Good Green Teaching Colleagues,

Here is my attempt to distill the very productive meeting that we just concluded.

The Education Summit was conceived as a way to gain better perspectives on the various education activities in the BSA and to parse the BSA education objectives into the best hands to ensure that progress is made. Based on the Strategic Plan that is guiding the future of the BSA, we focused on what we can and should do to meet the goals that have been established. We also discussed the roles of the different education-oriented entities in the BSA and developed action plans to achieve the goals that we established. Below, these action plans are developed as recommendations.

The strategic plan emphasizes that the BSA should seek to provide botany resources for teachers. We concurred and discussed the best ways to meet this plant information expectation. To meet the goal of locating and engaging BSA experts who can contribute facts and information about plants, we noted that the plans for the new Membership Directory will include opportunities to collect and display such information about members. The Directory will be searchable for membership expertise.

To gather information about experts who will identify gaps in existing instructional materials, we recommend developing a new box on the abstract submission form for the annual meeting. This box would solicit information from "experts" on the nature and progress on the "broader impacts" component of funded research projects. We reasoned that BSA members with active, well supported research programs would be the ones with the "broader impacts" statements and plans. With information about ongoing activities, we should be able to discover what ongoing education projects might be made more public and could provide topics for education symposia and workshops at the annual meeting. This will also meet the goal of fostering collaboration among BSA members to share information and ideas about education initiatives.

Claire Hemmingway guided a discussion of PlantingScience progress and new objectives. She noted that summer institutes, held at Texas A&M University, provided opportunities for exploring active learning activities and conducting focus groups with teachers to help them implement these active learning possibilities. She also discussed expanding the roles of mentors in helping to initiate and conduct experiments with teachers and students, and she introduced how video clips were helping teachers gain a better understanding of some concepts and methods. Claire provided information about a goal of the PlantingScience program to help teachers learn how to cover the field of biology using plants ("Planting across the curriculum."). Assessment of the program is essential, but has been challenging and is still an elusive ultimate goal. She noted that questionnaires provided to participants as well as Pre-and Post testing of students was involved as was tracking teachers and their successes with the program in their classes. Carol Stuessey has been the point person in developing a plan to develop meaningful and effective assessment of the program so that its contributions can be fully demonstrated.
We strongly encouraged progress on this important component of PlantingScience so that the program could have more promise of integration with state standards and testing. We also noted that continued and expanded funding for PlantingScience was likely to depend on well-documented and analyzed evidence of its effectiveness.

Bill Dahl reported on recent discussions in Washington, DC involving the Obama administration’s response to the current nationwide scientific literacy crisis. Politicians are seeking ways to generate more science teachers who will incorporate more inquiry methods in student learning. Interdisciplinary society participation has been sought through the coordination of fields and programs represented by members of the Council of Scientific Society Presidents. This group is pushing plans for a "Science Week" program to highlight progress and goals for future science education.

We discussed options for developing outreach by BSA professionals to students in their local city and regional neighborhoods, and that this has been supported in some instances by NSF funding. We noted that such outreach might be best targeted at making connections between 4-year colleges and the Community Colleges where an offer of expertise is likely to be well received. We recommended establishing information on the membership form to ask whether individuals would be open to inquiries from their community to answer science questions and serve in an "Ask a Botanist" capacity. The BSA could function as a clearinghouse and communication hub for making such connections. These connections might also lead to more community college professionals seeking membership in the BSA. We also noted that the BSA may be able to serve as a place for certifying the quality of on-line courses, helping students know which courses will provide the education outcomes that they seek.

Chris Martine discussed his success in establishing a student chapter of the BSA, getting students involved with neighborhood activities and involving them in service to the community. We recommend having a workshop on student chapters at the annual meeting.

We considered it to be a valuable BSA contribution for us to develop assessments of teaching modules, but we wondered how to generate funding for such assessments. We already have some PlantingScience modules and curricula that meet some state standards and the goals of assessment tests of students. But we need more of them for teachers to use as well as for the education of new teachers (pre-service training).

We recommended building on the fine work of Chris Martine, who has developed videos to inform children about aspects of science in general and botany in particular. To develop this agenda, we recommend providing opportunities at our annual meeting to conduct video interviews with experts attending the meeting. Not only would this help to explore topics that might be expanded into new video segments, but it would also discover which BSA colleagues are ideally suited for this video medium, and whose research might be used to illustrate science principles and practices. We might also be able to develop "How To" videos of various techniques and procedures.
We devoted some discussion to the opportunity for certification of individuals as "Botanists." We concluded that we need to review the competencies necessary to be certified. Robynn Shannon commented that the Ecological Society of America has developed a certification program and we might be able to learn from their efforts and adopt some of their methods. **We recommended** forming a committee to explore these options and develop recommendations that would be reviewed by the Education Committee and ultimately forwarded to the Board of Directors for discussion and implementation. Members of that exploration committee could include Marsh Sundberg (who has been working with the National Forest Service to develop a certification option), Robynn Shannon, Krissa Skogen, and Bill Dahl.

Through the meeting, we devoted time and thought to exploring and defining the roles of the Education Committee and the Teaching Section of the BSA. After considerable discussion, we concluded that the Education Committee meets the governance function in education for the BSA, i.e., implementing the educational mission of the BSA and recommending policies that will help the BSA achieve its education mission. Thus, the Education Committee would be charged with organizing society-wide education initiatives at annual meetings (such as opportunities for workshops and forums on education). The Teaching Section would function to serve the members of that section, by organizing contributed papers sessions and symposia of interest to those members. Thus, both the Education Committee and the Teaching Section provide vital and complementary contributions to the BSA and its members. **We recommend** that special attention be paid to appointing Education Committee members so that those interested in meeting BSA education goals will be involved and we recommend appointing a member of the Teaching Section as an ex officio member of the Education Committee. Normally, this would be the Chair of the Teaching Section, but another individual may be appointed as appropriate.

We note that the we are working toward achieving the strategic goals established by the BSA strategic planning committee and we are now poised to have a better sense of how to coordinate and develop cooperation among the various components of the BSA that address education aspects of the Society.

I personally thank the members who took time out of their obviously busy schedules to attend this Summit and contribute their expertise and perspectives on education and the BSA. We certainly had a productive and valuable meeting that should translate in an improved and invigorated education mission of the BSA.

Respectfully submitted,

Chris Haufler, Board of Directors Member associated with BSA education