

## **Public Education Committee**

**Committee Members:** L. C. Arias, K. Bell, G. Feldhamer, D. Ginnett, A. Joachim (deceased), V. Mathis, M. Merrick, D. K. Odell, J. R. O'Neill, P. Owen, V. Naples, B. D. Sasse, L. Schlitter, B. J. Shaw (Chair), S. Sheffield, K. K. Thorington, and J. Varner.

### **Mission:**

Established as a standing committee by the Board of Directors in 1993, the Public Education Committee seeks to make education about mammals accessible to grades K-12. Committee members foster outreach projects to raise awareness about mammals for students in their formative years. The committee coordinates its efforts with the assistance of other ASM committees, sister societies as well as elementary and high school science teachers.

### **Responsibilities:**

The Public Education Committee conducts several activities including the Public Education Partnership (PEP) that is an initiative to encourage activity and visibility of ASM members in their local K-12 classrooms. This initiative was launched at the 1995 Annual Meeting at the University of Vermont with 64 charter members.

### **Information Items:**

#### **(1) State Lists of Mammals:**

One of the PEC's long-term projects is to provide a State List of Mammals for all 50 states. **MSW: A Taxonomic and Geographic Reference (3rd ed; MSW) was published in 2005, and the state mammals lists are aligned to this taxonomic system.** Members of PEC completed 25 State Mammal Lists prior to 2005. An additional 4 states were completed in 2005 but were not posted online. None of these state lists have been updated with the 2005 MSW, and all states need either writing or revising to reflect those changes.

At the 2009 Annual Meeting in Fairbanks, Alaska, the Committee determined that the most reasonable course of action was to completely revise the way state lists are written. In place of the individual state spreadsheets, we developed a single database of all species found within the United States. In our initial discussions, we considered that, at the very least, we would be working with a single list and extracting the needed information. When Reeder and Helgen publish the next edition of MSW, we would only have one list, rather than up to 50 to edit. Not only would we be able to produce all 50 state mammal lists, but the turn-around time to revise them would be manageable. We discussed the potential of the Society developing an online mammal database, making it possible to extract different information than just a state list, and making this information more powerful for the website visitor.

After much discussion how to best make this database K-12 student and teacher friendly, we incorporated additional information anticipating the types of data teachers and students would find interesting and useful: biomes, IUCN status, diet, and introduced. The Mammal Species

database will have a direct link to mammal species accounts and images from the mammal image library.

In 2012, PEC also included “zoonotic diseases” as a category, however no one on the committee feels competent to manage this information. We will have this field inserted into the online database program. It will, however, remain blank until we successfully recruit someone from the membership to manage that field.

The final aspect of this new database is to provide students, teachers, and the general public a clearinghouse of citizen scientist mammal projects available to join. We are currently debating how best to incorporate citizen scientists projects into this database. Some projects could be identified by species or state, and that citizen scientist project would be included whenever a project species or state is pulled into the search parameters. Other citizen scientist projects, however, are defined by other criteria. At this time, we are considering flagging those projects that can be identified within the database, and sending the person inquiring to a linking page that lists all available citizen scientists’ projects. For more information, please see below on the Citizen Scientist section.

Two fields are currently being finished by PEC: IUCN status and biomes. We have incorporated two other fields: 1) state specific information about a species and 2) citations about each species by state. These fields are for ASM membership to notify PEC of up-to-date published information that we can include into the system. It is the PEC intent that this database system becomes one way that the scientists of ASM can communicate directly about their research with the public.

Working with the Informatics Committee, PEC requested and was awarded the funds to develop the online database system, and the money transferred to Informatics budget. Over the past year, Acro Media began work on building the database system. We have received the first visualization and submitted our comments. For more details about the online development, please see the Informatics Committee report.

In April 2014, we exported all 50 states mammal lists to Excel spreadsheets from the mammal species database (Special thanks to D. K. Odell). Wilson and Reeder’s 2005 MSW was the major guide for the information incorporated in the mammal species, and each species has been double checked against that information. As of this report, PEC is working with the Informatics Committee to post by the Annual Meeting all 50 states online to the State-Specific Lists of Indigenous Mammals: (<http://www.mammalsociety.org/mammals-list>).

PEC needs your expertise to make this database accurate, precise, and current. We respectfully request ASM members to scrutinize each list for omissions, erroneous inclusions, correction of any misinformation, and incorporate current notes and citations. All corrections need to be sent to the chair, Barbara Shaw, [barbara.shaw@colostate.edu](mailto:barbara.shaw@colostate.edu).

While membership is correcting the information, PEC continues to work with the Informatics Committee and Acro Media, preparing the online database available to any visitor. We need to link all the images of each species available to the mammal species lists and correct and edit

information as it comes in from the membership. The database design is K-12 student/teacher friendly, using specific terms as pull down menus, including "State," "Diet," "Habitat," "IUCN Status," "Order," and "Family." In addition, we will have a box to type in searches, like "bat" or "Colorado."

Our goal for 2014-15 is to complete the review by membership of the state lists developed from the database, and working with the Informatics Committee and Acro Media, go live with the Mammal Species Database. Our final goal is to incorporate mammals of Canada and Mexico, completing the North American Mammal Species database.

**(2) Science Fair Certificates:**

The Public Education Committee provides recognition to students participating in Science Fairs with a project related to mammals by awarding a Certificate of Achievement. Certificates were requested this year for the Blue Ridge Highlands Regional Science Fair, and 6 certificates were awarded to the participants. We would like to remind the membership to request the Certificate of Achievement if you participate in a science fair, for any student who conducts research on mammals. Please email the Chair.

**(3) Clearinghouse for K-12 Teachers:**

This program connects classroom teachers with mammalogists but is not used. We had no requests this year. We anticipate that this will change as the PEC is able to utilize the newly upgraded website through its multiple ongoing projects.

**(4) Citizen Science:**

One of the challenges of education through modern technology is how to get folks off of the computer looking at and exploring the natural world. At the 2013 Annual Meeting, K.K. Thorington, J. Varner, and B. Shaw developed and presented a poster to engage membership in this discussion about how ASM can promote science to everyone, primarily through citizen scientists' projects. In general, members indicated that PEC could act as a clearinghouse for citizen scientists' projects throughout North America. This would provide one place for the public looking to participate in mammal projects, and in turn increase traffic to the ASM website. PEC discussed options to provide this service, including incorporating projects into the online database system (when that goes live). In addition, PEC is proposing to maintain a separate page on the project, with start and end dates, and post this list a minimum of once a year, but we are targeting twice a year – at the end of winter and at the end of summer, with the date prominently displayed of when the last posting occurred.

To begin this project, PEC would request groups working on citizen scientists' projects involving mammals to contact the ASM PEC to post their project on our website, including their beginning and ending dates. We would post their project on our Citizen Scientist webpage (to be developed). If possible, we would also link the information to the mammal species database. That way, if someone pulls up information on a species or state that has a project, the visitor would be informed that they can get more information and even participate.

PEC is incorporating Citizen Scientists' Projects as a field in the database, anticipating the development of this service. Our goal for 2014-15 is to continue work on this program, develop

an announcement to our fellow scientists, requesting they include us when advertising for participants. We are still in initial stages of this project, but with the mammal species database in the final stages before going live, we can divert more attention to this project this year.

Teacher Workshop (G. Feldhamer (lead), A. Joachim, V. Mathis, V. Naples, B. J. Shaw, and J. Varner)

PEC is presenting a 7 hour teacher workshop this year at the Sam Noble Museum of Natural History on 7 June. Feldhamer, and Varner are presenting the Middle School/High School (MS/HS) session on field sampling using yellow taxi cabs and green pick-up trucks, then incorporating mathematical programming for data analysis. Their program was developed by Feldhamer, Mathis, and Varner. Shaw is presenting the elementary session on mammal detectives – using clues to identify mammals. This program was developed by Joachim, Owen, Schlitter, and Shaw. Bell is working with the collections department to provide additional, hands-on ideas for visitors during the ASM meeting. The development of these workshop sessions is a basic format can be presented year to year for the teachers of the state in which we hold our ASM Annual Meeting.

PEC is beginning negotiations with the Museum of Science and Nature in Jacksonville for the 2015 meeting.

#### **(5) Conservation Education:**

Initial steps have been taken to work with the Conservation Committee to develop resources for K-12 educators, informal educators, and the general public on conservation issues. This project will be under discussion at this year's PEC meeting.

Andrew Joachim was an active and vital member of ASM's PEC. He died 16 July 2013. His wife wrote, "ASM was very important to him. He was very happy the meeting was in Philadelphia and spent a great deal of time preparing material to share with Education Committee." Andy will be greatly missed.

#### **Action Items:**

**(1)** In preparation for the teacher workshop in 2015, the Public Education Committee requests funds to develop and purchase the materials for presentation (\$200), and copying curricula (\$100) to deliver the ASM educator workshop to teachers at Jacksonville's Museum of Science and Nature. We therefore respectfully request a \$300.00 budget to cover these costs.

**Respectfully submitted,**

Barbara J. Shaw, Chair

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