



Volume XXVIII, Number 2

Water Quality Matters

Fall/Winter 2005

The Newsletter of the Water Quality Section of the American Fisheries Society

President's Corner

By Lou Reynolds

Hi everyone, my name is Lou Reynolds, and I am the incoming President of the Water Quality Section. I am an EPA fisheries biologist working for the USEPA Region 3 Freshwater Biology Lab in Wheeling, West Virginia. With this column, I'd like to keep you informed of section activities. I would also like to forward some thoughts and ideas of things we can and maybe should be doing as a section. Lastly, I invite you to respond to these sidebars, and I will try to include this response in future columns to encourage further dialog.

The Anchorage meeting was fun, interesting, and busy. I won't forget Alaska's amazing landscape and beauty. The section held its

business meeting and presented a Past-president's plaque to Gina for her hard

work as section president. (She is not off the hook yet; she's busy for two more years as past president.) I took over as President, and Gregg Lomnicky as Vice President. We voted to provide funding for a book on the effects of urbanization on the landscape, and discussed proceeding with the Section's previous statement on economic growth (see below).

The WQS also sponsored a symposium entitled Habitat--what is it, how is it measured, and how do fish assemblages respond to it?" chaired by me and Bob Hughes.

(continued on page 2)



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Mission Statement

The objectives of the Water Quality Section are to:

- (1) maintain an association of persons involved in the protection of watersheds, water quality, and aquatic habitat and in the abatement of water pollution and aquatic habitat and watershed deterioration.
- (2) encourage improved professional and technical standards in the investigation, abatement, and regulation of water pollution, aquatic habitat, and watershed problems.
- (3) objectively focus attention on aquatic habitat, watershed, and water quality concerns, and improve methods for addressing relevant issues by conducting workshops and projects, collecting and assembling information for publication and distributing results to Society members and the public.

The symposium succeeded in providing valuable input to the National Fish Habitat Initiative, the co-sponsor of the symposium. Bob drafted a very informative summary which will be available at our website (see below), but in the meantime, if you are interested, send me an email and I will send it to you.

Presently, we have 267 members representing 44 states and 6 countries. Ours is a large organization, but we should be able to keep in touch. Our Past-President, Gina Lampman, used the Quick Communicate with great success to inform us, ask for help, and provide feedback. I will continue to use this tool, but I have to admit to getting off to a rocky start – trying to get the email list from the main AFS server and make things work well in cyberspace has been trying. Expect Quick Communicates in the coming year and don't be afraid to respond to them.

We are currently developing our webpage. Larry Brown, our recent Past President, did a lot of legwork for the site, and I will finish it with some help from Jason Dickey, a member from Auburn University in Alabama. It is our hope that this site will provide another opportunity for interaction and communication among our membership. The first step is to get it up and running – then we will build it as we go.

Economic Growth-Last winter, the WQS voted to seek the adoption of a resource policy statement on economic growth by AFS at large. For background on this policy, see Fisheries 30(4):32-35. Gina Lampman and others in the section have since worked diligently to solidify our view by forwarding our policy statement to the Resource Policy Committee (RPC) of AFS. At the Governing Board meeting in Anchorage, it was decided that the RPC will convene a workgroup made up of members of the RPC, the WQS, and the Economics Section, that will write a report on the interaction of fisheries and economic policies. This report will be used by the Governing Board to inform their decision on a policy statement. We will continue to work toward this end and report back.

Headwater Streams- We encouraged the parent society to support an Amicus Briefing to the Supreme Court from the National Wildlife Federation that argues for protecting headwater streams under the Clean Water Act. The Briefing asks states to sign on in support of these protections for two "headwater wetlands adjacent to small tributaries that flow into larger water bodies." These two cases differ from the earlier "SWANCC" decision that denied protection to "ponds formed by abandoned sand and gravel pits that were only connected to other waters due to use by migratory birds were not covered under the Act." As noted

in the Briefing, both of these cases involve headwaters that are clearly connected to navigable waters and are protected under the Act (as ruled by the Sixth Circuit Court). And, the Bush Administration's Office of Solicitor General supports this view as well.

We did not weigh in on the recent decision by the Fourth US Circuit Court of Appeals overturning a decision that prohibited the US Army Corps of Engineers from issuing permits through the Nationwide Permit process. This process is intended for activities that cause minimal environmental damage. According to an AP article published in the Charleston Gazette on November 25, 2005, the court found that "The corps identified a category of activities, it determined that those activities would have a minimal environmental impact both separately and cumulatively, and it provided notice and opportunity for public hearing before issuing the permit". How a reasonable court could find that burying a headwater stream in mining waste is a minimal impact to that stream is beyond my comprehension. If you are as exasperated as I am, or you have an idea of how we as a section should respond to this issue, please feel free to contact me.

DRAFT AFS WATER QUALITY SECTION 2005 ANNUAL BUSINESS MEETING MINUTES

By John W. Meldrim, Secretary-Treasurer

The Twenty-ninth Annual Meeting of the American Fisheries Society Water Quality Section (AFS/WQS) took place in the Spruce Room of the Hilton Hotel, Anchorage, AK on September 12, 2005, beginning at 12:00 pm. President Gina Lampman presided. A lunch was provided for those in attendance.

Call to Order -President Lampman determined there was a quorum (10 members. Of the 21 attendees, three were AFS/WQS Past-Presidents: Larry Brown, Bob Gray, and Bob Hughes. Copies of the Meeting Agenda, the Minutes of the 2004 Annual Meeting, the 2004-2005 Secretary-Treasurer's Report and the proposed 2005 budget were provided to the attendees.

Approval of Minutes- President Lampman requested approval of the 2004 AFS/WQS business meeting minutes previously published in the 2004 fall AFS/WQS newsletter. There were no additions or corrections. Bob Gray moved for acceptance of the minutes; seconded by Gregg Lomnicky; passed unanimously.

Standing Committees-Finance and Audit: John Meldrim discussed the 2004-2005 Secretary-Treasurer's Report. On July 31, 2005, AFS/WQS had 269 members and \$12,143.42 in the treasury. The annual financial audit of the AFS/WQS treasury records was conducted by President-Elect Lou Reynolds and Past-President Bob Gray prior to the meeting. Bob Gray reported that all records were correct and in order. There being no discussion, the finance and audit reports were accepted as presented.

WQS 2005-2006 Budget- President Lampman presented the proposed AFS/WQS budget for 2005-2006, comparing it to the Final Amended budget for 2004-2005, and the actual income and expenses of the Section for 2004 - 2005. Although the final amended operating budget for 2004 – 2005 had a deficit of over \$900, the Section, had more income and substantially lower expenses than expected, leaving a deficit of ~ \$320 for the year.

President Lampman proposed a 2005-2006 operating budget having a \$500 surplus, based on an income of \$2,203 and expenses of \$1,700, with no special expenses (book sponsorships and contributions).

However, only one of the two book sponsorships in the 2004 – 2005 budget had actually been expended to date, and the additional sponsorship should appear in the 2005 – 2006 special expenses budget. Discussion followed, addressing various expenses and how they were being reduced. The newsletter cost has been greatly reduced through electronic mailings, and by Gregg Lomnicky (newsletter editor) donating his time to prepare the newsletter, rather than purchasing that service. Bob Gray moved to approve the budget with the dollar amounts corrected to reflect changes discussed at the meeting. Thom Whittier seconded the motion. The budget was unanimously passed.

Other Reports- AFS/WQS Sponsored Publications. Past-President Larry Brown reported that the final proofs of the chapters of the AFS/WQS symposium, The Effects of Urbanization on Stream Ecosystems, were being reviewed and that the book would soon be sent to the Parent Society for publication. Past-President Bob Hughes noted that the AFS/WQS symposium, Historical Changes in Large River Fish Assemblages of North America, had published and is now available from the Parent Society. AFS/WQS provided \$1,000 for the publication of Historical Changes in Large River Fish Assemblages of North America, and will provide another \$1,000 for the publication of The Effects of Urbanization on Stream Ecosystems.

AFS/WQS Poster Awards. In an effort to give AFS/WQS higher visibility within the Society, this is the third year the Section will present an award for the Best Student Poster and the Best Non-Student Poster addressing water quality and aquatic habitat concerns consistent with the mission of the Section. Past-Presidents Larry Brown and Bob Gray reported that, no winners had been selected yet. Certificates and checks for \$100 will be awarded for each of the winning posters when the judges reach consensus.

Governing Board Report. President Lampman reported that the Governing Board approved going forward with the development of an AFS resource policy on resource use and economic growth. A committee to prepare a study report on this issue will be formed

from members of AFS/WQS, the Socioeconomic Section, the Resource Policy Committee, and members of AFS having an interest in the topic. There was some opposition to this on the basis that the topic was too broad. However, the study committee will determine a focus, which will be on fisheries and resource use. No time line has been established for the formation of the committee.

Election Results. President Lampman reported that because Tom Simon had resigned as President-Elect in June 2005, Lou Reynolds (who had been the sole nominee for the position in 2005 – 2007) was appointed by the AFS/WQS Executive Committee to complete Tom's term in that office, and would become the next AFS/WQS President for 2005 - 2007. Gregg Lomnicky was elected as the new President-Elect for 2005 - 2007. John Meldrim was re-elected as Secretary-Treasurer. Transfer of Presidency- President Lampman thanked Past-President Larry Brown and Secretary-Treasurer John Meldrim for their assistance and presented them tokens of appreciation. She then transferred the AFS/WQS Presidency to President-Elect Lou Reynolds. President Reynolds thanked her for her service and presented her the Past- President Plaque of Appreciation. New Business-President Reynolds conducted the remainder of the meeting

- **AFS/WQS Sponsored Publications.** Past-President Bob Hughes requested that AFS/WQS provide \$1,000 to sponsor the publication of the 2004 AFS/WQS Symposium, *Influences of Landscape on Stream Habitats and Biological Assemblages*. The book will have 30 chapters and be published in January or February of 2006. Past-President Lampman noted that book sponsorship promotes visibility and recognition of the Section. Thom Whittier moved that the Section provide the \$1,000 for the publication; seconded by Larry Brown; passed unanimously.

- **AFS Position on Economic Growth.** Past-President Lampman again noted that the AFS Governing Board had elected to go forward with a resource use policy statement. Brian Czech described the proposal put forth by AFS/WQS to the Governing Board, pointing out that a national policy of economic growth derived from consumption is in fundamental conflict with

maintaining biological diversity and resource conservation. Brian noted that a policy statement from AFS on this issue would provide a scientific basis for NGO's to educate the public that there is a conflict. The AFS/WQS proposal was published in the Section's 2004 – 2005 winter newsletter. It was noted that this proposal needs to be republished. Debate on the proposal will be within the AFS Study Report Committee, which would have one or two AFS/WQS members, as well as members from other sections, and the AFS membership at large. After a lengthy discussion about the need for a separate position statement by AFS/WQS, it was decided that the Section would let the debate in the AFS Study Report Committee take its course, and that the Section had achieved it's goal of getting the Parent society to adopt a position on the issue. President Reynolds will recommend the AFS/WQS members to serve on the AFS Study Report Committee. Given the widespread importance of the issue, Erich Emery recommended that AFS/WQS involve the Association of State and Interstate Water Pollution Control Agencies (ASIWPCA) in the development of the study report.

- **AFS/WQS Newsletter.** Gregg Lomnicky will continue as editor through the next issue, then search for a new editor. One high priority task that needs to be completed is to determine why the newsletter mailing list does not include all the membership e-mail addresses.

- **AFS/WQS Web Site.** Past-President Larry Brown reported that help was needed in developing the AFS/WQS website. To make the site compatible with the AFS website, Microsoft Frontpage software will be purchased. Additionally, someone who knows how to use the software is needed. Thom Whittier volunteered to help get the website set up.

Adjournment- In response to a request from President Reynolds, Past-President Larry Brown moved for adjournment; seconded by Thom Whittier. The motion passed unanimously.

Water Quality Section Sponsored Books - Updates

by Bob Hughes and Larry Brown

Historical Changes in Large River Fish Assemblages of the Americas *by J.N. Rinne, R.M. Hughes, and B. Calamusso, eds.*

It has been published! The book is 612 pages long and features 29 chapters, including one from Brazil, two from Mexico, four from Canada, and the rest from the USA. It is for sale by AFS at a member price of \$48.

Influences of Landscape on Stream Habitats and Biological Assemblages *by Robert M. Hughes, Lizhu Wang, and Paul W. Seelbach*

The book is on schedule for publication in February 2006. Page proofs for the 30 chapters are expected in November. It is expected to be over 600 pages long and includes chapters on classification, assessment, modeling, island biogeography, and landscape-habitat-fish relationships.

Effects of Urbanization on Stream Ecosystems

by L.R. Brown, R.M Hughes, R. Gray, and M.R. Meador, eds.

Based on a WQS sponsored symposium held at the 2003 annual meeting in Quebec City, this AFS Symposium book is nearly completed. Final proofs have been reviewed by the editors and returned to AFS books for final corrections and printing. The book includes 20 articles, mainly case studies addressing the effects of urbanization on algae, macroinvertebrate, or fish assemblages in urban stream systems. The book also includes articles on several less traditional topics including economic valuation of resources, such as water quality, and the challenges facing those charged with the management of urban streams and rivers, given the often conflicting demands placed on such waterways. One of the highlights of the book is a group of five related articles comparing the effects of urbanization in different regions of the United States based on studies in the metropolitan areas of Boston, Massachusetts, Birmingham, Alabama, and Salt Lake City, Utah. We are still hoping for a publication date in late 2005

ANNUAL SECRETARY-TREASURER REPORT OF THE AFS WATER QUALITY SECTION 2004-005

BY JOHN W. MELDRIM

Membership. As of the end of July 2005, the American Fisheries Society Water Quality Section (WQS) had 7 more members than at the end of July 2004. The increase reverses the trend of declining membership experienced by the Section over the past five years. As of July 31, 2005, WQS had 269 members, as compared to 262 in 2004; 275 in 2003, 302 in 2002; 317 in 2001; and 321 in 2000. At the end of 2004, the WQS had 268 members, six members more than July 31 of 2004. Based on previous years, the 2005 membership will increase beyond the July 31 level by year's end.

Financial Status. WQS 2004-2005 fiscal year (August 1, 2004 - July 31, 2005) treasury report. The checkbook balance on August 1, 2004 was \$1,373.07, with an additional \$1,514.20 in the savings account and \$9,579.04 in Delaware Investments American Government Bond Fund, totaling \$12,466.31 in the WQS treasury. As of July 31, 2005, the checkbook balance forward was \$1,176.09, the savings account balance was \$1,016.54 and WQS owned 1,297.365 shares (\$7.67 per share, July 31, 2005) of the American Government Bond Fund giving a balance of \$9,950.79. The resulting total in the WQS treasury as of July 31, 2005 was \$12,143.42, which was \$322.89 less than the July 31, 2004 balance.

The 2004 - 2005 fiscal year income was \$2,318.15 (compared to \$2,331.84 the previous year). Of this, \$1,953.00 came from membership dues, \$2.34 in savings account interest (0.20% APY) and \$362.81 in bond fund dividends.

Total fiscal year expenses were \$2,649.98 (compared to \$1,577.37 last fiscal year), of which \$1,125.41 was for book publication sponsorships; \$667.40 for Newsletter publication and mailing

costs; \$182.95 was for software purchase to prepare the Newsletter; \$394.12 for 2004 WQS business meeting expenses; and \$280.10 for WQS poster awards.

Concluding Remarks. As of July 31, 2005, WQS had 7 more members than on the same date in 2004, a reversal of the declining membership trend in the previous five years. We need to continue the membership increase for political and financial reasons.

At the end of the 2004 – 2005 fiscal year, the WQS treasury had a net decrease of about \$320 (<3%) from the previous year. Of \$2,650 in expenses, almost \$2,000 went for publications (including all Newsletter costs and book sponsorships). Thus, about 75% of our expenses were for “collecting and assembling information for publication and distributing the results to Society members and the public” (Mission Statement objective no. 3). Special WQS project costs (such as book sponsorships) are budgeted to be met by our mutual fund. However, we did not need to withdraw funds to meet those expenses in 2004 – 2005, and still have a healthy fund to support our projects.

Our mutual fund continues to slowly grow. We received \$29 in dividends in July 2005, yet the total value of the fund at the end of July was \$150 lower than at the end of June due to a decrease in the funds price per share. Nonetheless, during the 2004 – 2005 fiscal year, dividends totaled over \$350 and the funds value had increased by over \$370 as of July 31. The outlook for this fund, as a fixed-income investment, continues to be good. Nonetheless, the WQS Finance Committee continues to watch the economic situation for adverse conditions that may affect the value of the investment, and will take appropriate action should the situation warrant.

Status of a Proposed AFS Position on Economic Growth Advanced by the Water Quality Section

At the 2005 AFS conference in Anchorage, Alaska, the Water Quality Section (WQS) formally proposed that AFS adopt a position on economic growth. In preparation for this proposal, the WQS had submitted an “issue paper” and draft position (see below) to the AFS Resources Policy Committee. Related to this proposal, Fisheries has published a series of articles throughout 2005 under the heading, “Economic Growth Forum.” Several authors of the Forum are WQS members.

The AFS Governing Board responded by calling for an ad hoc committee to develop a more thorough white paper on the issue of economic growth and fish conservation. The white paper may then be used to support a potential AFS position on economic growth.

The ad hoc committee is in the process of being formed. It will include several members from the Water Quality Section, several members of the Socioeconomics Section, and a chairperson or liaison from the AFS Resources Policy Committee. The AFS Governing Board also indicated that membership on this committee will be open to any and all interested individuals who are members of AFS.

If you are interested in representing the Water Quality Section on the committee, please contact Lou Reynolds, 304-234-0244, reynolds.louis@epa.gov by January 6, 2005. (Members of the Socioeconomics Section who are interested in serving on the committee should contact John Whitehead, 828-262-2148, whiteheadjc@appstate.edu.)

Issue Paper – Economic Growth Prepared by the Water Quality Section

Submitted to the Resources Policy Committee on 16 February 2005

Topic: Economic growth

Issue: Economic growth is an increase in the production and consumption of goods and services. It is a function of increasing human population and per capita consumption, and is generally indicated by increasing gross domestic product. It has become a primary domestic policy goal of the American public and polity.

It is becoming increasingly apparent, based on well-established principles of ecology and empirical evidence, that there is a fundamental conflict between economic growth and fish conservation. Due to the tremendous breadth of the human niche, which expands via technological progress, the hu-

man economy grows at the competitive exclusion of nonhuman species in the aggregate. Causes of species endangerment in the U.S. reflect the structure of the American economy, including agricultural and extractive sectors, manufacturing sectors, service sectors, economic infrastructure (e.g., wells, canals, reservoirs), byproducts (i.e., pollutants), and incidental effects including the introduction of non-native invasive species.

Numerous fisheries, commercial and non-commercial, serve to illustrate the conflict between economic growth and fish conservation. For example, the Atlantic cod, a significant economic good throughout American history, has declined primarily as a result of fishing (an extractive sec-

tor). Numerous Colorado River fish species have been endangered largely by the construction of dams (economic infrastructure). Salmon stocks in the Pacific Northwest are threatened by a combination of economic sectors (agriculture, logging, mining, livestock grazing, and fishing) and infrastructure (dams, roads). These and many other fisheries are impacted by the byproducts of economic production (i.e., pollution) and incidental effects of economic production (e.g., invasive species as a function of international trade and interstate commerce). The causes of fish species endangerment invariably reflect the propensity of the human economy to grow at the competitive exclusion of fish and other non-human species.

Many Americans do not appear to be aware of the conflict between economic growth and fish conservation. This is due partly to a lack of ecological training among the public, and partly to a lack of ecological expertise among conventionally trained economists who provide the most prominent recommendations to policy makers. The typical position taken by growth economists is that more economic growth is required to afford environmental protection and conservation programs. That position is known in the economics profession as the “environmental Kuznets curve” but has been severely criticized in and out of the economics profession, especially when applied to macroeconomic scenarios such as economic growth and the environment at large. The environmental Kuznets curve is promoted by various economic interests in the private and public sectors which benefit in the short term from strong pro-growth policies.

The Water Quality Section believes that the long-run prospects for fish conservation will depend on the establishment of a steady state economy (stabilized population times per capita consumption). The optimum size of a steady state economy may vary based upon the technological regime, but there is a limit to economic growth and a fundamental conflict between economic growth and fish conservation no matter which technological regime is adhered to. This position has been clearly taken by The Wildlife Society, the Society for Conservation Biology’s North America Section, and the

United States Society for Ecological Economics. Only by developing solidarity on this issue can the natural resources professions lead the American public and policy makers into a more informed discussion and decision-making process to plan for the appropriate amount of compromise between economic growth and ecological integrity, including fish conservation.

Recommendations: The Water Quality Section envisions and seeks the adoption of an AFS position on economic growth. This position should begin by clearly and concisely articulating the following points:

- 1) Economic growth is an increase in the production and consumption of goods and services.
- 2) Economic growth occurs when there is an increase in the product of population multiplied by per capita production and consumption.
- 3) Economic growth is often and generally indicated by increasing real gross domestic product (GDP) or real gross national product (GNP).
- 4) Based upon established principles of physics and ecology, there is a limit to economic growth.
- 5) A steady state economy is generally indicated by stabilized (or mildly fluctuating) real gross domestic product (GDP) or real gross national product (GNP).
- 6) A steady state economy, with a stabilized (or mildly fluctuating) product of population multiplied by per capita consumption, is an alternative to economic growth; and;
- 7) A steady state economy, with stabilized (or mildly fluctuating) production and consumption of goods and services, is an alternative to economic growth.
- 8) The American economy grows as an integrated whole consisting of agricultural, extractive, manufacturing, and services sectors that require physical inputs and produce wastes.

9) There is increasing evidence that North American economic growth is having negative effects on the long-term ecological and economic welfare of North America and the world.

Therefore, the Water Quality Section suggests an AFS position include the following, at a minimum:

- 1) There is a fundamental conflict between economic growth and fish conservation based on the ecological principle of competitive exclusion.
- 2) There is a fundamental conflict between economic growth and the ecological services underpinning the human economy (for example, pollination, decomposition, climate regulation).
- 3) Technological progress occurs via research and development that requires funding and the use of natural resources, has many positive and negative ecological and economic effects, and may not be depended upon to reconcile

the conflict between economic growth and fish conservation.

4) A steady state economy is a viable, sustainable alternative to a growing economy and has become a more appropriate goal in the larger, wealthier economies of North America.

5) The long-run sustainability of a steady state economy requires its establishment at a size that does not breach ecological and economic capacity during expected or unexpected supply shocks such as droughts and energy shortages.

The Water Quality Section suggests AFS also consider including the following points in a position on economic growth:

- 1) Because of its negative effects on long-term ecological and economic welfare, economic growth is an increasingly dangerous and anachronistic American goal.



MEETINGS UPDATE

2006

2006 International Symposium on Society and Resource Management. Vancouver, British Columbia, Canada. June 3-8. Contact: Robert Ditton; (978) 845-9841; r-ditton@new.tamu.edu

American Society of Limnology and Oceanography Summer Meeting: Global Challenges Facing Oceanography and Limnology. Victoria, British Columbia, Canada. June 4-9. Contact: secor@cbl.umces.edu; <http://also.org/meetings/victoria2006/>.

Eighth International Conference on Mercury as a Global Pollutant.

Madison, Wisconsin, USA.

August 6-11, 2006. Contact: James Wiener, wiener.jame@uwlax.edu; www.mercury2006.org

International Conference on Rivers and Civilization: Multidisciplinary Perspectives on

Major River Basins. La Crosse, Wisconsin, USA. June 25-28, 2006. Contact: James Wiener, wiener.jame@uwlax.edu; <http://www.rivers2006.org/>