.00
Supplies for Mailing Software	158.12
Total Disbursements	$7,350.70
CURRENT BALANCE ON HAND	$7,342.99

Membership

2000 Membership	USA	330
	International	66
2001 Membership (through Dec. 31, 2000)	USA	214
International		36

Voting deadline for President-Elect and Secretary –Treasurer is June 15th. See page 9 for details.

AFSCUS

President-Elect Biographies

Ron Remmick

Originally from Colorado, I graduated from Colorado State University in 1976 with a major in Fisheries Biology. My first professional job, in 1977, was working as a fish culturist for the Wyoming Game and Fish Department at the Dan Speas Rearing Station. In 1978 I received a fisheries biologist position in Pinedale, Wyoming. Much of my work focused on native cutthroat, and wilderness fisheries management. In 1996 I was promoted to and currently serve as Regional Fisheries Supervisor for the Green River region. My responsibilities continue to focus on native cutthroat management in the Green River and Bear River drainages. In addition, I am responsible for recreational fisheries management in waters such as Flaming Gorge Reservoir and the Green River.

I have been a member of the American Fisheries Society since 1979 and served on various committees including chairing a Western Division committee that produced an audio slide show on Riparian Management in Western Streams. I have served as Secretary-Treasurer, Vice-President, and President for the Colorado/Wyoming Chapter. I have presented papers at Western Division, Colorado-Wyoming Chapter, and "Wild Trout" meetings. I currently serve as Western Division Representative for the Fisheries Management Section and maintain the website for the Colorado-Wyoming Chapter.

My interest in computers began during the early 1980's as they became available to our agency. Developing programs to meet our Fish Division needs became a hobby more than a responsibility. Our first systems were developed using the DOS oriented ENABLE software. I designed many of the databases and associated reports that our Fish Division required for storing fish population, habitat, and stocking data for lakes and streams. We, as an agency, migrated to the Microsoft Office software a few years ago and I spent many hours assisting with the development of databases for this software then converting existing data to it. I am now spending time becoming familiar with and developing applications to utilize the internet and GIS technology.

If I were elected President-Elect for the Computer User Section I would use my computer related experiences and fisheries management background to continue to make computer technology available and important for all fisheries professionals. The Section has already done a great job incorporating computer use into all of our jobs and something not just for computer "geeks". I would make sure this continues. I would especially like to work with those attempting to develop standardized systems for data sharing throughout North America. The Section can and should provide that important link bringing people throughout the American Fisheries Society together to make this a reality. The experiences I gained developing systems for our Department taught me the importance of software and data consistency, and communicating this to people with no experience to those with an extensive computer background. Data sharing throughout North America will provide many more challenges but I would look forward to bring all those interested together to make this work. And even though the Section is more visible to all AFS members I do believe there is still a perception it is only for those strictly interested in computer technology. I would work at making sure the Section is viewed as an integral part of all other Units in the American Fisheries Society.

Stuart Shipman

Stu Shipman is currently a Fisheries Research Biologist with the Indiana Department of Natural Resources. Stu has a M.S. in Fisheries Science from Utah State University and a B.S. in Biology from University of Utah. His professional career includes reservoir research for the Utah Division of Wildlife Resource and a number of positions with the Indiana Division of Fish and Wildlife since 1974. Currently he is one of three research biologist for Indiana DFW and is directly involved in the development of an electronic fisheries information system for the Division. Additional responsibilities include evaluation of population dynamics of large predators including black bass, walleye and northern pike, human dimensions, and stream management.

Stu has been an active AFS member since 1974 and is both a certified fisheries scientist and life member of the Society. He is past president of the Indiana Chapter and currently its resolutions chair, served the past two years as chair of the NCD continued education committee, represents Indiana on several NCD technical committees and has served on the Society's best chapter committee. He is a charter member of both the Fish Management Section and Computer User Section and has been Secretary-Treasurer of AFS-CUS since fall 1997.

I have enjoyed serving the membership since 1997 in a variety of activities. The Section has been responsible for assisting or sponsoring a number of worthwhile workshops, symposiums and conferences during the my tenure including; the 4th Microcomputer in Fish and Wildlife Conference held in October of 1999, a using the Internet workshop developed by past president Dirk Miller and presented at the NCD meeting in December of 1999, a GIS symposium held at last year's annual meeting, and a workshop on using the "Fisheries Analyses and Simulation Tools" software at the 2000 NCD meeting. I played a small part in seeing that each program was conducted in a professional manner and

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President-Elect Biographies

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that participants received benefit from the effort. As I have said on numerous occasions, I view myself as more of a computer user than a computer expert. The more I learn about applications, operating systems and the Internet the more I realize how little I really know. Often in our professional careers we get so caught up in getting the next job done that we fail to reflect on how we got there and did we accomplish what we set out to do. So, I've thought about what I'd wanted to do as president of AFS-CUS. My first challenge is to continue to facilitate and expedite information exchange, both with the newsletter but also by hosting workshops and symposia. The Section did submit a proposal to IAFWA to host Fish Database Summit II. While this initial effort failed, this continues to be a worthwhile endeavor. I can't say that I'll reach all my goals but if I'm elected I pledge to keep on trying to have the Section provide technical expertise to the Society and it's membership.

How to Vote

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

Doug Beard
Wisconsin Dept. of Natural Resources
P.O. Box 7921
Madison, WI 53707
(608) 267-9427 Voice
BeardT@mail.01.dnr.state.wi.us

Deadline for voting is June 15th!

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 serves on a variety of public and private advisory boards including chairing the Chesapeake Bay Citizens Advisory Committee (an advisory Board to the Chesapeake Bay state governors, the mayor of the District of Columbia, the administrator of the EPA and the joint legislative program of Maryland and Virginia).

Andy has been the coordinator of the Multi-State Aquatic Resource Information System (MARIS) project since its inception in 1995. He was a member of the steering committee for the National Freshwater Fisheries Database Summit in 1998, and the 4th Microcomputer Applications in Fish and Wildlife Conference hosted jointly by AFS/CUS and OFWIM in 2000. He has been involved in a variety of database management initiatives and forums over the past decade.

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. These included involvement with legislative and programmatic activities of the Sport Fish Restoration Program. 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.

Prior experience includes serving as 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, before going to Maryland.