

LATERAL LINES



Volume 20, No. 1 November 2003

THE NEWSLETTER OF THE IOWA CHAPTER OF THE AMERICAN FISHERIES SOCIETY

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President's Corner

It seems like yesterday that Andy Thompson headed to work in Minnesota and I began an early tenure as President of this chapter. Well, over a year and a half have flown by and it is time to turn the reins over to Scott Gritters your new President and Dan Kirby, the President Elect. I know they will work hard to promote fisheries and its profession. In the times of tighter budgets and busier schedules, AFS is a great source of education, information and money. Take advantage of the resources available to you as a member of the Iowa Chapter AFS.

I want to thank all of you that have helped in the past two years and hope that you continue to help in the future. The Iowa Chapter of the American Fisheries Society is a good organization and will only get better as long as you are involved and continue to help where you can.

Past President – Mike Steuck

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NEWS FLASH

The current and future issues of Lateral Lines are now edited by Alan Johnson. Kevin Hansen has passed the torch and other incendiary devices on to your new editor.

If you have news worthy items to include in the Lines, please email them to Alan. alan.johnson@dnr.state.ia.us. Thanks!



View from the Top

Marion Conover, Fisheries Bureau Chief Iowa DNR

All of the Chapter members within DNR Fisheries are familiar with the budget cuts we have sustained this fiscal year. I am heartened by the commitment among staff to help get us through these rough times. Numerous ideas for both short term and long term fixes have been provided by field staff to help balance revenues with expenses. Despite budget reductions many productive projects are being accomplished which when completed will greatly improve the fisheries in Iowa. I point to the Lost Grove Lake project, Guttenberg shore access improvements, Lake Anita fish renovation, and Spirit Lake Fish Hatchery improvements as examples. Kim Bogenschutz is the Fisheries Bureau representative on the steering committee charged with writing the State Wildlife Management Plan that will serve as the template for directing nongame dollars to aquatic resources. Mussels, herps, and nongame fish species will finally have a focus in this agency with dollars to deliver program results, once this plan is completed in October, 2005. Benefits to game fish and our fishing public will also be realized.

My cancellation of the AFS Chapter meeting next February in Missouri should in no way be taken as a measure of my support for AFS. My decision was driven by budget realities. I have served as Chapter president, president of the Fisheries Administrators Section, and participated in Executive Committee business meetings of the AFS. The opportunities for professional growth are tremendous when one becomes

Welcome New Iowa AFS Officers!

Its time to welcome and congratulate our new officers, **President - Elect Dan Kirby** and **Secretary/Treasurer Mike Hawkins**. **Scott Gritters** is sliding right into the **President** seat to continue his service to our chapter. And perhaps the luckiest guy of all is our new **Newsletter Editor - Alan Johnson** who is picking up where Kevin Hanson left off. **Thanks, Kevin**, for many years of editing Lateral Lines.

Also we would like to express our appreciation for the service and contributions of our past officers. Thanks, **Mike Steuck** for serving multiple terms as chapter president. And thanks to former Secretary/Treasurer **Greg Gelwicks** his knack at collecting dues is unparalleled.

Newsletter of the Iowa Chapter of the American Fisheries Society Volume 20, Number 1

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In lieu of the 2004 AFS Chapter Meeting to be held in Missouri, a series of articles will be published in this and coming issues of *Lateral Lines*. Speakers scheduled to present at the meeting are offering their presentations in written form for your reading pleasure. This weeks featured articles come from Bryan Hayes and Don Kline. The Chapter Officers and newsletter editor would like to thank the contributors for their effort!

Evaluation of Smallmouth Bass Catch and Release Regulations in Iowa Streams

By Bryan Hayes, bryan.hayes@dnr.state.ia.us

Smallmouth bass (*Micropterus dolomieu*) are an important component of the sport fishery in most northeast Iowa streams. It was not until the late 1970's that management practices aimed at smallmouth bass began to be evaluated. A 12-inch minimum length limit on smallmouth bass for interior Iowa streams and rivers was adopted in 1980. Improvements in both catch success and the mean size of bass in the harvest were documented. However, there was little change in the number of large fish in the populations.

At about this same time, catch-and-release (C/R) regulations were gaining popularity among both fisheries managers and anglers. Many C/R regulations have been implemented as a result of increased angler requests for opportunities to catch "quality" sized fish. Iowa ventured into a new era in 1986 with the establishment of the state's first smallmouth bass C/R regulation on the Middle Raccoon River in Guthrie County. A 4.5-mile segment of the Maquoketa River in Delaware County was placed under the same regulation beginning in 1988. Portions of the Cedar River in Mitchell County and the Upper Iowa River in Winneshiek County also fall under this regulation. No restrictions were placed on the type of terminal tackle permitted.

The first ten years (1988 to 1998) of the C/R regulation on the Maquoketa River produced very positive results. A 55% reduction in total annual mortality was documented. The number of smallmouth bass >6 inches increased from 899 in 1991 to 2,375 in 1998. The number of smallmouth bass >12 inches increased from 506 in 1991 to at 740 in 1998. Proportional stock density (PSD) ranged from 16 to 22 the first two years after the C/R regulation went into effect (Figure 1). Three years after the initiation of the C/R regulation the PSD had increased to 51. Smallmouth bass biomass was estimated at 47 pounds per acre in 1991 and increased to 84 in 1998. Growth and body condition (Wr) compared favorably with other reference sites on the Maquoketa River.

After reaching a peak biomass of 84 pounds per acre in 1998, the biomass declined to 44 pounds per acre by 2001, a decline noticeable to both fisheries managers and anglers. Timing of the entry of strong year-classes into the population likely explains

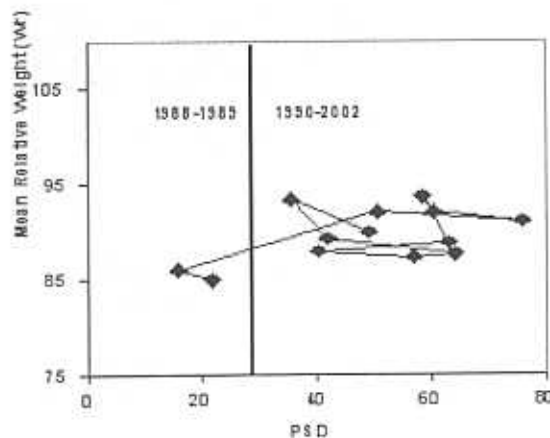


Figure 1. Mean relative weight (Wr) and proportional stock density (PSD) of smallmouth bass, 1988-2002. The vertical line represents two years after initiation of the catch-and-release regulation.

both the dramatic increase and subsequent decline of the smallmouth bass biomass (Figure 2). A strong 1991 year-class played a major role in boosting biomass, population numbers and size structure indices to all-time highs by 1998. Year-classes from 1992 to 1998 were present, but were not particularly strong year-classes. Strong year-classes were established in 1999 and 2001.

This study indicates that this population is driven by year-class strength. Eliminating angler exploitation was effective in reducing total mortality and improving size structure of the smallmouth bass in the study area. Year-class strength has proven to be highly variable and lack of a strong year-class from 1993 to 1998 is likely the cause of the reduction of the population by 2001 (Figure 2). Two strong year-classes established since 1998, however, should drive an increase in this smallmouth bass fishery in the coming years.

Smallmouth bass C/R regulations have not had as dramatic results in all stream segments. Initial improvements in the



(Cont'd from page 3) after implementation of a C/R regulation were negated by changes in the quantity and quality of the habitat caused by extensive flooding in 1993 and 1995. Loss of preferred and/or suitable habitat and the widening of the main channel were believed responsible for the decline in the smallmouth population in the Middle Raccoon River.

The first five years of C/R regulation in the Cedar River improved the size structure of smallmouth bass. Since then both numbers and size have declined. The results in the Upper Iowa have been similar to the Cedar. Factors other than harvest may have accounted for more of the total mortality in these C/R segments than in the Maquoketa River.

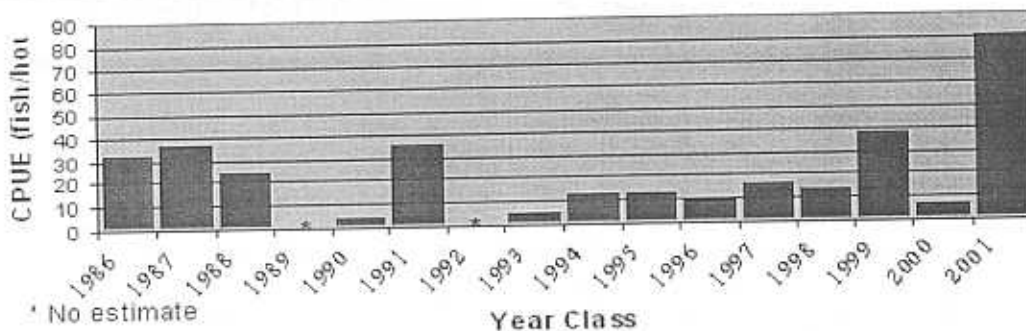


Figure 2 Recruitment index based on catch-per-unit-effort of Age I (5-7 inch) smallmouth bass from the catch-and-release area on the Maquoketa River, Delaware County, Iowa.

Remember When

by Don Kline DON.KLINE@DMR.STAIC.IA.US

I was asked to present a talk at the joint Iowa-Missouri chapter meeting (cancelled) reminiscing about fisheries management from the good old days to present. The following four paragraphs relate the theme I was going to use. I included some history for perspective, some fluffy chaff for entertainment, and some grist for milling. Enjoy.

Remember when you had to row out to your favorite fishing hole in a wooden boat. Getting the oars set for your stroke was an art. Science could provide the particulars, but each boater had to refine their own stroke. Oar locks came in a wide variety of styles. I can remember six. No need for boat trailers, just pop that car top carrier on and slide the boat up on top. Made a good sunshade sticking out over the hood. At least you did not have to worry about running out of gas. No need for "no wake" regulations, since ten horsepower was at the top of power ratings. An extra piece of pull cord could be used as a stringer and don't forget to keep an extra sheer pin in the boat. Crude electric motors were available, but they were not reliable without deep cycle batteries. And finding your honey hole was a matter of triangulation from shoreline markers. You always looked for tall trees, bays, points, houses, and etc. Searching for fish was another matter. Those blinking fish locaters and sonar sounders were just around the corner, but had not replaced the clip on sinker. You looked to the sky for weather and no one could imagine GPS coordinates coming from far above.

Remember when fish management was in the formative stages. Many good ideas needed to be turned into workable solutions. All trees were removed from lake bottoms. Fishing mentality had not replaced engineering mentality. You worked hard to bring woody structure back in with cribs, brush poles, and shoreline trees. Wood shipping pallets would later be the standard building material. They were locally available and best of all free. Old tire were free too and if tied in pyramid shapes served as stumps. If an old building was being torn down or road upgraded, you asked for the bricks and concrete pieces. Drawdown was something you did to manage the fish, not get ready for a habitat project. Contour maps replaced hand made drawings and fish habitat was mapped to provide a guide to anglers.

Remember when the bamboo cane pole or willow stick was common, but only came in long size. You had to strap them on the side of the car or stick them out the back window. There were no air-conditioned cars, so having the windows open was not a problem. Dads had solid steel fishing rods and good casting reels. Open-face and closed-face reels were either foreign or not invented yet. Ultralite tackle and cigarettes had not been thought of. Tackle boxes were filled with wood, glass eyed lures and a few sparkling spinners. New plastic lures would deteriorate to useless globs. Rubber worms and scented



(Remember When, continued from page 4) flashlight and coffee can out after dark to collect the best night crawlers.

Remember when size limits were in at ten inches for bass, then out altogether, then came back as 12", 14", and finally 15" minimum. Science said slot and trophy limits would be the final refinement. You always closed the lake to fishing for two years to protect the fish till first spawn. You could look at the fish in terms of plumpness by checking for "C" or "K" condition factors. Now we look to Wr's to understand how relative our fish's weight is to everyone else's fish. You ran length regression equations on pencil and paper. Slide rule accuracy was accepted at the University level. Then came the hand held calculators, FORTRAN language for early computing, and the novel idea of a desktop computer with the funny name of Apple.

Finally our data could come out of the file cabinet and be stored in digital files. Instead of laboring for hours to make charts and graphs with "Doric" lettering sets we learned the nausaeas of computer graphics to rapidly turn data into visible images. Summaries come with a few clicks of the mouse, but the interpretation of the fishery still rests within the realm of people management. Melding the biological, social and political factors will always keep fish managers practicing the "art" of our science on lakes or streams, one at a time. Fish populations were surveyed by setting nets and running the shoreline with shocker boats. A good deal of science has been done on mesh size, catch efficiency, and the concept of time and space. DC boats have replaced AC boats. But remember when it was just fun to get out there and get your hands on some fish!

Holiday Gift Idea Can't find the right gift for that certain someone on your list? This book is sure to please!

Investigation and Monetary Values of Fish and Freshwater Mussel Kills

Robert I. Southwick and Andrew J. Loftus, editors

This book is an update and expansion of the widely accepted monetary values of fish that have been published by AFS since 1975 (last updated in 1992 as Special Publication 24). This publication has been adopted as the legal basis for restitution or fines in more than half the states and has been upheld in numerous legal challenges.

In this current version, freshwater mussels are included for the first time. The publication contains comprehensive methods for assessing fish kills and freshwater mussel kill events and for assessing restitution based on replacement cost for organisms lost in the kill. Tables containing updated replacement cost values for most major fish species that are cultured and for all freshwater mussel species in the U.S. are included.

This book is a must for anyone involved with fish or freshwater mussel kills, propagation, and water pollution policy.

BOOK AND CD

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Upcoming Meetings..

- 64th Midwest Fish and Wildlife Conference Decemeber 7-10, 2003, Kansas City, MO
- Coolwater Fish Culture Workshop, Jan 11-13, 2004. Hot Springs, AR.
- Midcontinent Warmwater Workshop, February 2-4, 2004, Council Bluffs, IA
- Aquaculture 2004, Triennial Meeting of World Aquaculture Society, March 1-5, 2004, Honolulu, Hawaii. How do you like aquaculture now?
- Iowa Chapter AFS Business Meeting at Statewide Fisheries Meeting, March 1-3, Spring Brook Conservation Center.
- American Fisheries Society Annual Meeting 2004, Madison Wisconsin. Start saving your pennys!

Notes from Iowa AFS Executive Committee Meeting, September 30, 2003
 Executives present: Dan Kirby- Pres. Elect, Mike Steuck- Past Pres and Scott Gritters- President (Scribe)

Items Discussed:

1. Apathy within ranks of Iowa Chapter concerning AFS. General discussion of membership makeup (primarily DNR employees), lack of other members such as ISU faculty and students. In addition, a general discussion focusing on membership not attending past conferences and workshops sponsored by the Iowa chapter. In general, this was a discussion of why this apathy exist within the chapter and ideas to correct it.

Decision: Excom will try to turn these trends around within membership by maintaining an active AFS chapter that is worth the effort for members to participate in.

2. The 2004 AFS meeting: Travel authority and reimbursement for DNR members will be withheld in the 2004-year due to a budget crisis within the Iowa DNR. The Excom committee discussed implication of withholding travel to DNR employees and options for the 2004 year. Considerable time and energy has already been committed by Excom members to develop a program with the Missouri Department of Conservation. A decision was needed to proceed with the planning of this meeting and/or cancel for the 2004-year. Options were discussed and included: Outside funding (by parent chapter), Using Iowa AFS treasury to offset losses, and have membership go largely on their own expenses.

Decisions: The Excom committee cancelled the scheduled meeting with Missouri for the 2004 year. However, it was also decided that a meeting must be held in 2005. The Excom felt that two years in a row would greatly degrade support for Iowa AFS and the general apathy within the member ranks will worsen.

A second decision was made to hold the Business meeting at Springbrook State Park as part of the Iowa DNR fisheries division statewide meeting. This was not a

favorable option but no feasible alternatives were offered. Gritters will develop an agenda for the statewide meeting.

A third decision was at the next business meeting at Springbrook, the Excom committee will ask membership support to expend treasury surplus dollars to offset costs of a 2005 meeting. The Excom committee will look at keeping costs to a minimum but that some expenses will be incurred. We will need the support of the general membership to proceed. In addition, alternative-funding sources will be further explored by Excom committee. Gritters will ask DNR management for some support of the 2005 meeting. Steuck will approach parent chapter for advice.

A fourth decision was made that we would again approach Missouri DOC for a meeting with them if we get support of our membership. The Excom could then appropriate the needed funds to hold such a meeting. Again, cost will be kept to a minimum but it was felt that a meeting is vital to the AFS function. Some costs may have to be assumed by members and we may have to dip into the Iowa AFS treasury. Gritters will contact Missouri on this item if members approve.

3. Discussion of Chapter involvement in the Parent society. Most state chapters send the president and other Excom members to the Midwest meeting and to National Meeting. To have a credible chapter it was felt that participation in the parent organization meeting was vital.

Decision: The Excom committee will ask membership to sponsor two members from the Excom committee to attend the Midwest meeting and/or National meeting.

4. "AFS "Road Show". A general discussion on increasing AFS involvement was initiated by Kirby. Kirby wanted to explore the possibility of having AFS

sponsored events at four locations within Iowa (Preferably in NE, SE, SW and NW Iowa). Dan suggested trying to reduce travel distance for members and improving involvement. Ideas were discussed on what AFS can bring to this "road show". No concrete items were suggested but the Excom members are to give this some thought

Decision: Dan Kirby would explore this topic at the next Excom meeting.

5. Newsletter: Much discussion was made about the newsletter. The Excom felt that it is vital that a regular newsletter is mailed to membership. Especially in a year, where no formal meeting will be held the newsletter may be the glue to keep members attention. A professional newsletter is needed with strong informative content. Kevin Hanson has had the job of newsletter editor and did a fine job with it. Alan Johnson is the new editor. Kevin and the Excom will need to work with Alan to insure that the newsletter is completed in a timely manner.

Decision: The deadline for the next four newsletters was set. October 31, 2003, February 16th, 2004, July 12th 2004 and October 31st 2004. Excom will take an active role to "lessen the burden" to Alan by getting articles to Alan

Decision 2: Excom will approach three people who were speakers at the cancelled 2004 meeting to write a brief explanation of their topics for the October 31st newsletter. Kirby will contact Mr. Don Kline about a senior biologist perspective, Steuck will contact Mr. Bryan Hayes about smallmouth regulations and Gritters will contact Mr. Marion Conover about the Iowa DNR chiefs vision of the DNR and how he feels AFS relates to the vision. Deadline for these three members is October 24th.

Decision 3. Mike Steuck will approach the other members assigned to speak at the 2004 Missouri meeting and ask them to submit articles by February 1st

2004. Steuck will continually remind members to get articles to Alan so they can be published in the newsletter.

6. Chapter Fisheries Grant: Excom reviewed the grants received for fishery projects in the state. A grant application for \$500 dollars was received by member Mr. Bryan Hayes concerning a matching trout stream application on properties owned by Mr. John Richman. Excom reviewed procedures outlined in the minutes of 2001 and 2002 business meetings for guidance. Some of the language in the minutes was arbitrary and it was decided to clean up the wording on this grant process and establish procedures to dole out the \$1000 dollars available. It is understood by the Excom that this grant dollar allotment has to be approved by the general membership but the Excom will make decisions on which projects are funded.

Decision 1. In order to clean up the timing of the grant the Excom decided that the one-year appropriation cycle would run concurrent with the officers term. Therefore, the grant cycle is from October 1 through September 31 of the following year. Grants can be received anytime after October 1 and will be prioritized on a first come- first serve basis. No money will be awarded until after the business meeting since the committee budget needs approval at the Business meeting. After this meeting money will be doled out as the Excom sees fit. Grants can be received up until through September 31 if money is still available. No carryover of dollars from one year to the next will be allowed.

Decision 2. The Excom will ask that one thousand dollars be appropriated in the budget for the 2004 year. Grants can be received starting October 1, 2004. Gritters will make this knowledge available to membership and it will be included in the October 31 newsletter.

Notes Continued page 7

Decision 3. Since Excom already approved \$800 dollars in expenditures in the October 1, 2002 to September 31, 2003 time frame, the Excom awarded \$200 dollars toward the trout stream project submitted by Mr Hayes. This is all the dollars we are permitted in the approved budget.

Mr. Hayes is allowed to submit another application for the additional \$300 in the next fiscal cycle if the members approve the budget.

7. Excom meeting throughout the year: In this year especially the Excom felt regular meeting were needed to keep AFS vital and on track.

Decision 1. The next Excom meeting will be held immediately before the Business meeting in March. We will review these Excom decisions and discuss the agenda items for the Business meeting and fisheries project grants received.

Decision 2. Another Excom meeting will be held on July 7th. At this meeting Excom will discuss the upcoming meeting, hopefully with Missouri, the content of the next newsletter, further discuss the Apathy issue and initiatives to get members involved, money raising opportunities and finally any additional fisheries projects grants.

8. Budget strain: with no conference in 2004 and the potential to have to dole out additional monies from our coffers in 2005, the Iowa AFS treasury can be expected to be reduced. With no continuing education, meeting revenue or raffles we can expect to lose approximately \$1,700 dollars in 2004...if we do nothing.

Decision 1. Ask our Missouri raffle committee of Chris Larson, Paul Sleeper and Mark Flammang to look into the possibility of sponsoring a raffle for the statewide business meeting.

Decision 2. Ask our membership to raise dues from \$5 to \$10 dollars.

Decision 3. Look at shirt sales or other avenues like redoing the pocket scientist.

9. Iowa AFS web page: This item was not brought up at the September Excom meeting but is the prerogative of the president to do so now. Iowa AFS is one of a handful of states that does not have a web page on the Parent site.

Decision: In 2004 the Iowa AFS will have simple but effective web page.



Brain Teasers

Old Editor's Note: Although Alan Johnson has become the new editor of Lateral Lines, he has allowed me one more chance to appear on the Brain Teaser's page. This was always my favorite part of doing the newsletter and I hope you've enjoyed it as well. Thanks for the memories. - Kevin Hanson



Fishing Lines

For my final installment of Fishing Lines, I turned to one of the most famous fishing authors of all time. In 1653 a man named Izaak Walton published a book entitled The Compleat Angler. Here are some excerpts from that book.

"I envy not him that eats better meat than I do, nor him that is richer, or that wears better clothes than I do; I envy nobody but him and him only that catches more fish than I do.

"...but he that hopes to be a good angler, must not only bring an inquiring, searching, observing wit, but he must bring a large measure of hope and patience, and a love and propensity to the art itself; but having got and practised it, then doubt not but angling will prove to be so pleasant, that it will prove to be like virtue, a reward to itself.

"The Carp is the queen of rivers..."

Did You Know...

How Old is Fishing in America?

Remnants of fish nets over 10,000 years old were found in caves near Great Salt Lake, Utah.

From The Sports Afield Fishing Almanac, compiled by Frank S. Gould.

Heard 'Round the Potbelly Stove

The following tidbits of wisdom were taken from a piece in The Sports Afield Fishing Almanac, compiled by Frank S. Gould. Although this may appear to be more "Fishing Lines", none of these quotes were attributed to any one author. Besides I'm a sucker for good quotes.

The people I've met who say they "used" to fish can never give a good account of why they stopped. Neither can they explain the meaning of their existence.

I would rather fish with a friend and catch nothing than to have good fishing in bad company.

There is good evidence for the theory that fish catch men and that the reason the one takes the other one home is that the latter has a weight advantage.

Fish are held together with bones. Without the bones they would be invertebrates and therefore no more difficult to catch than earthworms. So it is that when I meet someone who fusses about eating fish because they are "bony" I must assume they do not understand the nature of things or have been poorly reared.



News from Iowa State University

Obituary

Kenneth D. Carlander

Professor Emeritus, Iowa State University

Kenneth (Ken) Dixon Carlander, 88, former professor and researcher at Iowa State University passed away 21 November 2002 at the Hospice House in Ames, Iowa. Ken, as he was known to his colleagues, was a native of Minnesota and earned three degrees in zoology from the University of Minnesota. His dissertation research, carried out under the supervision of Samuel Eddy, concerned the commercial walleye fishery in Lake of the Woods. During WW II, he served as a medical staff member with the U.S. Army in India. After his military service, he accepted a faculty position at the Iowa State College (University) where he spent the remainder of his career, retiring in 1985 as a Distinguished Professor. His retirement was celebrated by his colleagues with an International Symposium on Age and Growth of Fish, Des Moines, Iowa. The proceedings of the symposium were published under the title *Age and Growth of Fish*.

His first research publication, in 1939, dealt with walleye growth rate in Minnesota lakes. This was to be the first of his many contributions to documenting, standardizing, evaluating and application of fish age and growth studies to fisheries management. He processed data from innumerable published and unpublished reports on growth and aging processes in fishes in his *Handbook of Freshwater Biology*, first in 1953, with complementary volumes in 1969, 1977, and 1997. The handbooks remain among the most cited references in fisheries science. Additionally, he was among the first to carry on truly long-term freshwater fishery population and community research through the numerous M.S. theses and Ph.D. dissertations of his students.

In his professorial career at Iowa State University, which spanned nearly 40 years, he guided the graduate programs of 34 Ph.D. and 60 M.S. students, of whom 31 also completed Ph.D. programs, 12 at Iowa State University. He was the exemplar of a quiet, gentle and caring major professor. For many years, he sent a Christmas letter to former students with updates of the professional achievements and personal success of his students. He was active in providing opportunities for international students to study fisheries in the U.S. He has a professional and personal interests (member of the United Nations Association) in international development. He was a visiting professor in Egypt (1964-66) and Indonesia (1977-1978). He was a mentor for professionals who comprise a "Who's Who" in many American and foreign universities, and state and federal natural resource agencies.

Carlander was a fellow in the American Association for the Advancement of Science, American Institute of Fishery Research Biologists, and a member of the American Fisheries Society for more than 50 years. He was vice-president and president of AFS from 1958-61, and served the society in many ways. He was also a member of more than 30 other professional societies. He enjoyed gardening and birding and before graduate school he published nearly 100 articles on bird life, including 74 articles on birds of the Palo Duro for the *Amarillo News*.

He is survived by Julia (Nichols) Carlander, his second wife. His first wife, Harriet (Bell) Carlander died in 1973. Gifts in Carlander's memory may be made to a scholarship in his name:

Carlander Scholarship
ISU Foundation
310 Curtiss Hall
Iowa State University
Ames, IA 50011

Scholarship

This year's recipient of the Iowa Chapter AFS Scholarship is Nicholas Schlessler. Nick is a senior from Sioux City, Iowa. He is a State of Iowa Scholar, National Merit Finalist and will graduate in May with distinction. He has been named a member of the Phi Kappa Phi Honor Society and Gamma Sigma Delta Honor Society and he is a four year committee member of the Student Chapter of Ducks Unlimited. Nick spent two summers working on the Iowa Lakes Survey under Dr. John Downing and one summer working for the IDNR, at Clear Lake, in the fisheries management division. Nick will commence a MS degree program in Fisheries at the University of Minnesota examining fish, macroinvertebrate, and stream habitat in relation to riparian harvest in northeast Minnesota. He hopes to pursue employment in the management or research divisions of a state fisheries agency upon graduation.