TO: Mary Fabrizio, President
FROM: Doug Dixon, President **Bioengineering Section**
DATE: July 15, 2008

I. Motion Report

No Motions requested

II. Activity Report

Current Section Officers and Executive Committee (EXCOM) members through August 2009 include:

Doug Dixon, President
Marcin Whitman, Past-President
Ted Castro-Santos, President-Elect and Telemetry Standard Committee Chair
Michael Love, Secretary-Treasurer
Alex Haro – Newsletter Editor
Lynn Reese – Emerging Technology Ad Hoc Committee Chair

EXCOM meetings are held on a monthly basis. Meeting minutes are available and will be posted to our web site when it is refined and updated as discussed herein.

Overall Section membership is almost 250 fisheries professionals and students.

(A) Summary of Outcomes and Accomplishments Organized by Focus Area in Strategic Plan:

Goal MS 2, Science-Based Information

Emerging Technology Committee: Bioengineering established an ad hoc Emerging Technology committee in 2007. This committee provides strategic support and technical guidance for those who are pursuing either the development of new fish passage and intake protection technologies or the use of existing technologies in unusual and innovative conditions (e.g., as fish collection devices or as barriers to fish passage). The committee is accomplishing this by assisting innovators, reviewing concepts, fostering communication, providing a forum for highlighting new technologies, and identifying potential funding sources. The initial committee is under the chairmanship of Lynn Reese of the U.S. Army Corps of Engineers (USACE) with support from Ned Taft (Alden Research Laboratory), Jock Conyngham (Engineer Research and Development Center, USACE), Doug Dixon (Electric Power Research Institute), Larry Swenson (National Marine Fisheries Service), and Marcin Whitman (California Department of Fish & Game) has drafted interim bylaws describing its mission, objectives, operating structure, and technology evaluation criteria. Two innovative technologies were reviewed in 2007 and results of the assessment are being used to modify the committee's interim bylaws and operating procedures. Committee membership will rotate beginning in 2008 at which time new members with

education in fisheries science and professional experience in the development, evaluation, and use of fish passage, protection and restoration technologies will be called upon to serve.

As of mid-2008, subsequent committee activity has been limited because of a lack of requests by innovators. This lack of activity may be due to failure to advertise or otherwise bring to attention the activities of the committee or simply reflect a lack of bioengineering innovation. The committee, therefore, is taking action to advertise its service and re-define its mission. Service advertisement will include preparation of a technical paper on BES technology evaluation guidelines for publication in *Fisheries*. The Committee will also meet in the latter half of 2008 to begin to re-define its mission and services.

Telemetry Committee: Bioengineering also established an ad hoc committee to develop a "Unified Codeset" to support aquatic telemetry monitoring. Radio and acoustic telemetry have become essential tools in the development and improvement of fish passage solutions. With the development of pulsed codes, it has become possible to monitor multiple, even hundreds of unique codes simultaneously on a single frequency. To date, manufacturers have each developed their own codes, which can only be decoded by their own receivers. This has preventing end-users from selecting which transmitters or receivers best suit their needs: having invested in a given receiver users become obligated to purchase tags from that same manufacturer. The Section is attempting to develop a 'Unified Codeset' that will provide a solution to this problem. In an ad hoc committee effort that involves both developers and end users, the Bioengineering Section hopes to arrive at consensus over Codeset specifications, including the number and width of pulses, as well as the intervals between them. If successful, this Codeset may serve as a standard for all manufacturers to design receivers around, encouraging competition among providers, collaboration among users, and improving flexibility in study designs. Committee activity has been limited since the mid-year report because of other priorities by the committee chair; however, a grant proposal is in development and will be ready for submittal to various potential funding organizations by early fall 2008. The ad hoc committee is being chaired by Ted Castro-Santos, USGS Conte Anadromous Fish Laboratory, tcastrosantos@acad.umass.edu; (413) 863-3838.

Target AS 2.3a – AFS Units hold conferences, symposia and books focusing on holistic management practices and stewardship topics

Bioengineering Section held its 5th Symposium at the 2007 AFS Annual Meeting in San Francisco. This major symposium has been held on a 5-year basis although a more frequent 3-year basis is under consideration. A total of 42 papers covering subjects such as fish passage, intake screening, restoration, and modeling were presented. Tim Brush, former Section President, is the lead Editor in assembling many of the presentations in a proceedings to be available as an AFS publication in 2009.

The proceedings of the Section's 4th Bioengineering Symposium held in 2002 in Baltimore is about to be published by AFS and should be available for purchase at the AFS Annual Meeting in Ottawa. Steve Amaral, Dilip Mathur and Ned Taft are the editors of the proceedings titled Advances in Fisheries Bioengineering.

While the Section is not conducting a symposium in Ottawa, a sufficient number of bioengineering papers were submitted to hold a one-day "contributed bioengineering" session.

ITO 4.2, MS3.1 . Units to develop or enhance their Web sites and/or discipline-specific electronic mailing lists with particular emphasis on outreach to other users

Our section website, while operating, is in need of updating and changes are planned for 2008. The Section is hoping to use the services of AFS staff on a part-time basis to help improve and maintain its web site.

The Section's list-serve, while operable, is poorly maintained and potentially inconsistent with active annual BES membership. The EXCOM is currently working to update the ListServe.

The Section's newsletter was delivered to the membership in April. The BES Newsletter has been an annual effort; however, the Section will try and increase the newsletter's frequency to quarterly issues such that information is more timely and of greater value to the membership.

Other Goals Entries:

The Section's Bylaws, primarily from recommendations by AFS's constitutional consultant Gwen White, and with some relatively minor recommended changes by the current EXCOM, will be voted on by the Section once current membership is verified and an updated Section membership list is created.

New Initiatives

The Section is developing a Student Travel Award Program. Student attendance at AFS Annual and Division meetings frequently is problematic because of the costs for travel and accommodations. To encourage Annual and Division meeting participation by students specializing in bioengineering-related research, the Section is establishing a travel award program to reimburse travel costs up to a maximum of $1,000.00. Two awards will be made each year. Additional awards are possible and subject to BES Executive Committee (EXCOM) authorization. Eligibility and application requirements are in development; however, the major goal is support student presentation of an oral or poster presentation at the Annual or Division Meeting (note: alternative meeting presentations are possible subject to review and approval of the BES EXCOM).

The Section has also begun early discussions on a potential student scholarship program. The Section, however, has decided to initially complete and launch its Travel Award Program before developing a scholarship program.

(B) Recommendations or Suggestions for Future Consideration:

None at present

Section Finances:

The Section has a treasury balance of approximately $20,000. The Section contributed $5,000 to publication of the 2002 BES Symposium Proceedings and $500 to the Skinner Education Challenge.

The remaining balance will be reduced in the future via the Section's developing Student Travel Award Program and, potentially, a Student Scholarship Program.