

Ecology for the New Generation

Status Update on Recommendations and Other Initiatives

Report to the ESA Governing Board May 1, 2014

Report to the ESA Governing Council with comments from Student Section

July 19, 2014

In April 2012, the Ecology for the New Generation Committee, appointed by Past President, Steward Pickett, submitted its report to the Governing Board. The Committee's report was given to all the section and chapters during the annual meeting in 2012 and they were encouraged to implement as appropriate.

This report is to provide an update on the status of the recommendations in 2013-2014. This update reflects activities reported by staff and Committees, Sections and Chapters. It is divided into five sections. The Ecology for the New Generation Committee made specific recommendations on four sections:

- I. Engaging the New Generation
- II. New Skills and Career Paths
- III. Action Ecology, Translational Ecology, Environmental Justice
- IV. International Networks

In each section, items that have been or are currently being addressed in some way were compiled. Recommendations not yet addressed are listed at the end of the section in a box.

Section V. catalogs additional ESA initiatives not included in the Recommendations that have bearing on the New Generation.

I. ENGAGING THE NEW GENERATION

1.1. INCREASING NEW MEMBERSHIP AND RETENTION OF CURRENT MEMBERSHIP

1.1a (i). Use social media to promote ESA events and about ecology generally

We use social media daily to promote ESA events, opportunities, topics of interest to the ecological community. ESA currently has 2500 Facebook and 10,000 Twitter followers as well as LinkedIn and Google+ pages.

Paleoecology Section - We have implemented two new aspects of our section to make it more inviting to new members: (1) We initiated a Twitter account (@esa_paleo, currently with 119 followers) (2) We now have a new officer position, Student Liaison, with duties still being determined.

Vegetation Section - We have discussed this at previous Veg Section business meetings. We will try to invite undergraduates and graduate students to the business meeting via social media. We also plan to have current members invite their own graduate students to the business meeting.

1.1a (ii). Use visual media to promote ESA events and about ecology generally on both social media sites and other formal settings e.g. registration table at Annual Meetings (AM)

ESA has incorporated photos or graphs usually tied to ESA activities or events, such as from congressional visits, awards at the annual meeting, graphs that show interesting statistics

related to annual meeting registration, abstract submission, etc. Articles posted that are of interest to the community often also include photos, comics or graphs.

ESA began a "Science Café" in 2013 held at the AM. Visuals for New/social media; Field Talk and the Ecologist Goes to Washington podcasts are available on the ESA website.

1.1b (i). Encourage members, special session and event organizers to tweet during AM

The Public Affairs Office has been doing this since the 2011 AM.

1.1b (ii). Develop and film a short video "How to get the most out of ESA" to be shown during AM orientation events, posted online, and emailed with registration information. Develop ESA YouTube Channel.

ESA does have a YouTube Channel. A new video is being developed for the Centennial that could be used for membership recruitment purposes.

1.1b (iii). Free student orientation events should have tickets printed and placed in registration information to reinforce it is a free event

ESA will print tickets this year for student orientation.

1.1d. Enrollment in student section of ESA should be automatic and included with student membership registration fee

The Governing Board declined to pursue this at its May 2012 meeting. They are considering other means of increasing student section resources at the May meeting. **It is now easy once you have joined to go back and select a section. This was a student section request.

1.1e. Expand childcare to include infants and toddlers at AM. Set up volunteer program for students to co-run programs and offer AM registration discounts (background checks needed).

ESA cannot have a volunteer childcare program due to liability insurance. We have expanded childcare to include a Mad Science Camp for older children.

1.2. MENTORING

1.2a. Develop new, bi-directional student mentoring program- an Adopt-a-Scientist program that builds on the SEEDS program. Provide venue and time slot for mentors-mentees to meet. Could take place during Section Mixers and should tie into Centennial efforts.

A mentor-mentee program was initiated in 2012. Two events were offered at Portland AM. ESA organized a mentoring opportunity at the annual meeting which began at the welcome reception. Each participating ESA Section provided 2 mentors. The mentors and students met again at a networking Tuesday morning breakfast. Both events will be offered again in Sacramento. We will also try to recruit ecologists to be present at the breakfast to share their career and how ecology is involved .

Physiological Ecology Section - Each year we host a mixer at the annual ESA meeting to bring together members. This year we will also participate in the joint mixer of all ESA Sections. The Physiological Ecology Section has a regular electronic newsletter that goes out to all members. We are coordinating efforts with the American Society of Plant Biologists to have a shared network of members that can help mentor students and provide opportunities.

Rocky Mountain Chapter – has plans to develop a "adopt a Scientist" for the 2014 meetings

Rangeland Ecology Section - We have worked with all ESA sections to get our student travel awards advertised earlier and more broadly to encourage increased number of applications and visibility of the opportunities for next generation to attend ESA and participate in our Section. We have also engaged with the Society for Range Management to encourage more of its next generation members to participate in ESA as well.

1.3. ENGAGE WITH MIDDLE AND HIGH SCHOOL EDUCATION

The Education and Diversity Programs office organized the Life Discovery – Doing Science Education conference in March 2013 that served high school educators. The 2nd Life Discovery Education conference will be held in October 2014 in San Jose. It is involved with a national Climate and Energy Literacy network (including environmental NGOs, government agencies and scientific societies) to promote education in connection with Next Generation Science Standards (NGSS). Life Discovery Education partners plan to include K12 resources in our joint digital libraries. New project proposals are being developed to serve K12 educators.

1.4. MULTIMEDIA ENGAGEMENT

1.4b (i). Rethink and restructure website especially for renewals, join sections etc.

Membership can now renew and add sections in an easier manner.

1.4 b(iii). K12 and higher education resources should be grouped and placed online

Higher education teaching resources are available in EcoEdDL. K12 resources will be available in the near future.

1.4 b(iv). One-stop shop for jobs, internships, graduate student opportunities - free access to members only. Maintain revenue potential through premium fee-based services

This is under discussion among staff in relation to new features for ESA website.

Plant Population Ecology - In late summer 2013, the section established both a Facebook page (<https://www.facebook.com/plantpopocol>) and twitter account (@PlantPopEco_ESA). In addition to our website, we use these social media outlets to keep members up to date on job postings, award announcements, and other section news.

Comments from the Student Section June 2014

1. Activities to welcome new membership:

A) Orientation Programming (with SEEDS): How to get the most out of ESA's 2014 Annual Meeting: an orientation for student attendees

The Student Section in collaboration with SEEDS has designed the *"How to get the most out of ESA's 2014 Annual Meeting: an orientation for student attendees"* event for the 2014 meeting. The orientation will cover a wide range of topics including but not limited to **a)** how to network with colleagues and peers, **b)** how to approach professors without feeling intimidated, **c)** how to select talks to attend, **d)** great talks to attend and **e)** how to navigate Sacramento. This program is specifically geared for first time meeting attendees and is a prime opportunity to connect with incoming members and get them excited about ESA. In addition, attendees will be encouraged to live tweet

RECOMMENDATIONS: In order for this type of programming to continue to be successful, ESA should continue creating space for student members to express their opinions and participate actively with ESA. Attendees seem to enjoy feeling pro-active and that they have a voice in the Society. We recommend the continued promotion of live tweeting and other technologies that give student members chances to participate.

B) Updated internet presence

The student section put a lot of energy this year into updating our internet presence. We recently launched our new website (<http://www.esastudents.org>), which has a blog page where we intend to post regular updates from the SS officers and section liaisons. The site also has information about surviving and getting the most out of the annual meeting and enjoying Sacramento. We consider the information on the site to be particularly helpful for new members. The meeting page, in particular, (<http://www.esastudents.org/annual-meeting-details>) helps new members navigate the planning and registration process.

In addition, we revamped our Facebook page and created a section newsletter. We have also pushed for a stronger presence on Twitter. Now that these are in place, our focus will be on using these tools to reach Millennials, in order to build stronger community and draw more students in to connect with our section and their peers.

An important part of engaging with student members is to connect with Millennials where they are. In general:

- They are digital natives at home with technology and use it to mediate their experience and social relationships,
- They value experiential and exploratory learning, quickly becoming bored with passive lectures,
- They are high achievers who are very grade motivated,
- They are impatient, easily bored, and expect instant gratification (hey, this is what research shows),
- They believe (for better or worse) that they are expert multi-taskers, and often switch between tasks such as work, monitoring phone and Facebook feeds, and listening to music,
- They are team oriented and comfortable working in groups.

Reference: "Understand, Engage, Connect: Meeting Millennial Learners Where They are":

<http://uminntilt.wordpress.com/2013/03/18/understand-engage-connect-meeting-millennial-learners-where-they-are/>

RECOMMENDATIONS: We recommend that ESA continue to focusing on developing programming that will appeal to younger members, such as live tweeting. Field trips, IGNITE sessions, workshops, and the Science Cafés are all excellent ways to engage "impatient" younger members who "value experiential and exploratory learning."

With the upcoming Centennial meeting, we recommend more opportunities for public engagement (maybe at local libraries, museums, or parks), where student members can share their science in new, meaningful ways. Another idea is to use technology to have a broader community-wide conversation about what ESA is. For instance, have members tweet one-word responses to a question ("What do you think the

greatest challenges Ecologists will face in the next 10/25/50 years?"). And a word cloud of responses could be projected in the atrium of the convention center.

2. Mentoring:

The student section has discussed ways to solicit more participation from our membership. We discussed setting up a mentorship program using members that received awards from the section, but we are still figuring out how such a plan would be implemented. For the 2014 meeting, however, we had established an Ambassador program, which will require awardees to:

- attend orientation (where they may lead small group exercises?)
- attend awards ceremony
- attend mixer
- write a blog post

RECOMMENDATIONS: We think ESA is doing a great job. The other sections, however, may want to consider incorporating mentorship into their awards as well, so that awards become a program and a community (the SEEDS model) and not just an outlet to hand out money.

Other Recommendations Not Yet Addressed

1.1. Increasing New Membership And Retention Of Current Membership

1.1c (i). Develop custom welcome messages for members who sign up for specific member categories / sections / chapters. Remind people to review benefits which can include "how can you get involved".

1.1c (ii). Members can self-select to receive updates / messages on specific areas of interest.

1.4. Multimedia Engagement

1.4a. Offer live online access to plenary sessions and potentially, special sessions (for members only).

1.4b (ii). Member directory to also include research interests (e.g. study organism and ecosystem), outreach expertise and teaching or assessment expertise.

Note: This is possible, but would take a lot of work on Thet's (Associate Director, IT) part to include in iMIS. Our members would need to provide this info, and now they aren't even giving us address or email updates. It is a lot of work, for just a few who would participate.

1.4v. Develop comprehensive grants database for members.

1.4vi. Create virtual space for dicussion e.g. working abroad, international students etc.

II. NEW SKILLS AND CAREER PATHS

2.1 ESA hold special events in exhibit hall during annual meeting: career fair on professional careers; innovative technologies for ecology research; academic programs for students

ESA offers career guidance workshops for students during the annual meeting and the consultant who conducts the workshops provides opportunities for some one-on one guidance during the annual meeting.

Rangeland Ecology Section - The rangeland ecology section booth is a key tool for engaging new generation ecologists. The exhibit highlights international research in rangeland ecology.

2.3. Offer Career development opportunities to postdocs e.g. publishing, preparing job applications, interviewing, contract negotiations.

Workshops on these topics have been organized since 2012 and will continue to be offered.

2.6. Create a strategy to encourage ecologists outside of academia to participate in the organization

The **Earth Stewardship Initiative and 2014 Emerging Issues Conference** provide a platform for this. Also, Board nominations are including ecologists in federal agencies, business and NGOs. In 2013, the top leadership and senior staff have organized a Special Session bringing together a panel of business representatives. This will be organized again in 2014 in Sacramento.

Policy Section in collaboration with Science Committee - In 2013 and 2014 (planned), policy section members have led an all-day Diverse Careers in Ecology workshop at the Annual Meeting focusing on career pathways. The workshop is geared toward students, although we've also had early career folks in attendance. During the workshop, participants have the opportunity to learn about a variety of pathways taken by ESA members and to discuss various questions with ecologists representing early, mid, and late career stages.

In addition to the career pathways workshop, the Policy section encourages members to talk with each other and with other ESA members about the variety of career paths available beyond academia, including in government, industry, and the non-profit sector - through workshops and sessions at the Annual Meeting and in other events throughout the year.

Rangeland Ecology Section - By developing stronger relations with Society for Range Management, we hope to offer next generation members exposure to broader range of career options in Rangeland Ecology.

2.5. Encourage PIs to bring in new generation as senior personnel and recognize role of graduate students in project administration - e.g. outreach, finance, media relations etc.

Physiological Ecology Section - We recognize outstanding student and postdoctoral research presentations through three awards the Physiological Ecology Section offers each year: The Billings Award, The New Phytologist Award, and the Plant, Cell and Environment Award. We also provided travel grants each year. Six students received travel grants in 2013. We have supported a post doc in organizing a symposium on phloem-xylem integration. In support of this symposium, we brought in the organizer as a senior personnel on a long-range planning grant that was submitted this year.

Traditional Ecological Knowledge - Our proposed sessions for the annual meeting were organized by young scholars.

Physiological Ecology Section - We have recruited an excellent graduate student liaison, Aaron Ramirez from UC Berkeley, to work with our leadership on 1) fundraising for student travel, 2) section meeting preparation, 3) outreach to the student community. He has made excellent progress working with our industry partners to obtain funds.

Historical Records Committee - The HRC has two active student members. One of them presented a paper in an HRC-sponsored symposium last year and has assisted with the development of ESA's history website. The other student has done research on the critical issues faced by early ESA presidents, information that will be incorporated in a timeline in preparation for the centennial meeting.

Committee on Diversity and Education - Has had active Student Section liaisons since 2008 and currently includes graduate students and early career ecologists on the committee.

Note: This item seeks to mobilize the wider ecological research community beyond ESA sections, committees and chapters to provide roles for graduate students in the management of funded projects.

Comments from the Student Section

RECOMMENDATIONS: We have to continue thinking outside of the box on ways, other than workshops or panel discussions, to communicate this message, ways to get away from a formal setting. We think it would be really great if you could arrange a tour of the companies in the host city that hire ecologists.

Other Recommendations Not Yet Addressed

2.2. Offer certificate program for students and postdocs (members only) promoting professional development in skills such as communications, grantwriting, leadership (Based on idea developed for SEEDS).

Note: ESA did add a new category for certification: Ecologists-in-training. However, the recommendation is seeking a more comprehensive and structured professional development approach.

2.4. Play a role in rethinking appropriate evaluation guidelines for pre-tenure faculty - address areas currently undervalued in the existing reward system.

III. ACTION ECOLOGY, TRANSLATIONAL ECOLOGY, ENVIRONMENTAL JUSTICE

3.1. New format for informal but planned round table discussions on diverse topics involving ecology e.g. Action Ecology, EJ, public policy.

Policy Section - At the 2014 Annual Meeting, policy section members are leading a symposium on ecology contributions to climate change assessments and policy processes at the state level, with an eye toward identifying lessons for other topics and for assessment and policy processes at local, national, and international scales. At previous Annual Meetings, policy section members have led other symposia, workshops, and sessions focusing on science communication, participation in decision making processes, and related topics.

Rocky Mountain - introduce applied ecology and other careers other than academia, research, and agency

Traditional Ecological Knowledge - The section continues to support the Sense of Place session on the first morning of the Annual Meeting.

Rangeland Ecology Section - In 2012, we organized a symposium on Translational Ecology. In 2014, our sponsored symposium on extreme climate events includes several talks by practitioners who will address public policy and translation of ecology to action.

Science Committee – Sponsoring 1) a workshop at ESA on linking science and public policy; 2) a workshop on "bridge organizations" to link science and management/policy; 3) a symposium on the ecology of natural disasters and links to policy and management.

Paleoecology - We have integrated time for discussion as part of section-sponsored symposia or workshops at ESA's annual meeting.

3.3. ESA should create innovative ways to present research findings at AM

The new Ignite session format was launched in 2013 with presentations running for 5 minutes and another 10 allotted for questions and discussion and will be continued in Sacramento.

Eighteen (19) ESA sections, committees, awards are participating in the IGNITE session at ESA to explain what we are about and to generate excitement to join ESA sections and to introduce new generation ecologists to the broad array of career paths in ecology.

3.6. Create directory of experts and organizations with experience working in specific communities or regions to promote research respecting and reflecting best cultural practices and norms

A new directory initiated by the VPs in 2013 may be able to incorporate this. However, with staffing transitions, this effort is on hiatus. We have a certification directory that does this somewhat. The problem is that the experts need to provide and update their member profiles, and many do not or do not want to give us that info. On a related note, at the suggestion of members, a paragraph about respecting cultural issues while conducting research was added to the Code of Ethics.

Comments from the Student Section

RECOMMENDATIONS: Round table discussions are great, but it'd be nicer if we could have some experiential learning here (i.e. give students scenarios to work out or arrange some sort of outreach or real world activity). We think we should again try and get away from formal settings.

Other Recommendations Not Yet Addressed

3.2. Organized oral session to include time to discuss integrating research topics with policy, outreach, etc.

3.4. If session incorporates impacted communities, review process should consider whether or not (and how) the session organizers and participants include members from these communities.

3.5. Create travel grant program to support member participation of members of impacted communities to participate in oral/poster sessions.

3.7. Develop list of initiatives where ecology is currently absent but could play important role and inform development (e.g. Engineers without Borders).

IV. INTERNATIONAL NETWORKS

4.1. Work with International Affairs Section and Student Section to run annual workshops on funding resources for international students and faculty.

This year there is a large workshop organized by the Student Section centered on funding opportunities for students, including international opportunities.

4.3. Organize annual research mixer and poster session (separate from regular poster session) for international ecologists looking for collaboration with US scientists and for US scientists interested in working internationally.

International Section - After a hiatus of about 6 years, the International Section met in Minneapolis and plan to meet again in Sacramento.

Vegetation Section - The Vegetation Section business meeting includes the International Association of Vegetation Science - North America section. We will discuss how feasible it will be to recruit new students and colleagues from international locations to future ESA meetings.

4.4. Develop and support a volunteer network of proof readers to help non-native English speakers publish.

ESA had established such a list of volunteers to help non-native speakers with language polishing. It is fairly dormant but can be found at <http://esa.org/authorhelp/>. We are preparing lists of language polishing services that individuals can contract with.

4.5. ESA leadership meets with international members at annual meetings to talk about creating and managing ecological societies in their own countries. These sessions should be available as podcasts.

There are plans to invite the Presidents or representatives of other Ecological Societies to attend ESA annual meetings in 2014 and 2015 and interact with ESA leadership in informal settings (not formal sessions). ESA also helped the international student group organized and supported their luncheon at the INTECOL meeting in 2013.

4.6. Implement registration cost refund for international attendees unable to attain a visa to attend the meeting.

This is currently in operation.

Comments from the Student Section

The student actively promotes international students by managing the Real Brown International Travel awards. These awards do incorporate financial need into the decision-making, thus giving an additional bonus to students in second and third-world countries. While our upcoming workshop "Exploring Current Funding Opportunities for Students" is not specifically geared towards international students, we will likely cover some of these resources.

RECOMMENDATIONS: We support the current recommendations. Sounds great!

Other Recommendations Not Yet Addressed

4.2. Create web-based network for those interested in working abroad to exchange ideas about conducting research outside of the US.

V. Other Initiatives

1. **ESA Public Affairs Office** – Provide opportunities for PhD students to engage in policy. The Graduate Student Policy Award brings 3-5 students to DC each year for *policy training and meetings with congressional offices*. In 2014, four students were selected.
2. When ESA established a new Fellows program in 2013, it also established an “**Early Career Fellow**” program to recognize and honor those early in their career. The Early Career Fellows program is now in its second year and is a way to recognize early career ecologists with a prestigious designation.
3. The **Board of Professional Certification** has received approval to add a new certification category—Ecologist in Training – for postdocs.
4. The **ad hoc committee on Publications** had an early career member.
5. Students were given the **first notice about affordable housing** options before any other members were able to sign up.
6. Staff helped those **organizing an Early Career Ecologist section** as it prepared its petition for approval. The petition will be on the May Governing Board agenda, and if the Board approves, it will go to the Council for a vote and should be final before August. The Meetings staff are working to help them hold organizational sessions in Sacramento should they be approved
7. The **Public Affairs office** coordinated ESA’s participation at the “Science and Engineering Technology Festival” in 2012 and 2014 with a hands-on exhibit. The exhibit was staffed by Public Affairs, Education and Diversity Programs staff and ESA leaders.
8. The **Science Office** has a 3-year NSF grant to offer a short course on financial sustainability planning annually for research infrastructure project directors. This is aimed at established researchers, but offers new skills training for scientists.
9. **Science Committee** - Development of new proposals for "large- scale" ecology workshop for early career members (*previous science chair, Deborah Goldberg had led one on community ecology frontiers*)
10. **Professional Ethics and Appeals Committee** - Changed the Code of Ethics to incorporate a recommendation by the New Generation Committee. This change was accepted by the Governing Board at the August 2013 meeting.
11. **Nominations Committee** - included students / early career candidates on the slate for Governing Board positions.

Respectfully submitted by
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