Issues, Visions, and Commitments for Education in Soil Science

Mary E. Collins
Soil and Water Science
University of Florida
What has been Happening in Soil Science Education?

- National Academy of Sciences – National Committee for Soil Science (NCSS)
- Why are graduate students not as well prepared?
- Why don’t we have students interested in soil science?
- NCSS formed a subcommittee – National Trends in Undergraduate Soil Science Education.”
Graduate students are coming from other disciplines as undergraduates.

Lack extensive and intensive undergraduate coursework in soil science

Combined undergraduate & graduate courses
Perception of the Major

- Not on today’s high school and college-age students’ radar screens nor their parents
- The major is associated with “agriculture”
- What clientele do we serve?
- Even departments are split between agricultural and environmental research.
- Names of departments and majors/concentration/specialization/track across the country may be confusing.
### Departments/Schools with “Soil”

<table>
<thead>
<tr>
<th>University</th>
<th>Department/School</th>
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<tbody>
<tr>
<td>Maryland</td>
<td>Environmental Science and Technology</td>
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<tr>
<td>UC Davis</td>
<td>Land, Air, and Water Resources</td>
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<td>New Mexico State U</td>
<td>Plant and Environmental Sciences</td>
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<td>Ohio State U</td>
<td>Environmental and Natural Resources</td>
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<tr>
<td>Illinois</td>
<td>Natural Resources and Environmental Sciences</td>
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<tr>
<td>Iowa State U</td>
<td>Agronomy</td>
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<tr>
<td>Wisconsin</td>
<td>Soil Science</td>
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<tr>
<td>Florida</td>
<td>Soil and Water Science</td>
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Potential to Increase Numbers

- Taskey (1994) at Cal Poly – San Luis Obispo first discussed the need to increase the number of students studying soil because of possible elimination of undergraduate program (department?).
- High school students
- Transfer students
- On-campus “undecided” students
- Introductory course(s) in department
- Need to change, update the courses, names and/or curriculum
No. of Students in Majors – College of Agricultural and Life Sciences

1996 (Total 2,717)
2003 (Total 2,900)
2008 (Total 3,861)
Fall, 2008 Majors with < 50 students
Number of Students in “Plant” Majors
What are some of our constraints to increase our numbers?

- Students don’t know about the majors until it is too late to switch majors.
- Our science is not taught in high schools
- Parents have never heard of our major
- Competing against pre-professional majors
How do we overcome these limitations?

- Advertise the introductory course and have the best (special) instructor teach it
- Website needs to advertise the opportunities
- Courses as General Education
- Administrators need to support the major
What is the Future of Major

- Soil scientists are “mature” nationally and internationally.
- “...soil science is slated for slow but sure extinction.” Lal (2007)
- SSSA K–12 Education Committee
- Employment Opportunities
Importance of K-12

Teaching about soil at Hidden Oak Middle School
What is our Vision?
Vision and Visibility
Commitment

Energy, Imagination
Conclusions

- There are 3,861 undergraduates in UF–CALS, only 16 SWS majors, 176 “plant” majors
- Summer–Fall, 2008 UF Soil and Water Science Department was on the list for possible merger.
- Spring, 2009 UF College of Agricultural and Life Sciences – Plant Science Task Force – discussion on Soil and Water Science major potentially being part of new Plant Science mega-major.
- Fall 2009 major will split into a “Soil Science Specialization” and a “Water Science Specialization”.

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Thank You