

College of Agriculture and Life Sciences  
Cornell University

## **ACADEMIC TASK FORCE REPORT**

Restructuring the College of Agriculture and Life Sciences

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# **RESTRUCTURING THE COLLEGE OF AGRICULTURE AND LIFE SCIENCES**

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## **Executive Summary**

A plan for restructuring the College of Agriculture and Life Sciences (CALs) was developed to account for a possible cumulative reduction in revenues of 15% and to position the College for strategic future growth. An advisory committee consisting of department chairs, faculty, administrative staff, and College leadership was assembled and charged with developing, for Dean Susan Henry, a recommended restructuring plan. This committee engaged in an iterative and consultative process with the entire College community to develop a set of recommendations. This report presents the restructuring plan as endorsed by Dean Henry.

The restructuring plan has been designed to align College programs with available revenues and to propel the College toward realizing its vision of being the preeminent Land Grant College of Agriculture and Life Sciences. The plan calls for a reduction in faculty from a current level of approximately 370 to approximately 330 and the reduction of academic departments from 26 to about 18. The restructuring plan will help achieve four broad goals. CALs will:

- align College programs and activities to reflect a cumulative 15% reduction in revenue;
- adapt undergraduate and graduate curricula to be more interdisciplinary, better coordinated, and more responsive to changing student and societal needs;
- promote research that is interdisciplinary and integrated from discovery to application and meets dual objectives of disciplinary excellence and mission-oriented impact; and
- refine extension and outreach activities to be most responsive and effective to stakeholders.

The plan builds on a decade-long suite of activities that have responded to cutbacks in State support and have positively contributed to programmatic relevance and excellence. These activities include development of new educational programs to better meet changing student interests and needs, greatly increased coordination between the New York State Agricultural Experiment Station (NYSAES) and the Cornell University Agricultural Experiment Station (CUAES), coordinated facilities planning, reorganization of administrative support functions to improve efficiency and consistency of support, strategic planning by all academic units, and coordinated management of farms, greenhouses, and growth chambers.

The restructuring plan will aggregate academic resources into larger units to promote better strategic planning and provide more flexibility in responding to future budget challenges; better coordinate undergraduate and graduate education; and facilitate multidimensional research, extension and outreach. Recommended changes in administrative support structures will continue efforts already underway to develop a hierarchical organization that allows for improved resource flow and ensures consistency of process and procedures. Specific recommendations are as follows:

- Department mergers will occur in the four program areas (horticulture, food science, entomology, and plant pathology) that are currently represented both in Geneva and

Ithaca. When merged, the Geneva-Ithaca departments will continue largely with their current faculty, name, and overall mission, although the Horticulture grouping will also be part of a larger Plant Sciences Cluster.

- “Schools” are proposed as a new academic unit in CALS. Schools would include academic contributions from related disciplines, through both “core” and “affiliate” faculty, allowing for more explicit integration among disciplines and development of thematic strengths, more integrated design of undergraduate and graduate curricula and outreach programs, and more strategic and flexible resource allocation. Because Schools are a new concept within CALS, additional discussion with faculty and college and university leadership is required to fully develop these ideas and work toward implementation. The Department of Applied Economics and Management will be renamed as a School, bringing a greater level of visibility and external respect to an already very successful unit, and enhancing naming opportunities.
- We propose creation of a School of Environmental Sciences, pending additional discussion with faculty and college and university leaders. Such a School would integrate across biological, physical, and social sciences to address challenges in understanding and managing the Earth’s systems and resources, and would include “core” faculty from several existing departments that would be merged to create the School, and “affiliate” faculty from other related departments on campus. Such a School would better allow CALS and Cornell to meet the very significant environmental challenges facing society by improving the requisite integration of research, curricula and extension programs across the behavioral and life sciences, the earth and atmospheric sciences, the social sciences, and the mathematical, physical, engineering, and information sciences.
- Plant sciences are a core programmatic theme for CALS. The five departments that contribute to this theme will be consolidated into three larger departments that will be coordinated as a Plant Sciences Cluster. An executive council will be created to manage the budget allocation to all of the plant sciences, and catalyze joint strategic planning among these units. The clustered departments will collectively coordinate undergraduate and graduate education paying particular attention to curriculum and graduate student recruitment and support. Faculty hiring will be prioritized among the three departments based on their unified strategic plan. Clustered Departments will include Plant Biology, Plant Breeding and Genetics, and Horticulture and Crop Sciences. This organizational structure may evolve into a School of Plant Sciences in the future.
- Faculty in several existing CALS departments may affiliate with one of these Schools as they are established, but they will remain housed in their home department.
- The Department of Education is relatively small compared with its peers nationally, most of which are actually full Colleges of Education. To address this issue within Cornell budget constraints and to ensure ongoing access for Cornell students to teacher education, CALS proposes to explore partnerships and affiliations for the Department of Education and its faculty and programs with other departments within CALS and with other institutions in New York State.

- Restructuring of academic administrative support in CALS preceded the current mandate for budget reductions. Implementation of this model will be accelerated with the proposed changes in academic units. Department-based administration will continue to be consolidated into administrative teams with a Senior Administrative Manager overseeing other administrative units. Each Senior Administrative Manager will have a direct reporting relationship to a home department chair and the Associate Dean for Finance and Administrative Services and a dotted line relationship to other chairs in the team. The Department Administrative Managers within the combined units have a direct reporting relationship to the Senior Administrative Manager.

# **RESTRUCTURING THE COLLEGE OF AGRICULTURE AND LIFE SCIENCES**

Academic Task Force Report  
November 4, 2009

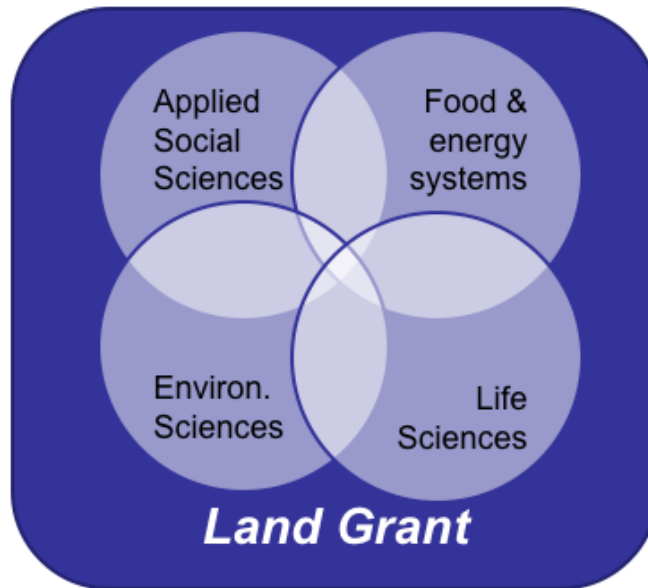
In May 2009, Provost Kent Fuchs asked each college to develop a plan for broad restructuring to account for a possible cumulative reduction in revenues of 15% and thereby position itself for strategic growth in the future. In this planning activity, colleges were to consider organizational structure and department alignment, undergraduate majors and curriculum, graduate fields, outreach and extension activities, administrative functions and relationships with other units in the University. In response to this charge, the CALS constituted a Strategic Advisory Committee (SAC) consisting of a subset of department chairs, faculty, college deans and department administrative managers and asked this group to provide recommendations on how to respond to the Provost's request (see membership list and charge in Appendix I). The SAC met weekly and communicated regularly with the College leadership, department chairs, faculty and staff. As ideas were generated they were shared broadly with the CALS community and feedback was used to refine these ideas. This report is a synthesis of the recommendations proffered by the SAC and addresses four broad issues: 1) what shall CALS be; 2) how shall CALS meet current budgetary constraints; 3) how shall CALS restructure in light of these budgetary constraints and best be positioned to fulfill its academic mission; and, 4) how shall these changes be implemented?

## **1. What Shall CALS Be?**

The College of Agriculture and Life Sciences at Cornell University strives to be the preeminent Land Grant institution that, through its educational, research and extension programs, develops the knowledge, technology and human capacity to address the most challenging issues facing society relating to the environment, food and energy systems, and community and economic development. CALS strives toward this vision by pursuing the following mission elements:

- Providing a world-class education for our students and supporting life-long learning;
- Advancing productive and sustainable food and fiber systems that support safe and secure food needs and contribute to sustainable energy supplies;
- Understanding the unity and diversity of life and promoting wise stewardship of the environment and natural resources; and
- Fostering economic vitality and facilitating individual community health and well-being.

The thematic relationships within the College required to achieve this mission are depicted in Fig. 1.



**Figure 1.** Overlapping academic themes for the College of Agriculture and Life Sciences.

As a Land Grant institution, CALS generates new knowledge and applies this knowledge to real-life problems, distributes knowledge through Cooperative Extension and other outreach mechanisms, and offers curricula that blend liberal and practical education accessible to students, enabling them to develop their civic responsibility and preparing them for leadership. In order for CALS to best make use of its strategic advantage in developing solutions to pressing societal issues such as sustainable and secure food and energy, climate change and biodiversity loss, it is essential to recognize that the basis for and solution to these challenges lies in understanding the characteristics and dynamics of coupled human and natural systems. The human footprint on global biological resources continues to expand through population growth and increasing wealth that drives the desire for lifestyles that require more resources. As a result, socioeconomic systems drive changes in natural systems through demands for resources and the impacts that these demands directly and tangentially make. In turn, local and global changes in natural systems have far-reaching impacts on human social and economic activity. The coupling of human and natural systems requires that issues confronting these coupled systems be addressed in a holistic manner. Research must occur in an interdisciplinary and multidimensional fashion and the public, citizens, and policy makers must be engaged. The integration of biological and social sciences within the context of the Land Grant philosophy is, thus, essential for CALS to provide the basis for and solutions to these critical problems.

To attain these broad aims, CALS will pursue the following goals:

- Ensure that the Land Grant mission is an operating philosophy for all CALS' programs and contribute to the leadership of the global Land Grant mission of the University.
- Evolve undergraduate curricula to foster interdisciplinary approaches that integrate quantitative thinking and qualitative understanding, building capacity to understand and help solve important problems across the globe.

- Provide leadership for agricultural and food systems research and extension programs that advance systems perspectives, sustainability, economic development, and environmental stewardship.
- Contribute to leadership in the life sciences, including the Cornell Institute for Cell and Molecular Biology, and in translating fundamental biological discoveries into application for the betterment of society.
- Promote interdisciplinary research and education programs, in part by contributing to the leadership of the Cornell Center for a Sustainable Future, that address the major environmental challenges of the 21<sup>st</sup> century such as global warming, development of sustainable energy systems, and conservation of land, water and biological resources.
- Contribute to leadership university-wide in business management, resource economics and applied social sciences contributing to improved public and private decision making and enhancing the well-being of individuals and communities.
- Steward CALS resources focusing on improvement of the physical plant and enlargement of our financial resources.
- Attract a diverse, qualified and highly motivated workforce capable of meeting the leadership demands to achieve our vision of becoming the preeminent Land Grant institution to the world.

## **2. Goals to be Achieved Through Restructuring.**

Four broad goals are to be achieved through a reorganization of the College: First, we will align College programs and activities to reflect a cumulative 15% reduction in revenue. Second, we will adopt undergraduate and graduate curricula to be more interdisciplinary, better coordinated and more responsive to changing student and societal needs. Third, we will promote research that is interdisciplinary and integrated from discovery to application. Fourth, we will integrate extension and outreach activities so as to be most responsive and effective to stakeholders.

To accommodate a 15% revenue reduction, CALS must reduce the number of professorial faculty from approximately 370 currently to approximately 330. Such a reduction can only occur by curtailing hiring for a period of time as faculty retire or leave for other reasons. This reduction, coupled with the need to develop strategic growth in the future that builds on our strengths and responds to the needs of our constituents, suggests that the number of academic departments in CALS should be reduced by approximately 30% (e.g., from the current 26 to approximately 17). Precedence exists for such restructuring of departments as several peer colleges of agriculture and life sciences with similar mission and scope have 17 or fewer departments (see Appendix II).

A realignment of academic units must build upon CALS' programmatic strengths and focus on linkages that will enhance its programmatic themes in food systems, sustainability, and life and applied social sciences while forging a college structure that will succeed in realizing targeted budgetary savings. To achieve a total 15% revenue reduction will require CALS to decrease its operating budget by approximately \$21.4 million out of a total unrestricted base of \$143 million. The FY09/10 budget reduction has already accounted for approximately \$6.8 million, leaving a remaining target of \$14.6 million. It is estimated that net faculty reductions of

13 each year, occurring as the result of normal retirements and other attrition, will yield a savings of approximately \$8.8 million within three years, assuming no faculty hires in FY10/11 and FY11/12. Benchmarking department structures in comparable institutions and experience within CALS suggests that an ideal department size is on the order of 25-35 tenure-stream faculty. This number takes into account the goal of department chairs having a 50% administrative responsibility and the need for flexibility in faculty assignments to address the dynamic evolution of research, teaching and extension needs over time. Given the goal of 330 professorial faculty, apportioned among a target of about 18 departments, as opposed to the current 26, the average departmental faculty size achieved would be about 18 to 19 (compared with the current 12.7), more closely approaching the ideal. Of course, some departments will be larger than average and some smaller. Department size is only one driver of departmental realignment. From an academic program perspective, proposed realignments must also promote productive linkages among key mission-oriented themes and position academic units for future growth in key strategic areas.

An additional consideration is the cost of administering the current suite of departments. If the number of departments were reduced to about 18, an estimated net savings of nearly \$0.5 million per year would accrue from administrative efficiencies. Reducing the number of departments would also facilitate the flow of administrative resources to areas of high need as allocation of these resources within departments tends to create barriers to sharing among departments, and further facilitate the consolidation of undergraduate majors and greater collaboration in outreach, which we believe are desirable outcomes for academic reasons as well as financial.

Our educational goal is to make curricula more interdisciplinary and to ensure coordination in instructional planning and delivery. Over the past ten years, all new undergraduate majors have been interdisciplinary and involve more than one academic department. We plan to reduce the number of undergraduate majors in CALS and reconfigure our majors to be more interdisciplinary. These majors will require better coordinated course content, course offerings and allocation of resources to support these teaching endeavors. Priority for substantial revisions include the Plant Sciences major, which now involves faculty from more than five departments, and the several environment-related majors which have an interest in collaborating to develop several concentrations within a single, coordinated major.

Research is increasingly integrated from discovery to application and multidimensional involving the biological, social and physical sciences. Our goal is to facilitate and encourage these integrations while at the same time preserving essential disciplinary strengths. We will work towards this goal by structuring academic units that foster integrative strategic planning and that facilitate exchange of ideas and work among diverse assemblages of investigators.

Extension is an essential component of our academic mission and many faculty devote significant portions of their academic appointments to this educational effort. Extension programs are nearly always multidisciplinary and adroit coordination is a necessity. Equally important is that extension and research must seamlessly integrate to allow a bi-direction flow of ideas and information. We will structure academic units to promote meeting these needs.

### **3. Major Organizational Changes.**

CALS has been engaged in organizational changes over the last decade in order to achieve efficiencies while retaining the capability to meet its teaching, research and extension mission. Thus, several of the changes proposed herein are continuations of efforts with an

extensive and successful history. Among the changes implemented over the past decade are greater coordination between the two agricultural experiment stations in Ithaca and Geneva, coordinated facilities planning between the Ithaca and Geneva campuses, coordinated management of farms, greenhouses, and growth chambers which are essential laboratories for many research and educational programs, coordinated strategic planning by academic units, and adherence to protocols for evaluating faculty position requests that allow for more strategic and coordinated actions.

The organizational changes recommended herein are intended to aggregate academic resources into larger units to promote better strategic planning, to coordinate undergraduate and graduate education, and to facilitate multidimensional research, extension and outreach. Ongoing changes in administrative support structures continue development of a hierarchical organization that allows for improved resource flow and ensures consistency of process and procedures. A description of these changes is provided below and implementation details can be found in Section 4.

Department mergers will occur in the four program areas that are currently represented both in Geneva and Ithaca. When merged, the Geneva-Ithaca departments will continue largely with their current faculty, name, and overall mission. Planning for the Geneva-Ithaca mergers has already begun among department chairs, but we anticipate charging faculty-led merger committees to develop the implementation details and governance and other organizational structures for each new unit. We anticipate the Geneva-Ithaca mergers will be largely complete within one year. In addition, the leadership of the CUAES and the NYSAES are developing resource allocation processes for the new structure. Efforts will continue to integrate applied research and extension, identify efficiencies and collaborative management strategies that can be implemented across all CALS-managed farms and plant growth facilities, and enhance administrative and operational efficiencies among the two campuses (Geneva and Ithaca).

Mergers will also occur among plant sciences departments that may eventually be considered for additional merging into fewer departments, or may, alternatively, eventually evolve into a School of Plant Sciences (see below). We view these initial mergers as a first step to help assess the feasibility, wisdom, and academic benefit associated with a more inclusive merger into a larger unit (i.e., fewer and larger departments, or a School of Plant Sciences). Such assessment will occur formally after five years.

Each new (merged) department will be expected to develop a new strategic plan, so that the mission and trajectory of the department is aligned with the new University strategic plan and the restructured CALS. Administrative support structures for these departments (business and financial management, grants support and management) may be realigned to realize efficiencies and best deliver services given the overall restructuring of the College. Some support will need to be maintained for these functions on each campus for those departments involving both Geneva and Ithaca.

### *Schools as an Organizational Concept*

Consideration of department mergers and consolidations has led us to develop the concept of a “School” as an academic unit in CALS. By coalescing contributions of related disciplines, schools would allow for more explicit integration of resource allocation, permitting strategic development of thematic and disciplinary strengths. Schools would catalyze larger groups of faculty to address broad, multidimensional endeavors thereby enabling coordination of interdisciplinary curriculum, faculty hiring and necessary programmatic support. Development

of a School in a particular area would be a strong statement to various stakeholder groups of the importance that the College places on the programmatic theme. Schools would break down silos that naturally come to exist at the department level. Because Schools are intended to be more integrative and synthetic, they could contain greater numbers of faculty members than departments, and would be organized around “Programs” that would be somewhat fluid to address scientific and societal challenges. School size would range from about 40-45 to 75-80 professorial faculty, a size that allows for significant administrative efficiencies.

CALS has developed unique strengths and a relatively large number of faculty in the areas of applied economics and management, plant sciences, and environmental sciences, with the latter two spread over many departments. We seek to organize these strengths in ways that will increase disciplinary visibility and impact for the future, maximizing synergies, and deploying resources most efficiently and effectively toward meeting our research, teaching, and outreach missions. Two aspects of our proposed restructuring plan, the creation of a School of Environmental Sciences, and the reorganization of five plant sciences departments into a jointly-governed cluster of three departments, with a possible evolution into a School of Plant Sciences, represent major departures from the current CALS structure. The creation of a School of Applied Economics and Management is a natural evolution of this already large and successful department.

The School concept is nascent in CALS and, while there is broad agreement on the organizational needs that Schools would meet and recognition of programmatic benefits related to curriculum, extension/outreach, and research, there are considerable concerns regarding the loss of departmental autonomy and identity for the two potential new Schools of Environmental Sciences and Plant Sciences. Faculty mentoring and evaluation may be more difficult in a larger and more diverse unit. Therefore, the concept of merging existing departments into new Schools of Environmental Sciences and Plant Sciences within CALS is currently considered as a possible evolutionary endpoint that identifies a programmatic target that will take time to reach.

As currently envisioned, Schools within CALS would contain two or more Programs, each with a Program Leader appointed by the Director in consultation with the Dean and faculty members in the Program. Responsibilities of School Directors and Program Leaders are compared in Table 1. A Program could focus on a discipline (e.g., Plant Breeding) or on a subject or theme (e.g., Land, Water and Air Resources). Programs would be more fluid regarding time and membership, i.e., names of Programs can change more readily than names of Schools or Departments to respond to emerging societal challenges, and faculty might more readily change their membership in Programs within a School, depending on the evolution of their scholarship (research, teaching, extension/outreach). Faculty within a School may belong to more than one Program within that School. Programs would have clearly articulated missions, consistent procedures for selecting faculty for participation, and responsibility for academic decisions related to the program.

**Table 1.** Responsibilities of Directors and Program Leaders in Schools

School Director	School Program Leader
<ul style="list-style-type: none"> <li>○ Provide overall leadership for the School, coordinate strategic planning among programs, oversee faculty position requests, report to the Senior Associate Dean.</li> <li>○ Work with Program Leaders on faculty recruitment and retention. Oversee faculty performance issues, informed by faculty annual reviews conducted by Program Leaders.</li> <li>○ Oversee all promotion and tenure decisions, lead discussions and process on each.</li> <li>○ Act as spokesperson and advocate for the School.</li> <li>○ Allocate resources among Programs, including financial and personnel (e.g., Faculty FTEs).</li> <li>○ Oversee overall School curriculum and outreach/extension, with Curriculum Leader and Extension and Outreach Leader.</li> <li>○ With Administrative Manager, oversee administrative support services within the School and coordinating these services with Program Leaders.</li> </ul>	<ul style="list-style-type: none"> <li>○ Provide intellectual and strategic leadership for each Program, consult with the Director on strategic planning, help to inform faculty position requests.</li> <li>○ Mentor and review faculty performance and initiate tenure and promotion reviews. Consult with the Director on these issues.</li> <li>○ Work with faculty and Director on faculty recruitment and retention.</li> <li>○ Manage program-specific resources and administrative services within a program area.</li> <li>○ Contribute to curriculum planning for undergraduate and graduate programs.</li> <li>○ Contribute to extension and outreach program planning.</li> <li>○ Assign teaching responsibilities in agreement with the Director.</li> <li>○ Participate with the Director and other Program leaders in planning and advocacy for program-specific initiatives.</li> </ul>

A School would be a tenure home, just as departments are now. Faculty lines would be allocated by the College to a School. The faculty of the School, via the Director of the School, would prioritize faculty position requests as part of the annual reporting process. The faculty of the School would vote on faculty hiring and faculty tenure. The faculty of the School would develop consistent procedures for promotion review. A possible scenario would be an initial review organized by the Program leader with a vote by the tenured faculty in the candidate's Program followed by a School-wide vote of the entire tenured faculty with a summary recommendation presented to the Dean by the Director. A School-wide process for promotion and tenure would be phased in gradually. During the first five years of a School's operation, a candidate for tenure (or promotion) could opt to have the review held by the tenured faculty of the unit that hired the faculty member.

Schools and Programs would establish procedures for affiliate faculty membership from other Schools, Departments and Colleges. Such affiliations would add breadth, depth and

additional flexibility to the School. Each School would have an Extension and Outreach Leader, a Department Administrative Manager and appropriate numbers of administrative staff. The Director could appoint a Curriculum Leader, as necessary. Alternatively, the School Director could rely on the Directors of Graduate and Undergraduate Studies in related cross-disciplinary fields of study for advice on curriculum decisions. An Executive Council for each School would include the Director, the Program Leaders, the Curriculum Leadership, the Extension and Outreach Leader, and the Department Administrative Manager. The Director will attend meetings with the Dean and Senior Associate Dean(s) and Department Chairs. Program leaders would be invited by the Dean to appropriate meetings.

Undergraduate majors could be within Schools and Departments, or across Schools and Departments. Each undergraduate major would have a Director of Undergraduate Studies and appropriate staff support. Schools would facilitate resource allocation for majors that cut across disciplines, provided most of the affected disciplines are within a School. Similarly, graduate fields could be within or across Schools and Departments. Each field would have a Director of Graduate Studies and appropriate staff support. Fields would have collective responsibility for maintaining core disciplinary depth, strength, and visibility for faculty within Schools. Extension programs could be within or across Schools and Departments, but each School and each Department (as appropriate) will have a Department Extension Leader.

Discussions about these potential new structures over the past few months, particularly a School of Environmental Sciences and a School of Plant Sciences, have generated a great deal of interest and enthusiasm, but also a great deal of concern. We recognize the need for additional detailed and transparent discussions with faculty. In addition, interest and questions about the proposed School of Environmental Sciences have been generated among faculty in at least two other colleges: Engineering and Arts and Sciences. We have had preliminary discussions with the College of Engineering regarding the idea of such a School, but not with the College of Arts and Sciences. These discussions need to occur as the idea of a School of Environmental Sciences is developed further. We describe below the justification for each proposed School.

### *School of Applied Economics and Management*

The Department of Applied Economics and Management (AEM) achieved a milestone this year, with a top-ten ranking by *U.S. News and World Report* for its undergraduate business program. Most peer institutions in these rankings, however, are schools of business. Renaming this program as a School of Applied Economics and Management would bring a greater level of visibility and external respect to an already very successful unit. From a development perspective, a School is a much more desirable naming enticement than is a department. Programmatically, this School could develop program areas in Applied Economics (including development and agricultural economics), Resource and Environmental Economics, and Business Management, bringing more prominence to each area of study and attracting students and faculty to work in these areas. In fact, the recent accreditation review team recommended AEM build on its current strengths to create a focus on sustainability, drawing from appropriate expertise within AEM and elsewhere in the university. For example, collaborations through affiliate faculty membership, between the School of Applied Economics and Management and the School of Environmental Sciences could further enhance a focus on sustainability.

### School of Environmental Sciences

The substantial environmental challenges facing society will require research, curricula and extension that integrate across the behavioral and life sciences, the earth and atmospheric sciences, the social sciences, and the mathematical, physical, engineering, and information sciences. These ideas were affirmed in the recent report from the National Science Foundation's Advisory Committee on Environmental Research and Engineering, "Transitions and Tipping Points in Complex Environmental Systems." The report ([http://www.nsf.gov/geo/ere/ereweb/acere\\_synthesis\\_rpt.cfm](http://www.nsf.gov/geo/ere/ereweb/acere_synthesis_rpt.cfm)) emphasizes the need to understand how social systems integrate with the rest of the Earth's systems, and recommends that institutions evolve in ways that will promote interdisciplinary innovation. Recognizing Cornell's strengths in the environmental sciences disciplines, yet also the challenges of integrating across disciplines while maintaining well-functioning existing academic units, a School of Environmental Sciences is proposed and is being evaluated and discussed.

Issues related to which existing departments and faculty will join the School of Environmental Sciences are under discussion. In an attempt to resolve issues related to maintaining disciplinary identity of key units as it relates to the interdisciplinary mission of a School of Environmental Sciences, while adhering to the proposed general structure for Schools, a system of core and affiliated faculty is proposed, as noted above for Schools. Core faculty would be appointed to the School of Environmental Sciences, which would serve as their tenure home. Affiliated faculty would have various formal levels of involvement with the School, but their appointment and tenure home would remain with their home department. For example, the Department of Natural Resources is considered as a core department for such a School, and has a tradition of interdisciplinary scholarship, involving faculty from the ecological and social sciences; maintaining this interdisciplinary focus is critical to an applied Land Grant mission for the School of Environmental Sciences. The Department of Earth and Atmospheric Sciences has expressed strong interest in the concept of a School of Environmental Sciences if the right mix of faculty members for the School can be identified, as core and affiliate faculty. A subset of faculty from each of the current departments of Crop and Soil Sciences, Development Sociology, Education, and Horticulture would also fit well within a School of Environmental Sciences. Landscape Architecture would be a logical fit as core faculty as well, but may need to remain as a stand-alone department due to accreditation issues, with faculty affiliating with the School. Ecology and Evolutionary Biology faculty have expressed strong interest in moving forward with several aspects of the School of Environmental Sciences, including a unified undergraduate curriculum and outreach program, a stronger environmental sciences Web presence, and affiliate membership. Finally, although some discussion has focused on the involvement of Biological and Environmental Engineering, this department already has a large undergraduate program, two accredited programs, and includes faculty in two colleges, all factors mitigating against integrating as core faculty into a School of Environmental Sciences, although affiliate faculty status may be appropriate. Note also that several departments outside of CALS, such as City and Regional Planning, Design and Environmental Analysis, and Civil and Environmental Engineering, focus on the environment; however, faculty from these departments have not been considered thus far as either core or affiliate members because they are outside of CALS.

Although this model has received considerable support, the success of this model depends on having a strong core of faculty within the School. If the majority of faculty involved in research on environmental issues on campus, including the most prominent faculty, do not

have core appointments within a School of Environmental Sciences, the success of this model would be doubtful. Thus, the system of core and affiliated faculty requires further discussion.

Despite the lack of clarity on potential membership in the School of Environmental Sciences, faculty in the environmental disciplines within CALS already broadly concur on the need to immediately begin integration of the environmental sciences undergraduate curriculum. Following the model used for the Biological Sciences, students would enter Cornell as general majors in the environmental sciences, and declare their concentration by the first semester of their sophomore year. Similarly, faculty nearly universally agree that efforts should be undertaken to develop a comprehensive website reflecting the strengths and options for study of the environmental sciences at Cornell. Although not yet discussed in detail, there is also support for further integration of extension and outreach functions in the environmental sciences. Some of this integration exists already through extension administration, but more could be done in terms of Department Extension Leaders and overall extension faculty collaboration across current departments. This interest in additional cooperation in extension/outreach provides evidence of further support for pursuing the development of a School. We plan to move forward with these integrative elements for curriculum and outreach in the short term, as faculty discussions about the specifics of a potential School of Environmental Sciences, including core and affiliate membership, continue.

### *Plant Sciences Cluster*

The overall goal for reorganizing the plant sciences is to promote and maintain the preeminence of the plant sciences at Cornell by allocating resources more efficiently, reformulating the undergraduate curriculum so as to attract more students and provide a richer academic experience, and by strengthening research and extension collaborations. Whereas a School structure would allow for these changes, at present there is a lack of faculty consensus on creating such an organization. Therefore, we propose an interim alternative structure that accomplishes much of what a School would achieve with the possibility that this structure will evolve into a School in the future.

The units participating in the Plant Sciences Cluster reorganization include all or parts of Plant Biology, Plant Breeding and Genetics, Horticulture, Horticultural Sciences (Geneva), and Crop and Soil Sciences. The objectives for restructuring the plant sciences include the following:

- An executive council will be created that will manage the budget allocation to all of the plant sciences departments. This will catalyze joint strategic planning among the plant science units.
- Newly-created departments will be sufficiently large so as to gain administrative efficiencies. To achieve this, the current five departments will be consolidated into three larger departments. These departments will function as regular academic units within the college. Over time, there may be two departments if an organizing principle can be identified that rationally divides the faculty into two units.
- The three departments will collectively develop a common vision for the plant sciences through a unified, dynamic strategic plan that guides the trajectory in an evolving society and physically changing world. The departments will collectively coordinate undergraduate and graduate education, paying particular attention to curriculum and graduate student recruitment and support. Faculty hiring will be

prioritized among the three departments based on their unified strategic plan. Professional development will be synchronized (e.g., seminar series, leadership training) and administrative support will be coordinated among the three units.

To reach these objectives, a Plant Science Executive Council (PSEC) would be created and have responsibility for distribution of a unified budget allocation to the three departments, prioritization of faculty position requests, curriculum revision, assignment of college-allocated TAs, and unification of plant sciences graduate study including a common application portal. The PSEC will be composed of department chairs and one faculty member from each department, at least one of which must represent Geneva. The PSEC will elect a chair who sets the agenda and calls meetings as appropriate. The chairmanship of the committee will rotate over time. The PSEC will have the power to appoint subcommittees to carry out the responsibilities described.

Departments provide a disciplinary home for faculty while preserving the collegiality and support provided by a unit that is not too large. Department leaders are expected to collaborate and collectively address the items described above that are not under the purview of the PSEC. The new departments will consist of the following:

1. A department with a majority of faculty from Plant Biology;
2. A department with a majority of faculty from Plant Breeding and Genetics, and possibly some from Horticulture Sciences; and
3. A department with faculty from the current Horticulture, and Crop and Soil Sciences departments.

Each new department may consist of faculty from both Ithaca and Geneva and each will, as now, contain scientists capable of conducting translational research. A goal is for departments to share important support functions, achieve economies of scale, and improve the general level of support needed for them to function effectively through a common business management team, a common grant preparation support team and shared IT support. Each department will continue to have a main office with necessary dedicated administrative support (possibly involving only an administrative assistant, depending on department and graduate field size). Each will control its own budget after allocation from the PSEC. Faculty members with appropriate credentials and interests would be able to join any of the three departments. With respect to joint and adjunct appointments (e.g., for USDA scientists), existing arrangements would remain in place with retention of status and privileges. In order to achieve constructive collaboration and the stated objectives, faculty will be expected to:

- embrace greater diversity within the new departments, and respect and support the work of colleagues in the other plant science departments;
- understand the resources, challenges, and constraints of new colleagues in the new departments, and seek opportunities to build synergies and create efficiencies;
- find creative approaches to maintain program identities while working across departmental lines in areas of teaching, research, and extension; and
- exhibit behaviors and actions that promote the greater good.

This structure and will be evaluated for effectiveness by the college administration and department leadership five years after implementation. As part of that evaluation, moving

towards adoption of a School structure or reducing the number of departments from three to two will be considered.

### Academic Administrative Support

Restructuring of academic administrative support in CALS preceded the current mandate for budget reductions. Implementation of this model will be accelerated with the proposed changes in academic units. In June 2008, the CALS Administrative Managers Task Force reported to Dean Henry final recommendations for administrative restructuring in CALS. Implementation of the plan began in July 2008. The plan called for the consolidation of department-based administration into administrative teams with a Senior Administrative Manager overseeing other administrative units. Each Senior Administrative Manager would have a direct reporting relationship to a home department chair and the Associate Dean for Finance and Administrative Services, and a dotted line relationship to other chairs in the team. The Department Administrative Managers within the combined units have a direct reporting relationship to the Senior Administrative Manager. The administrative teams proposed for the college were grouped based on geography, size of units, numbers of faculty and senior academics, overall expenditures, sponsored program expenditures, and teaching contact hours within the cluster. Approximately six administrative teams were recommended. Analysis indicated that the most significant factor in the level of administrative support necessary in a department was related to the number of faculty and senior academics.

Two administrative teams previously created were merged into the Senior Administrative Manager structure—one in Geneva and the other serving Landscape Architecture, Communication and Education. Subsequently, two additional pilot teams were launched with the hiring of two Senior Administrative Manager and the formation of two administrative teams to support eight additional departments. With the onset of the recession, the loss of New York State funding, the serious structural deficits at the University level, and the mandated overall review of operations across and within colleges, the rollout of additional teams was delayed pending the final outcome of the proposed academic restructuring of departments in CALS. As the new academic structure of the college unfolds, a realignment of administrative resources will be undertaken.

## **4. Implementation Plans.**

Achieving restructuring goals to position CALS for a strong future requires the active engagement of all CALS departments. Implementation issues are outlined below, according to the magnitude of potential restructuring effect on each unit. These issues are presented in general terms at this point. As we proceed with implementation, we will develop the specific activities required. Full implementation (i.e., reaching the final desired endpoint) will take several years to be realized.

This description is intended as general framework, and is organized into six sections: (1) departments whose membership will largely remain as it is currently; (2) departments merging into new department structures; (3) departments that will eventually merge into new School structures; (4) departments that will pursue affiliations and partnerships with other entities; (5) general implementation issues associated with the concept of Schools within CALS; and, (6) details regarding governance, administrative, and procedural aspects of mergers and

consolidations. The motivations and desired academic outcomes underpinning this proposed new college structure were described above.

#### 4.1 Departments Remaining Largely the Same

The departments in this category will continue largely with their current faculty, name, and overall mission, although some may experience relatively small additions of faculty from other units in the short term, or assignment of their faculty to affiliate positions in CALS Schools to support the broader, integrative mission of those units (see Section 5 for more detail). Every CALS unit (department or school) will be expected to develop a new strategic plan, so that the mission and trajectory of each unit is aligned with the new University strategic plan, as well as the new structure of CALS. Administrative support structures for these departments (business and financial management, grants support and management) may be realigned to realize efficiencies and best deliver services within the overall restructuring of the College. Implementation issues, major strategic program needs, and general approaches are summarized for each unit below.

##### *Animal Science*

- The undergraduate major in Animal Science will be revised by the department faculty to create a more coherent and organized curriculum.
- The potential role for Animal Science faculty in the Animal Physiology Program of Study in the Biological Sciences major will be assessed by the department faculty in partnership with the faculty and staff of the Undergraduate Biology Program and the College of Veterinary Medicine (CVM), as the CVM may reduce its current role.
- Some faculty will participate in the CALS Agricultural Sciences undergraduate major; this need will be determined through discussions of the Agricultural Sciences faculty, curriculum committee, Director of Undergraduate Studies, and CALS leadership.
- Strategic planning will include assessment of alternatives for financial and academic program aspects of the Harford Teaching and Research Center supporting the dairy, beef, and sheep programs. Achieving deficit reduction and a sustainable business model are among the chief goals, while continuing to support the priority research, extension, and teaching needs of Animal Science into the future.

##### *Applied Economics and Management*

- Some faculty will affiliate with the School of Environmental Sciences, particularly those in Environmental and Resource Economics (see Section 4.5).
- Strategic planning will include response to the recent accreditation review that recommended emphasizing and building programmatic strengths in sustainability and globalization, particularly those related to the undergraduate program.
- Discussions involving the Deans of related colleges will focus on fostering greater collaboration among business and management faculty and programs, particularly those related to undergraduate and graduate instruction.

- We propose changing the name of the department to the School of Applied Economics and Management. Such a name change recognizes the relative size and complexity of the unit, makes it more comparable to the names of peer and competitive institutions, and reflects the goals we have for schools (see Section 5).

#### *Biological and Environmental Engineering*

- Some faculty will affiliate with the School of Environmental Sciences, particularly those in the soil and water program within Biological and Environmental Engineering (see Section 5).
- Collaborations will continue with other units in the College of Engineering (particularly Biomedical Engineering and Civil and Environmental Engineering) to offer the two accredited undergraduate majors in Biological Engineering and Environmental Engineering.
- Development of an extension program integrated with research is expected.

#### *Biological Statistics and Computational Biology*

- Collaborations in statistics will be identified with other statistics units on campus, particularly those related to undergraduate and graduate teaching and advising.
- Affiliation of faculty with Computer and Information Science and then Weill Cornell Medical College will be explored.
- Collaboration with fundamental biology departments (e.g., Molecular Biology and Genetics) and with translational research groups (e.g., plant breeders) is expected.

#### *Communication*

- Additional expertise in and focus on research methods will be achieved by reassignment of one or more faculty from other unit(s) to Communication (e.g., from Education). The department will address the need for future focus in this area as it develops its new strategic plan.
- Collaborations and formal shared appointments will continue with Information Sciences.
- The department is analyzing its approach to teaching and its overall course offerings in response to continually increasing undergraduate student demand, to identify how to address this increasing demand with stable or declining resources.
- A clear articulation of the department's future efforts in extension should be articulated in its new strategic plan.

#### *Development Sociology*

- Some faculty will affiliate with the School of Environmental Sciences, particularly those in environmental sociology areas (see Section 5).

### *Ecology and Evolutionary Biology*

- Some CALS faculty will affiliate with the School of Environmental Sciences, particularly those in population, community, and ecosystem ecology; appropriate Arts and Sciences faculty will also be invited to affiliate with the School of Environmental Sciences (see Section 4.5).
- Partnership with the College of Arts and Sciences will continue. Assessment of administrative functions (business and financial management, grants support, etc.) will occur to identify greater efficiencies and reduce any redundancies.

### *Microbiology*

- Several faculty from the Department of Plant Pathology and Plant-Microbe Biology in Ithaca may relocate to this department. A faculty committee including faculty from both departments, in consultation with the CALS leadership, will assess the relative value of such a relocation.
- Some faculty will affiliate with the School of Environmental Sciences (see Section 4.5).

### *Molecular Biology and Genetics*

- Partnership with the College of Arts and Sciences will continue. Assessment of administrative functions (business and financial management, grants support, etc.) will occur to identify greater efficiencies and reduce any redundancies.

### *Neurobiology and Behavior*

- Partnership with the College of Arts and Sciences will continue. Assessment of administrative functions (business and financial management, grants support, etc.) will occur to identify greater efficiencies and reduce and redundancies.

### *Nutritional Sciences (Division)*

- Partnership with the College of Human Ecology will continue.
- The CALS undergraduate major in Nutritional Sciences should be revised to include a focus on the agricultural/food system in which “nutrition” is situated, and to distinguish it from the CHE undergraduate major of the same name.
- The Division has a specific negotiated agreement regarding resources and administration. The agreement will be revisited as necessary pending the new university budget model.

## *4.2 Departments Merging into New Department Structures*

Each new (merged) department will be expected to develop a new strategic plan, so that the mission and trajectory of the department is aligned with the new University strategic plan and the restructured CALS. Administrative support structures for these departments (business and financial management, grants support and management) may be realigned to realize efficiencies and best deliver services given the overall restructuring of the college. Some support will need to be maintained for these functions on each campus for those departments involving both Geneva and Ithaca. Overall implementation issues, major strategic program needs, and general

approaches are summarized for each unit below. Details on merger considerations are in Section 4.6. General implementation steps include the following:

- Appoint and charge faculty committees to develop programmatic, governance, and structural aspects of each merged department.
- Appoint and charge a staff committee to develop administrative support structures for the new departments, in consultation with the faculty committees.
- Consider consolidation or redefinition of undergraduate major(s) and Graduate Fields associated with the departments pre- and post-merger. Work with the CALS Office of Academic Programs and/or the Graduate School on internal and external (e.g., SUNY and New York State) approvals required to implement any formal changes.
- Review ideas periodically with CALS leadership.
- Develop implementation time line with faculty committee, department chairs, and CALS leadership.
- When appropriate, discuss with CALS Chairs, the CALS Faculty Senate, and with stakeholder and advisory groups.
- Gain guidance from VP Ron Seeber and Government and Community Relations regarding next steps for SUNY approval.
- Gain guidance from Sr. VP John Siliciano regarding next steps for Cornell Board of Trustees approval, as needed.

*Entomology-Ithaca and Entomology-Geneva: Changing to a Department of Entomology*

- Greater faculty participation in teaching undergraduate biology should be explored.
- The faculty of the new department should assess, with the CALS leadership and the Undergraduate Biology Program, the merits of continuing both an Entomology undergraduate major, as well as a Program of Study in Insect Biology in the Biological Sciences major. The faculty should also assess, with the leadership of the Plant Sciences and Agricultural Sciences undergraduate majors and the CALS leadership, active participation in the Plant Sciences and Agricultural Sciences undergraduate majors, especially in the broad area of plant protection.
- Coordination and articulation of the extension program in a consolidated department will improve, leading to more efficient deployment of faculty resources.
- Greater participation of Geneva-based faculty in the undergraduate and graduate teaching program is expected.
- Strategic planning for the new department will identify programmatic strengths appropriate to maintain and build on each campus, including consideration of horticultural crop protection from insects and mites (representing the current focus in Geneva), and basic and applied aspects of the behavior and biology of insects and related arthropods (current focus on the Ithaca campus). Both campuses are expected to continue to use approaches ranging from cellular and molecular, including genetics/genomics, to populations and communities.

*Food Science-Ithaca and Food Science and Technology-Geneva: Changing to a Department of Food Science*

- These units have been functioning as one in some respects already, through the Cornell Institute of Food Science. Strategic planning for the new department will identify appropriate programmatic themes for each campus. In general, the Geneva campus will continue to focus on plant-related foods and beverages including enology, and the Ithaca campus will continue to focus on animal-related foods and beverages (primarily dairy), with both holding expertise in food safety and food quality, processing technologies for value-added food products, and foods as biomaterials.
- Faculty on both campuses will continue their active participation in extension and teaching (undergraduate and graduate) activities, with greater coordination and more efficient deployment of faculty resources possible through consolidation.

*Plant Pathology and Plant-Microbe Biology-Ithaca and Plant Pathology and Plant-Microbe Biology-Geneva: Changing to a Department of Plant Pathology and Plant-Microbe Biology*

- Several faculty from the Ithaca campus may be transferred to the Department of Microbiology to achieve a better alignment of faculty expertise and distribution of faculty resources among departments. A committee including faculty from both departments (PPPMB-Ithaca and Microbiology), in consultation with the CALS leadership, will assess the relative value of such a relocation.
- Some faculty may affiliate with the School of Plant Sciences if it is created in the future (see Section 5).
- Greater faculty participation in teaching undergraduate biology should be explored.
- The faculty of the new department should assess, with the leadership of the Plant Sciences and Agricultural Sciences undergraduate majors and CALS' leadership, active participation in the Plant Sciences and Agricultural Sciences undergraduate majors in the areas of plant protection.
- Coordination and articulation of the extension program in a consolidated department will improve, with more efficient deployment of faculty resources.
- Greater participation of Geneva-based faculty in the undergraduate and graduate teaching program is expected.
- Strategic planning for the new department will identify programmatic strengths appropriate to maintain and build on each campus, including an overall focus on plant diseases and pathogen interactions with plants, and development of effective control tools and approaches (representing the current focus in Geneva), and filamentous fungi and the interactions of plants with pathogenic and symbiotic microbes (current focus on the Ithaca campus). Both campuses are expected to continue to use approaches ranging from cellular and molecular, including genetics/genomics, to populations and communities. Emphasis on plant commodities and horticultural crops is expected to continue, while the focus on properties of particular taxa of microbes may decrease if some faculty relocate to the Department of Microbiology.

## PLANT SCIENCES CLUSTER

- The five departments identified below will be consolidated to three departments. These three will be responsible for undergraduate majors in Agricultural Sciences and in Plant Sciences. Working together under an Executive Council, the three departments will revise these undergraduate majors and their associated curricula and concentrations (in partnership with other departments as appropriate).
- The three consolidated departments, in partnership with other departments as appropriate, will assess the appropriate set of graduate fields for the future, in discussion with the Graduate School. They will jointly develop and manage a portal for graduate student recruitment and applications.
- Working through an Executive Council, the departments will jointly develop a strategic plan, develop and prioritize faculty position requests for consideration by the College leadership, and jointly deploy graduate teaching assistantships and other core resources.
- Other details regarding multiple-department coordination of plant sciences-related departments are described in Section 5.

### *Crop and Soil Sciences: Merging as below.*

- Faculty will relocate to other unit(s), although the ultimate home for these faculty is still under discussion. The entire department faculty may relocate to a merged Department of Horticulture and Crop Sciences or a merged Department of Plant Breeding and Genetics (see below) with “Soils” faculty affiliating with the School of Environmental Sciences. Alternatively, the “Crops” faculty may relocate to the new Department of Horticulture and Crop Sciences or Plant Breeding and Genetics, and the “Soils” faculty may relocate to the School of Environmental Sciences. These issues require more discussion with faculty. See Section 4.5.

### *Horticulture-Ithaca and Horticultural Sciences-Geneva: Changing to a Department of Horticulture and Crop Sciences*

- Most faculty from both departments will relocate to the new Department of Horticulture and Crop Sciences, possibly joined by faculty from the current Department of Crop and Soil Sciences, as above.
- Several faculty (with expertise in plant breeding) from Horticultural Sciences-Geneva may relocate to the Department of Plant Breeding and Genetics. A few faculty from Horticulture-Ithaca may relocate to the School of Environmental Sciences (i.e., those focused on urban ecology). See Section 5.

### *Plant Biology: No anticipated short-term name change*

- Current faculty will remain in this department.
- Several faculty from other plant sciences-related departments may relocate here.

- This department will assess its appropriate involvement in both the Plant Biology Program of Study in the Biological Sciences major and its role in the Plant Sciences major in partnership with other plant sciences-related departments.

*Plant Breeding and Genetics: No anticipated short-term name change*

- Current faculty will remain in this department.
- Several faculty (with plant breeding expertise) from the Department of Horticultural Sciences-Geneva may relocate here, as well as faculty from the Department of Crop and Soil Sciences.

4.3 Departments Merging Into New School Structures

The departments in this category represent reconfigurations into Schools. These movements will take considerably more time than the Geneva-Ithaca department mergers described in Section 2, and must involve faculty participation in planning these new entities.

Initial discussions regarding the creation of Schools have begun with department chairs and *ad hoc* faculty groups. We anticipate appointing and charging a faculty committee to further articulate the concept of the School of Environmental Sciences, with membership from departments anticipated to comprise the “core” faculty and the “affiliate” faculty of the School, and in consultation with deans from other colleges as appropriate (most probably Engineering and Arts and Sciences). Similarly, we anticipate appointing a faculty committee to develop the concept of the cluster of plant sciences department, including the functioning of the Executive Council, in consultation with the College leadership; this cluster may eventually change into a School of Plant Sciences, or it may remain an integrated cluster. The faculty of the Department of Applied Economics and Management have already discussed the concept of a School, although details must still be developed regarding specific implementation activities.

When established, these schools will have names and new missions that address the functions of research, teaching, and extension. Each new school (or department cluster) will be expected to develop a new strategic plan, so that the mission and trajectory of each unit is aligned with the new University strategic plan and the restructured CALS. Administrative support structures for these schools and the Plant Sciences Cluster (business and financial management, grants support and management) will be realigned to realize efficiencies and best deliver services given the overall restructuring of the college. Details on merger considerations are in Sections 5 and 6. We anticipate charging faculty-led committees to develop the implementation details and membership, governance, and other organizational structures for each new school.

*Earth and Atmospheric Sciences*

- Scenario 1: CALS faculty will relocate to the School of Environmental Sciences. College of Engineering faculty will remain in the College of Engineering; some will hold affiliate status in the School of Environmental Sciences.
- Scenario 2: All Earth and Atmospheric Sciences faculty (CALS and College of Engineering) will relocate to the School of Environmental Sciences.

- Relative merits of Scenario 1 vs. 2 are under discussion between CALS and the College of Engineering leadership, and may move to include broader faculty discussion if warranted.

#### *Landscape Architecture*

- Faculty as a whole will either relocate to the School of Environmental Sciences, or will remain as a stand-alone department but with every faculty having an affiliation with the School of Environmental Sciences. The primary factor influencing this decision is the set of constraints and requirements posed by accreditation of the undergraduate and graduate programs and the need to have an identifiable autonomous unit for accreditation purposes.
- The Department Chair will work with the CALS leadership and the accrediting institutions to identify the issues associated with accreditation and realignment, and develop a recommendation for how to proceed.

#### *Natural Resources*

- Faculty will relocate to the School of Environmental Sciences.

#### *Other Departments Related to the School of Environmental Sciences (as Noted in Sections 4.1 and 4.2)*

*Applied Economics and Management*—affiliate faculty

*Biological and Environmental Engineering*—affiliate faculty

*Crop and Soil Sciences*—soil scientists may be “core” or “affiliate”

*Development Sociology*—affiliate faculty, although some environmental sociologists may become “core”

*Ecology and Evolutionary Biology*—affiliate faculty

*Horticulture*—“urban ecology” faculty may relocate as “core”

*Microbiology*—affiliate faculty

*Other departments in other colleges*—possible affiliate faculty

#### *4.4 Departments Exploring Partnerships and Affiliations with Other Entities*

##### *Department of Education*

Most other agricultural sciences education programs in the U.S. are located at universities with substantial schools or colleges of education from which the more specialized programs can draw teaching and other resources. Given the relatively low numbers of New York-based agricultural science teachers the Education Department has produced in comparison to the number of faculty required to maintain the Cornell Teacher Education Program, coupled with the success of the new, broader Agricultural Sciences major in CALS and its ability to provide a sound academic base for a variety of agriculture-related careers, we believe a different strategy is necessary given the fiscal constraints facing the College.

We will encourage faculty with current outreach functions in the Department of Education with important stakeholder relationships to develop affiliations with other units in CALS. For example, the Rural Schools program and the Empire State Food and Agricultural Leadership Institute (LEAD New York) could affiliate with or relocate to the Community and Rural Development Institute in the Department of Development Sociology. Similarly, the agriculture-related programs (Agricultural Education Outreach Program, New York Agriculture in the Classroom, and FFA—formerly known as Future Farmers of America) should substantially strengthen their affiliation with the faculty and staff in the Agricultural Sciences undergraduate major.

We will explore potential arrangements with other teacher education programs in the region (e.g., Ithaca College, SUNY-Cortland) and with the other Masters-level agricultural sciences education program in New York (SUNY-Oswego) to provide the Education and certification components for agricultural science teachers, while CALS continues to provide a first-class Agricultural Sciences education for undergraduates. Under this model, we would provide encouragement and incentives for CALS' Agricultural Sciences faculty to serve as mentors for student teachers who are pursuing certification through these partner institutions.

#### Overview of implementation issues:

- Discussion with Education faculty.
- Discussion of potential affiliation partners for the outreach programs as noted above.
- Discussion with VP Ron Seeber on issues related to developing SUNY partnerships.
- Discussion with Commissioner of Agriculture and Markets Patrick Hooker to identify stakeholder issues.
- Discussion with Government and Community Relations regarding stakeholder issues.
- Discussion with CALS Faculty Senate.
- Discussion with CALS Advisory Council.
- Discussion with SUNY Chancellor Nancy Zimpher regarding proposed agreements with other institutions.
- Discussion with key stakeholder groups (e.g., Farm Bureau, agricultural education communities and advisory groups).

#### 4.5 Schools Within the College of Agriculture and Life Sciences

Implementation issues for the new School(s) proposed for CALS are summarized below. The School of Applied Economics and Management represents the least realignment, as it builds from the current Department. We anticipate the School of Applied Economics and Management can be achieved in a relatively shorter time frame (perhaps one year), whereas creating the School of Environmental Sciences will likely take at least two years to work through the details in an inclusive and transparent manner. As noted earlier, the concept of a School of Plant

Sciences will be tested through development of a cluster of plant sciences departments working in a coordinated manner, including through resource allocation.

#### *School of Applied Economics and Management*

- Elevating the status of the Department of Applied Economics and Management to a School has been under discussion since well before the Reimagining Cornell efforts began, and related to development and programmatic goals, including external visibility compared to peers and competitors. Dean Henry led initial discussions with the relevant Cornell Deans (and the Provost), and received support in Spring 2009 for such a change. Implementation was put on hold when the Reimagining Cornell effort began. However, CALS seeks to proceed with this renaming. Implementation steps include:
  - DDD letter to the Cornell community.
  - Discussion with VP Ron Seeber and Government and Community Relations regarding next steps for SUNY approval.
  - Discussion with Sr. VP John Siliciano regarding next steps for Cornell Board of Trustees approval.
  - Discussion with stakeholder and advisory groups as appropriate.

#### *School of Environmental Sciences (and perhaps eventually a School of Plant Sciences)*

- Implementation steps include:
  - Appoint and charge a faculty committee to develop programmatic, governance, and structural aspects of the School, including faculty from likely “core” departments, as well as from likely “affiliate” departments. Faculty develop a strategic plan for their new school, identify and develop appropriate undergraduate majors, and assess whether changes are required in the graduate fields associated with the new school.
  - Appoint and charge staff committee to develop a plan for administrative services for the School(s), in consultation with the faculty committee(s).
  - Review ideas periodically with CALS leadership.
  - Develop implementation time line with faculty committees, affected department chairs, and CALS leadership. We recognize that intermediate steps may be required to lead to the ultimate desired outcome of a new School.
  - When appropriate, discuss with CALS Chairs, with the CALS Faculty Senate, and with stakeholder and advisory groups.
  - Develop spatial relocation plan, with involvement of CALS Facilities, the university space planner, and informed by the CALS Facilities Master Plan.
  - Gain guidance from VP Ron Seeber and Government and Community Relations regarding next steps for SUNY approval.

- Gain guidance from Sr. VP John Siliciano regarding next steps for Cornell Board of Trustees approval as needed.

### *Specific Issues for the School of Environmental Sciences*

- A faculty committee will explore options for an appropriate name, considering the “core” and “affiliate” faculty and likely future programs. We recognize that a large number of faculty across Cornell’s campus consider themselves as working in the environmental sciences broadly defined. The faculty committee and implementation discussions will need to be inclusive in their reach, involving appropriate interests across the campus.
- Discussion among the Deans may be appropriate as these plans unfold, as at least three (perhaps more) colleges are visibly involved with programs related to environmental sciences. This School has a clear potential to be a cross-college entity, so such considerations should be examined from the initial stages of planning.
- A faculty committee will examine current undergraduate majors related to environmental sciences with the goal of reducing and consolidating the number of majors; faculty will develop a core environmental sciences major with appropriate concentrations in more specific subject areas. This work will proceed and can be implemented even before a School is created.
- An integrated extension program building from the research foci in the School will be developed.

### 4.6 Mergers and Consolidations of Departments and Schools: Details on Governance, Administration, and Procedural Concerns

- Basic authority for administrative structures of colleges (including departments and schools within them) rest with the Dean. However, it is highly desirable to create administrative and academic structures transparently, in consultation with the faculty.
- CALS Faculty Senate (through its Executive Committee) and the University Faculty Senate (through the Dean of the Faculty) should be kept informed regarding the planning and restructuring processes in CALS as they unfold.
- Tenure transfer is most straightforward when entire units are being combined, i.e., wholesale joining of one department with another. The tenured faculty from the original departments automatically receive tenure in the new unit, following university procedures. In cases where one or some faculty from one department are moving to another department, the issue of a new tenure vote may be of concern and may decrease the willingness of faculty to openly consider the programmatic benefits of new academic groupings; we are, therefore, inquiring of the Provost’s Office how tenure transfer to a new unit can be handled most effectively and efficiently when reconfigurations of department memberships are occurring.
- Initial discussions with the university administration indicate that untenured faculty in departments affected by mergers (into new departments or schools) may be considered for tenure by the original faculty involved in hiring them, not necessarily by the larger faculty of their new academic home. The details of this process need to

be determined. Tenure consideration for new faculty hired into new units would be done by the entire faculty of that new unit into which they were hired.

- Developing overall financial models for merged units will ultimately depend on the new university budget model, so initial attention regarding planning mergers should focus most heavily on the academic issues rather than financial issues.
- Administrative structure of merged Geneva-Ithaca departments will need to identify suitable governance models. These may involve a Chair-Associate Chair model, with specific responsibilities, autonomy, and authority articulated. A Chair need not always come from one campus (e.g., Ithaca). Specific issues to be explored include support staff supervision in the two locations, and faculty and staff performance review procedures (including SIP allocations), with a goal of fairness and consistency. Appropriate administrative support will be required on both campuses. Geneva-Ithaca departments have additional details to consider, including grants and accounts support which have used different models on the two campuses, consolidated budgeting (including federal and state), allocation of Experiment Station and Smith-Lever funds, allocation of core-funded (and other) graduate assistantships, location and frequency of faculty meetings, and physical presence of Chair/Associate Chair.
- Consider consolidation or redefinition of undergraduate major(s) and graduate fields associated with the departments/schools pre- and post-merger. Work with the CALS Office of Academic Programs and/or the Graduate School on internal and external (e.g., New York State) approvals to implement any formal changes as required.
- Administrative structure of Schools will require some type of Executive Council to support the Director. An Executive Council may include an associate director for undergraduate studies, an associate director for graduate studies, and an associate director for extension/outreach, or may follow a different model.
- At least initially, the use of an Executive Council in each merged department may be desirable to consider.
- All merged/new units will need to consider issues of:
  - Governance;
  - Strategic planning, including articulation of research, extension, and teaching programs, encompassing consideration of revised/reformulated undergraduate majors and concentrations and graduate fields and the curricula to support them;
  - Administrative staffing and support including financial and grants management, as well as clerical;
  - Allocation of core support, especially for practices that have differed among units (e.g., TA allocations; management of research farms);
  - Relocation and reformulation of duties (if any) associated with non-professorial academic positions and all other staff in existing units;
  - Reformulation of advisory councils and committees;

- Revision of endowment agreements as needed;
  - Development of new web sites;
  - Overcoming spatial and communication challenges due to physical relocations of faculty and staff; and
  - Reconciliation of current financial resources in each existing unit (although this will depend on a new university budget model to finalize).
- In addition, external support will be required to assist each new unit in dealing with change, recognizing and respecting differences in existing academic cultures and developing a new culture for the new unit.
  - We recommend faculty committees be created for each new unit to work through these details, and processes be supported to foster exchange of ideas and sharing of information as these plans unfold. Frequent and transparent communication will be required among faculty, department/school leadership, college leadership, and the CALS Faculty Senate, with appropriate involvement of staff and students and consultation with stakeholder and advisory groups.

## **Appendix I**

### **CALS Strategic Advisory Committee Membership, Timeline and Charge**

**CALS Strategic Advisory Committee  
Membership, Timeline and Charge**

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**Membership 2008-2009**

College Administration

Susan Henry	Dean
Barbara Knuth	Co-Senior Associate Dean
Jan Nyrop	Co-Senior Associate Dean
Marge Ferguson	Associate Dean for Finance and Administration

Department Administrators

Brenda Irvin-Bryant  
Sarah Gould

Department Affiliation

Plant Pathology and Plant-Microbe Biology, Ithaca  
Natural Resources

Faculty

Kathryn Boor	Food Science, Ithaca
Daniel Buckley	Crop and Soil Sciences
Brent Gloy	Applied Economics and Management
Ken Kempfues	Molecular Biology and Genetics
Marianne Krasny	Natural Resources
Katherine McComas	Communication
Max Pfeffer	Development Sociology
Marvin Pritts	Horticulture
Christine Smart	Plant Pathology and Plant-Microbe Biology, Geneva
David Soderlund	Entomology, Geneva

**Timeline**

April:	Charges drafted and planning committees and task forces formed
June:	Initial ideas (strategic and opportunistic)
June/July:	Research and collaboration
August:	Drafts of brief structural change documents reviewed by appropriate constituents
October:	Final documents submitted to President, Provost, and Strategic Planning Committee

## **Charge to the CALS Strategic Advisory Committee**

Provost Kent Fuchs has charged each college in the university to identify how, in light of significantly reduced resources, we can become more focused and can plan for organizational and program changes that will enhance our effectiveness and reduce expenditures. The Provost has asked each college to create a task force that will recommend how the college should be reshaped to maintain excellence in teaching, research and extension/outreach in the context of a possible 15% budget reduction<sup>1</sup>. Of particular interest to the Provost are changes in academic and administrative structures (throughout the university). Each college has been asked to recommend “how the college should be reshaped to maintain and enhance focused excellence in areas of research and teaching in the context of a possible 15% budget reduction.” This includes identifying “areas that are critically important and suggesting structural changes in areas that are weaker and/or not essential to the core mission.”

Even without the directive from the Provost, restructuring of CALS is essential. Budget reductions for fiscal year 2009-2010, when coupled with several other rollbacks over the last 20 years have left the college in a strategically untenable position. Most importantly, we are largely unable to make faculty hires, which are essential if CALS is to remain vibrant and relevant. The requirement to reduce expenditures quickly has necessitated budget cuts where they could be taken, which in turn has led to significant reductions in staff support and concomitant services. Our perception is these cuts in staff support have forced faculty to engage in support-related activities that are not the most effective use of their time. Budget reductions have also disproportionately impacted graduate student support, which weakens graduate programs and impacts undergraduate education. While capital development supported by the State of New York remains robust, CALS has in the past augmented these expenditures in order to meet critical needs that are not met by the State. Such capital projects can no longer be undertaken due to our constrained college resources. Finally, budget projections for the next several years show that there is no ability to launch strategic initiatives, as there are no discretionary resources. We believe these conclusions are valid even if there are no additional budget cuts; with further expenditure reductions the conditions will become even more severe. The solution to the current situation is two-fold: increase revenue while reducing the scope of College activities to allow for a realignment of available resources that will in turn provide strategic flexibility.

The first step in strategic change is to identify the target endpoint. Hence, the first charge to the Committee is to describe what CALS should look like in 5 years; who are our most important stakeholders and what are the products and services that we should provide? This should be done within the context of the college’s Mission, Vision and Goals and the four academic priorities of the college (see attached documents). These statements have been crafted over several years, have undergone widespread review, and are generally accepted as valid starting points. However, the committee is free to recommend changes to these declarations.

With an identified target, several strategies could be used to orchestrate necessary changes in revenue generation and activities. Note that the Provost’s charge does not explicitly identify revenues considerations; however, we feel it important to consider revenue and structure

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<sup>1</sup> The complete charge from the Provost will be provided as a part of a larger briefing document.

simultaneously because actions taken might simultaneously influence both factors. We ask that you consider the following, though this is not necessarily an exhaustive list:

From the standpoint of revenues,

- Are there opportunities for the College to increase the number and distribution of undergraduate students and thereby grow tuition revenue? The university places a cap on first-year students; however, there is no such limit on transfer students. What majors are most likely to be able to accommodate such increases, and how do these majors relate to the mission of CALS? We have in the past targeted the distribution of within-state and out-of-state students at 60:40 (practically, it has been closer to 55-45 in recent years) – is this an appropriate ratio?
- Are there opportunities to increase summer-session instruction and associated revenue streams, and if so, how might it be incentivized?
- Are there opportunities to expand Masters of Professional Studies (MPS) or Professional Science Master's (PSM) programs? CALS offers MPS programs; however, there are relatively few students and there is not a cohesive curriculum or coordinated effort within subject areas. There is evidence for demand and need for these educational programs.<sup>2</sup> What graduate fields are most likely to have both capacity and demand (or could create capacity in response to demand)?
- Are there opportunities for enhanced fund raising and for targeting these revenues to budget relief rather than for new programs?
- Are there ways to increase grant support especially for those programs that have traditionally been supported by diminishing college funds, particularly for those programs judged to be core to the CALS mission?

From the standpoint of College activities and programs,

- Are there departments and/or programs and activities that could be consolidated? Might some programs or departments be merged internally or with other units at Cornell to create focused excellence, enhance strength, or realize efficiencies? Should broader reconfigurations be explored, in partnership with other colleges and the Provost?
- What activities, programs, or departments should be reduced or closed, releasing resources for other purposes? Consider particularly core-funded programs, but recognize that externally-funded programs may also have real costs associated with them.
- How could majors be restructured to more efficiently make use of available and likely reduced faculty resources? Are there areas of curriculum that are redundant and/or outmoded? Should some majors be removed or consolidated and others strengthened? What subject areas are likely to grow in relevance and demand and how can we meet these needs on a college-wide basis rather than program by program?
- Given projected reductions in staff and faculty, how should teaching resources best be deployed to meet instructional needs? What changes in curriculum and requirements for CALS or for specific majors and minors may lead to more efficient use of resources while maintaining educational excellence? Should new technologies and teaching methods be encouraged?

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<sup>2</sup> Professional Science Master's Programs Merit Wider Support. Science 323:1676-1677  
The Professional Science Master's: The MBA for Science. BioScience 59:285

- Which graduate fields could be eliminated and/or consolidated? Which fields might be expanded? Which fields are most important to the College's core mission and should be targeted for investment?
- How can our extension programs be restructured to improve efficiency? Are there extension programs that are not crucial to the core mission of the College? How well do extension/outreach programs reflect a contemporary understanding of the Land Grant mission, which will be relevant into the future? Are there extension/outreach functions that are not closely aligned with the research and educational missions of CALS? Consider both internally and externally funded efforts.
- What are the facilities and services that are less essential and can be restructured for greater efficiency? What structures will best support the academic mission? Which administrative functions might be better done centrally or through sharing arrangements with other units?
- What changes at the university level, or in other units, are important in supporting CALS' efforts for strategic realignment?

After determining the changes that will strengthen and focus CALS while achieving the necessary savings, you should address how to implement your recommendations, what challenges may arise, and what resources and support will be needed to succeed.

## **Appendix II**

### **Comparison of CALS with Colleges of Agriculture and Life Sciences at Peer Institutions**

Cornell	Michigan State	Penn State	NC State	U Wisconsin	U Illinois	Purdue	Ohio State	UC Davis	Virginia Tech
Animal Science	X	Dairy/Animal/Poultry	Animal/Poultry	Animal/Dairy Science	X	X	X	X	Animal/Poultry/Dairy Science
Applied Economics and Management	X	Ag Economics/Rural Sociology	Ag and Resource Economics	Agriculture/Applied Economics	Ag & Consumer Economics	X	X	Agricultural, Resource Econ.	Ag & Applied Economics
Biological and Environmental Engineering	X	X	X	Biological Systems Engineering	X	Agricultural/Biological Eng.	Food/Agriculture/Biol Eng	X	Biological Systems Engineering
Biological Statistics & Computational Biology			X						
Communication			X	Life Sciences Communication					
Crop and Soil Science	X	X	X	X + Agronomy	X	Agronomy		Crop/Ecosystems	X
Development Sociology			Sociology/Anthropology	Rural Sociology	Human and Community Development		Human and Community Development	Human and Community Development	
Earth and Atmospheric Sciences									
Ecology and Evolutionary Biology			Biology						
Education		Ag and Extension Education							Ag and Extension Education
Entomology (I&G)	X	X	X	X		X		X	X
Food Science/Technology (I&G)		X	Food, Bioprocessing and Nutrition	X	FS/Human Nutrition	X	X	X	X
Horticulture	X	X	X	X		Horticulture/LA	Hort/Crop Science	X	X
Landscape Architecture				X		Youth Develop./LA		Environmental Design/LA	
Microbiology			X	Bacteriology					
Molecular Biology and Genetics			Molecular/Structural Biochemistry/Genetics	Genetics & Biochemistry		Biochemistry			Biochemistry
Natural Resources	Fish & Wildlife, Forestry	Forest Resources		Forest and Wildlife Ecology	NR / Environmental Sciences	Forestry/Natural Res.	Environment /NR	Land, Air, Water Resources	
Neurobiology and Behavior									
Nutritional Sciences	X			X	X			X	Human Nutrition, Foods, Exercise
Plant Biology			X					Agric. Plant Biol	
Plant Breeding and Genetics									
Plant Pathology and Plant-Microbe Biology (I&G)	X	X	X			Botany/Plant Pathology	X	X	Plant Pathology, Physiology, Weed Science

Departments at other universities not found in CALS	Michigan State	Penn State	NC State	U Wisconsin	U Illinois	Purdue	Ohio State	UC Davis	Virginia Tech
Community, Agriculture, Recreation/Resource Studies	X								
Packaging	X								
Planning, Design and Construction (w/ social science)	X								
Veterinary and Biomedical Sciences		X							
Environmental and Molecular Toxicology								X	
Urban and Regional Planning				X					
Textiles and Clothing								X	
Number of Departments 26	12	11	16	17	8	11	8	16	11