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The Student-Faculty Newsletter of The Department of Biology
The College of William & Mary

Volume 3, Number 1

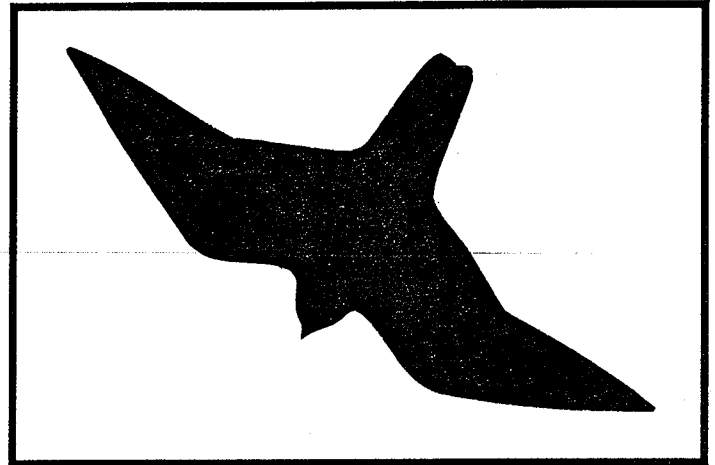
October 12, 1990

23% CUT FROM ALL ACADEMIC DEPARTMENT BUDGETS

Because of a revenue shortfall in Virginia, the state's colleges and universities were directed by the Governor to reduce their budgets. William and Mary's reduction plan translated into a 23% cut in the operating budget for each academic department in the College of Arts and Sciences!

Such a severe reduction can only damage the academic program, especially in light of the nearly flat funding received over the past few years. In Biology, for example, the cutback means fewer supplies in some laboratory courses and in student research, fewer student hourly funds, restricted long-distance telephone calling, elimination of Department-supported travel to academic and scientific meetings, and reductions in a number of other activities.

The Department is making up some of the shortfall with overhead money generated by research grants to faculty, and funds from the Howard Hughes Medical Institute awarded to the department for molecular biology. If the operating budget for Biology is reduced again, or even held at the same level for fiscal 1991-92, the Department will face serious problems in maintaining its program. Continued increased costs in teaching and research demand more, not less, funding. Next year's budget has not yet been determined.



Even with the budget reduction, the Department will meet its most important obligation -- a range of excellent courses for its students. The Biology Department will continue to bring William and Mary students the best possible education in biology.

Biology Students Involved in Lake Matoaka Study

This summer, William and Mary biology students participated in a study of Lake Matoaka. These students -- Jason Hancock, Lisa Jones, Lara Palincsar, and Dina Trobbiani -- worked with Professor Capelli in surveying aspects of the Lake.

Senior Jason Hancock studied the benthic environment of the Lake. Jason took samples of the leaf litter from different

locations at the bottom of the Lake and examined them for the various benthic organisms expected in a lake. Jason's work is an ongoing project, and he is now making comparisons between the data collected in the Spring and in the Fall of the year. In addition, Lake Matoaka will be compared to other area Lakes, such as Lake Powell. *(continued on page 2, MATOAKA)*

*** THREE NEW SPRING COURSES ***

- Bio 404-02 Comparative Neurophysiology, T,Th 12:30-1:50, 3 cr, Bratton. Prerequisite: permission.
- Bio 404-03 Cell Division in Eukaryotes, TBA, 1 cr, Scott. Prerequisite: permission.
- Bio 404-05 Immunology, MWF 2:00-2:50, 3 cr, Lanzalotti, Prerequisites: Bio 202 and Chem 206.
- Three usual Fall courses will be offered this Spring: Microbiology (Coursen), Entomology (Fashing), and Molecular Biology of the Gene (Phillips). Dr. Hall will teach Ornithology.



RELEASING FALCONS IN SHENANDOAH

by Amanda Allen

I had the best alarm clock in the world this summer. For most of the 9 weeks that I spent camping out in the Shenandoah National Park, I was awakened at 5 each morning by the cajoling and chattering of the winged antics of Peregrin falcon fledglings, which I was fortunate enough to help release this summer. An endangered species, the Peregrin falcon, *Falco peregrinus*, has



been making a comeback on the east coast through reintroduction programs, otherwise known as hacking. Dr. Byrd of the Biology Dept. has been a driving force in the recovery program, organizing the Virginia releases.

Immature falcons, most of which have been captive bred and raised in

Boise, Idaho, are brought to a carefully chosen hack site (where likelihood of predation upon by Great Horned Owls or older falcons is slim), in my case 4,000 feet up on top of a mountain in Shenandoah National Park. The young birds, about 30 days old and still literal balls of down, are placed inside of a wooden hack box until they are mature enough to begin flying on their own, in most cases one week. After fledging, the falcons are closely monitored from dawn to dusk by hack site attendants who assume the role of "babysitter" for about 6 weeks, until the falcons are independent. I was not the only Peregrin "parent" from William and Mary; Cary Cowlbeck, Kristin Hallwachs, Marc Stoetzer, and Mandy Marvin all helped man three of the Virginia sites. It is the responsibility of the attendants to feed the falcons (with out allowing the birds to know this and therefore imprinting on the attendants) and protect them from both wild predators and human interference. It was human activity which brought the birds to the brink of extinction through the use of D.D.T., illegal shooting and loss of habitat. Likewise, man must intervene and try to correct some of the damage through such release programs.

Spending such a long time with binoculars around one's neck, perched on rocks high above the Appalachian trail watching the falcons bombing turkey vultures, red tailed hawks and more frequently, each other was an opportunity beyond compare; not to mention educating hikers that wandered up to the site about the program, looking for bears (or they looking for us as attested to by the tooth mark in the cooler, despite hoisting all of our food up on tree branches) and calling a mountain home. The environment is sorely tested by man's negative impact upon it. Wildlife suffers and often ends up on the verge of extinction. Action must be taken to maintain species such as the peregrin falcon, before they too are lost forever. For more information on the hacking process, check out the biology club bulletin board.

BIOLOGY CLUB CALENDAR OF EVENTS

The Biology Club holds regular meetings on Tuesday nights at 7:30 in Millington 117. Check the Biology Club bulletin boards in Millington lobby and outside of Millington 117 for information on upcoming Biology Club events.

October 17: (Wed) Williamsburg Bird Club Lecture "Flights across the Tropics: Birds of Costa Rica" by Jerry Via in Millington 117, 7:30 pm.

October 19-20: (Sat-Sun) Camping Trip in the College Woods. Meet at 5:30 pm at Millington Loading Dock.

October 23: (Tues) Biology Club Meeting; 7:30 pm in Millington 117.

October 28: (Sun) Study Break Trip: Waller Mill Park; See Biology Club bulletin board for details.

October 30: (Tues) Biology Club Meeting; 7:30 pm in Millington 117.

November 3: (Sat) Recycling and Lunch; See Biology Club bulletin board for details.

November 6: (Tues) "The Ins and Outs of Student Research" by Marc Kulaga and Elizabeth Crone.

November 17: (Sun) Trip to the Wildlife Center of Virginia; See Biology Club bulletin board for details.

MATOAKA (continued from page 1)

Junior Lisa Jones worked with Professor Capelli to ascertain the condition of the fish populations in the Lake. Lisa took samples throughout the summer using various techniques (including gill nets and minnow traps) and collected data with respect to the length, weight and species of the fish. Lisa has begun analysis of the data using statistical conversions that relate the length and weight of a fish to its general condition. The research hopes to provide a picture of what species of fish can be found in the Lake and how well those species are doing.

Lara Palincsar found her work on Lake Matoaka an interesting application of techniques she learned in Professor Capelli's Aquatic Ecology class. Lara collected water samples from the Lake and analyzed their chemical composition with a battery of tests. She also measured the temperature and oxygen content of the water at different depths. Although Lara admitted that the lab work could be tedious at times, she enjoyed the opportunity to be on the Lake and declared the experience a very worthwhile one.

Dina Trobbiani studied the plankton in the Lake. Using a special sampling technique, Dina obtained water samples and examined the plankton species in them under a microscope. Dina will be working with the data she has collected to see if any changes occurred in the plankton composition during the course of the summer. She also plans to extrapolate the data to provide a measure of the plankton composition per meter in the lake.

New Faculty Join Department

A number of new faculty faces greeted students this Fall, and Sharon Broadwater continued as a Visiting Assistant Professor.

Greg Phillips is our new Howard Hughes Molecular Biologist, filling a tenure-track Assistant Professor position created by the Hughes Medical Institute's \$1 million award to the Department and College. Dr. Phillips comes to Williamsburg from Princeton where he was doing postdoctoral research in the Molecular Biology Department. Among other areas of interest, he is working on gene fusions to study bacterial protein export. He already has several undergraduate research students in his laboratory and is getting ready to teach Molecular Genetics this Spring.

Lloyd Guth joins the Department as Research Professor of Biology. Dr. Guth, an M.D., comes to us from University of Maryland School of Medicine where he was Chair of the Department of Anatomy. He is a recent recipient of the prestigious Jacob K. Javits award from the National Institute of Neurological Disorders and Stroke (a part of the National Institutes of Health), and is studying models of spinal cord injury for drug evaluation. Dr. Guth is teaching a 1-credit Topics Course on Nerve Regeneration this semester. After renovations of the Animal Room are complete, he will resume his research program.

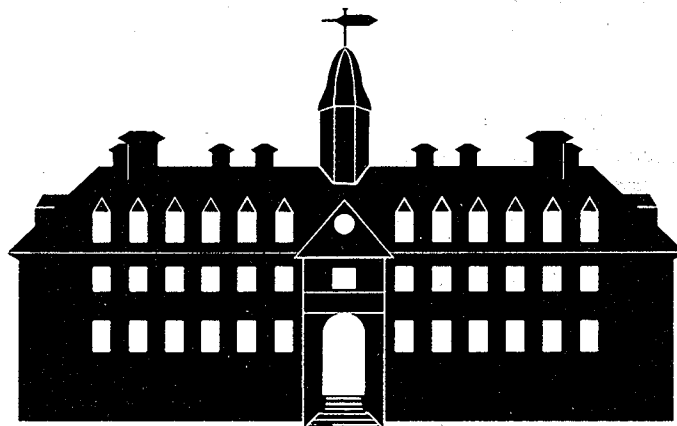
Bradford Bratton is teaching Animal Physiology this semester and will be offering a neurophysiology course in the Spring. Dr. Bratton is a one-year Visiting Assistant Professor and works on electric organ discharge in fish. He comes to us from the Department of Zoology at the University of Oklahoma where he was a Research Associate. He received the Ph.D. in Biology in 1988 from Universitat Regensburg in Regensburg, West Germany.

Joe Mitchell, a well known herpetologist from Richmond, is teaching Vertebrate Biology. Dr. Mitchell will be with us just this semester filling in for Professor Brooks who is on research leave in Australia.

The Mary E. Ferguson Memorial Research Grant is open to any Biology concentrator doing research as part of either Biology 403 or Biology 495-96. The program is intended to provide research funds for undergraduates. The fund was established in 1981 to honor Mary E. Ferguson who died on November 7, 1980 while a senior in the Biology Department. Initial funding was provided by Mary's mother, Aileen L. Ferguson, and many of Mary's friends. Currently, the fund has available an amount in excess of \$800 for potential awards. Interested students should contact the Biology Club.

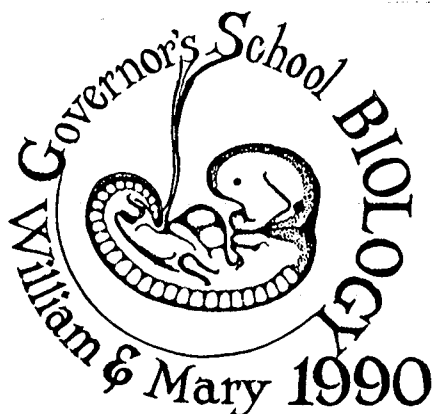
The Department also added two Adjunct Faculty members. Adjunct status is sometimes conferred on those who, while not members of the regular faculty, have established an ongoing professional relationship with our students and faculty. Kim Reece was appointed Adjunct Assistant Professor. Dr. Reece, who had a one-year appointment with the Department last year, will be continuing molecular biological research with both students and faculty.

John Lanzalotti, a local physician, was appointed Adjunct Associate Professor. Dr. Lanzalotti will teach Immunology next semester. He has interacted with many of our pre-medical students over the past several years, helping with medical school applications and giving some of them experience working in his office. Last year he taught a History and Philosophy of Medicine course in the College's Honors Program. The course will be offered again next semester. This semester he is leading a discussion group on Medicine in Literature.



William and Mary Governor's School Hosts 150 of Virginia's Best High School Science Students

For the entire month of July, William and Mary's Departments of Biology, Chemistry, Geology, and Physics, in cooperation with the School of Education, hosted the Governor's School in Science and Technology. Each summer the state sponsors one such school for the best science students from Virginia. Most had just completed tenth or eleventh grade.



Thirty-nine students were in the Biology program. Each weekday they attended lecture, laboratory, and discussion sessions. Visiting Assistant Professor Sharon Broadwater, 1990 Biology graduate Joan Wilson (who left for Stanford's Ph.D. program right after the school was over), and Professor Lawrence Wiseman served as faculty, and many other Department faculty helped develop and supervise laboratory sessions and field trips. Professors Black and Hoegerman, especially, spent considerable time with the students.

The students evaluated the program very highly and many of them said the experience has persuaded them to consider William and Mary as their College of choice.

Biology Club Officers, 1990-91

President: Jonathon Akin
Education V.P.: Kristin Callahan
Philanthropy V.P.: Amanda Allen
Publicity V.P.: Lisa Jones
Recycling V.P.: Sally Hunsucker
Social V.P.: Thu Le
Treasurer: Chris Beck

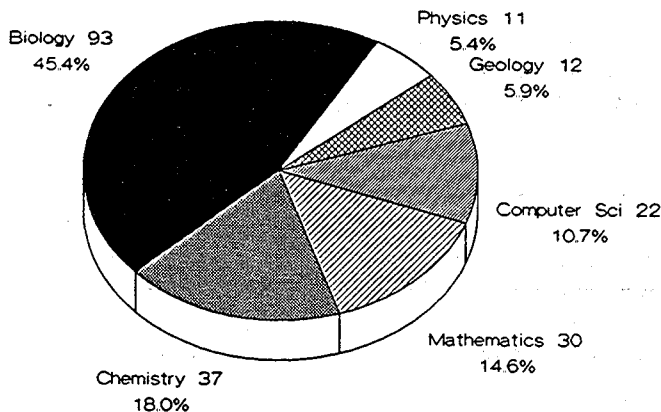
Students Invited to Informal Noontime Discussion Groups

A Biology Department tradition continues with the informal meeting of faculty and students at noon to discuss current interesting topics in Biology.

Mondays at noon the MCDB group meets to discuss papers and topics in Molecular, Cellular, and Developmental Biology. Thursdays at noon the E⁴ group meets to discuss papers and topics in Ecology, Ethology, Evolution, and Endocrinology. Each week a different person --faculty, graduate student, or undergraduate-- leads the discussion.

Biologists meet in the Conference Room (108) at noon until about 12:50, and notices are placed on the Mailroom (118) door several days before to announce the topic and discussion leader. Many people bring a bag lunch and enjoy the presentations and discussions. Graduate students and Undergraduates are encouraged to attend.

W&M 1990 Science Concentrators
Initial Declarations, March 12-21



MILLINGTON RECYCLES !

Since last November, Millington has recycled nearly 4,000 lbs. of glass, 1,500 lbs. of cardboard, 300 lbs. of aluminum, and 1,300 lbs. of paper! We have also made large donations of newspaper and plastic to the Williamsburg Recycling Center. We would like to thank everyone who has taken the time to recycle and mention a few changes and things that you might not have known: The Recycling Center no longer takes plastic bags. They CAN be recycled in the bins at Food Lion and some Safeway stores. Also, please sort paper into the white and colored paper boxes --a little sorting on your part can save us hours! Millington Hall recycles: Paper, Newspaper, Plastics 1 & 2, Cardboard, Aluminum Cans, and Glass. Bins are located at the bottom of the stairwell in the Bio Department. Thanks for Recycling!

CAMPUS CONSERVATION COALITION

The Campus Conservation Coalition was founded last year by officers in the Biology Club, Recycling Club, and Outdoors Club. The CCC is busy planning Environmental Action Week, Oct. 22-27, and Campus Restoration Day. They have already worked to clean up the Matoaka amphitheatre and have organized environmental pledge projects for interested groups on campus. Officers this year: Amanda Allen, President; Jenny Gulley, Vice Pres.; Rob Sperry, Treasurer; Michelle Hatchell, Secretary; Katie Malody and Amy Urrgott, Publicity; Jonathan Akin, Earth Day Coordinator; Jennifer D'Amico, Social. Interested in joining? Meetings are Thursdays, 7:30, Millington 117.

Department Seminar Program: 4 PM, Fridays, Millington 117

On most Friday afternoons the Department sponsors a seminar program for faculty, students, and staff. Speakers include Biology faculty and scientists from other institutions. Students are especially urged to come hear about the latest research on a wide variety of topics.

Seminars are preceded by a coffee and doughnut reception in the Reading Room. Notices of upcoming "talks" are posted on the Mailroom door and on the wall just outside Millington 117 where the seminars are held.

October 26: Professor Charlotte Mangum of the Department will be presenting some of her recent physiological research.

November 9: Adjunct Associate Professor John Lanzalotti, M.D., will talk about "18th Century Medicine and Its Efficacy."

Check the notices of upcoming seminars and help support the program by attending (doughnuts free!).

Faculty Have Busy Summer

The Colonial Waterbird project, under the direction of principle investigator, **Ruth Beck**, continued this spring and summer. The overall longitudinal survey of the Barrier island chain continued, surveying 72 miles along the coast for beach nesting species --Gulls, Terns, Black Skimmers, Piping and Wilson Plovers, and Oystercatchers.

In addition, a comprehensive monitoring program of three specific Barrier islands (Hogg, Cobb, and Little Cobb) was funded by the Virginia Dept. of Game and Inland Fisheries, the VCR-Nature Conservancy, and LTER-University of Virginia.

Tim O'Connell and **Greg Keller**, both graduate students, and **Steve Rottenborn**, an undergraduate junior, were involved in other studies with Professor Beck.

The William and Mary Biology Field Station Headquarters, located at the Eastern Shore Wildlife Refuge provided pleasant accommodations during much of this work.

Over the summer, **Dr. Greg Capelli** supervised five students working on the lake Matoaka project, which is meant to identify problems with the lake and make recommendations for its preservation. He also taught Bio 101 and General Ecology and continued work on a course involving evolutionary ethics and sociobiological considerations, which may be offered in the spring under "Topics in Biology."

Dr. Gustav Hall divided the summer among research on endangered flora and plant communities of the 10,500 acre Naval Weapons Station at Yorktown, teaching General Botany in the summer session, and travel. In June, he spent three weeks with a British naturalists group in the upper Euphrates valley and adjacent mountains of central Turkey. In August, Dr. Hall worked as part of a team of Venezuelan and American botanists making documentary videotapes of damage from rain-forest clearing and gold-mining in the Gran Sabana region of southeastern Venezuela.

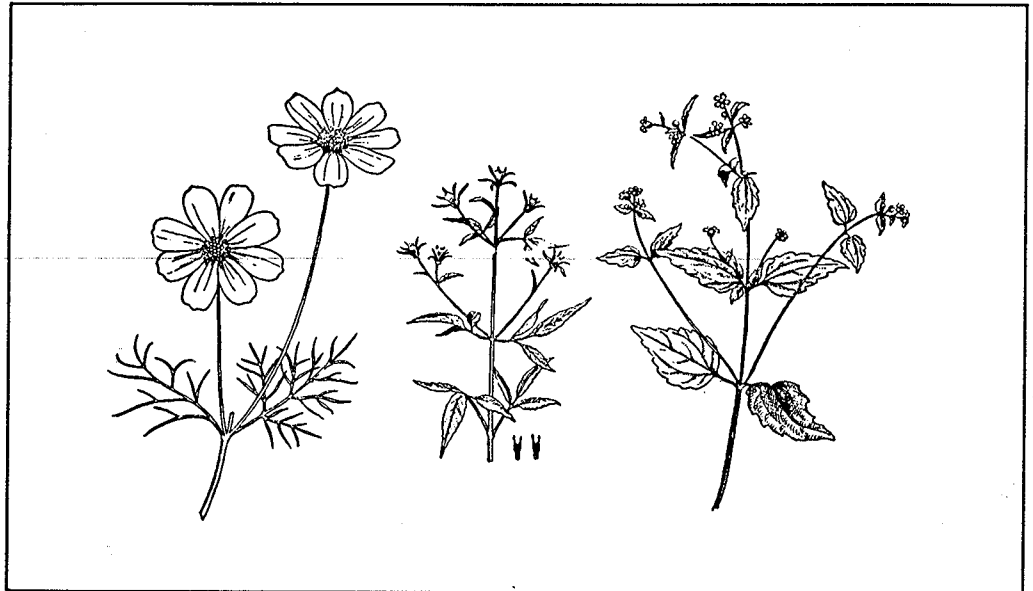
Dr. Martin Mathes, as director of the Cambridge Summer Program, had the opportunity to visit a number of botanical facilities. Research-related trips included Biotechnology labs in Amsterdam and Cambridge, while teaching forays included Botanical gardens in Amsterdam, Edinburgh, Cambridge, and London. The summer provided new materials for research, teaching, and pointers.

Dr. Donna M. E. Ware, curator of the William and Mary Herbarium, spent much of this past summer assessing potential natural areas in the City of Williamsburg and James City and York counties on behalf of the Virginia Natural Heritage Pro-

gram. This project is continuing this fall and involves locating occurrences of older-growth forest stands of state-wide significance and searches for several rare plant species.

Dr. Bruce Grant went on a moth collecting trip to northern Michigan. Over the past several years he has collected moths in New England, western Virginia, England, and Japan, in addition to Michigan. He is working on background selection in peppered moths (*Biston betularia*). Professor Grant also taught Evolutionary Genetics at UVA's Mountain Lake Biological Research Station.

Dr. Norman Fashing presented two papers at the Interna-



tional Congress on Acarology in Ceske Budejovice, Czechoslovakia. He also spent time in the Swiss, Austrian, and Italian Alps.

Dr. Lawrence Wiseman taught in the Governor's School during July, then escaped to Colorado, New Mexico, and Utah for several weeks.

Dr. Jack Brooks is on research leave at The Flinders University in Adelaide, Australia. He presented a paper at the annual meeting of the Australian Society of Herpetologists.

Dr. Carl Vermeulen is on research leave at the University of California, San Diego.

Dr. Mitchell Byrd is on research leave, spending his time in all sections of Virginia continuing his work on endangered bird species.

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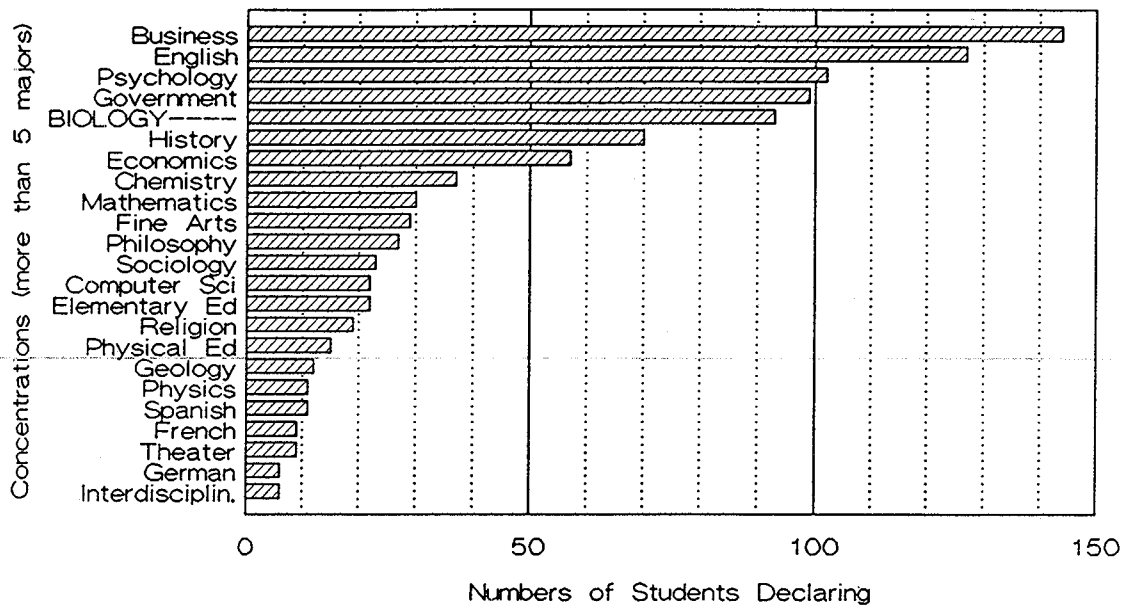
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1990 Declarations of Concentration - W&M
Initial Declarations, March 12-21



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TO: