On January 24-26, at The Beeches in Rome, New York, the Society of American Foresters held the winter meeting of the New York section. The meeting started on Wednesday afternoon with a communications workshop, and in the evening Dean Larson led an informal discussion on "Educational Needs of Foresters."

Thursday morning three talks were given, one on "Timber and New York's Economy," by Harold Burghart, a graduate student here at the College. A second talk on private owners of woodlands was given by Dr. Lawrence Hamilton, of the New York State College of Agriculture, and the last talk in the morning was on "The Urban Resident," by Barry Gordon of the USDA Forest Service in Massachusetts.

A business meeting was held in the afternoon; Greg Knowlton, chairman of the Student Chapter of SAF at the College of E.S. & F., spoke about the Student Chapter and its activities. A tour of the Utica Club Brewery was included in the afternoon after the meeting, and a banquet was held in the evening.

One topic that was much discussed at the meeting was that of licensing foresters. On Friday morning, John Stock, superintendent of Litchfield Park Corp., came out in favor of licensing and explained the problems that have been encountered in putting a bill for this through the New York State legislature. After a talk by Ellis Williams, of the USDA Forest Service in Washington, D.C., on "Taxation and Zoning," Dr. Roger Thompson, secretary to the majority in the New York State legislature and a graduate of this College, answered questions on various aspects of forestry from a political viewpoint. His response to the licensing issue was that most legislators do not feel that foresters have a need for licensing.

Friday afternoon, three concurrent workshops were held on the Hudson Valley, the Southern Tier, and the North Country. Discussion in the workshops centered around forestry problems, land regulation, and the future outlook in each area. Several students from the College went to the meeting and participated in the activities.

**Job Info.**

Part of room 108 Bray Hall will soon be transformed into a career information center. Initial plans are for placing employment notices, employer directories, and other pertinent information to assist students with job placement, in room 108. This will be under the direction of Mr. Reeves and Mr. August. Dean Payne hopes to have a part time person, followed in 74-75 by a full time advisor to assist students in job placement and a career planning.
Last semester our Student Council was made aware of an organization made up of representatives of different State University units in New York. At the present, we are still looking into the possibilities of joining this newly recognized association in the hope of finding out the benefits we stand to accrue through membership.

However, I feel some facts must be presented to the Student Body before any steps affirmative or negative be taken on this matter.

S.A.S.U. is an organization intended to act as a representative student voice in statewide affairs. Its leaders hope that more than half of the students in State University will cooperate in their efforts. This association was created in an effort to join together many of the individual student associations of SUNY to better achieve common goals.

Details of a platform for the association were worked out at a SASU conference in Oswego in November of last year. The platform is essentially a summary of the principals behind the legislative proposals S.A.S.U. is developing for this year. These proposals cover a range of topics including financial aid, tuition, financing higher education, and aid to private colleges. SASU will round up sponsors for appropriate education bills in the state legislature that effect students.

SASU members have talked about having group bookings in concerts. Numerous steps have been taken in this direction without much success. Under a group booking system entertainers would be contracted by a SASU booking cooperative to appear at many different member campuses. The result would be a great saving to individual schools.

Related to group booking is the idea of reciprocity. This would enable students from SASU member schools to use their I.D. cards at campuses other than their own to receive discounts at concerts and other events. This may prove rewarding in heightening SUNY self-awareness.

In addition to aiding student government groups SASU leaders hope individual students will derive benefits from SASU programs. SASU in cooperation with National Student Services Inc. is now offering personal property insurance to dorm students. Health insurance to all students are currently in the works.

Some other programs include: working to change Regents Scholarship payment schedules to accommodate students who have become financially independent, establishment of student owned buying cooperatives, and working to limit tuition increases.

Chancellor Ernest Boyer has indicated that he will recognize SASU if it can prove that it represents at least half of SUNY students.

(Our own Bob Loveless is currently meeting periodically with those involved in SASU. Our opinions are valuable to him in this decision making process. If we are to decline or accept membership, the pros and cons must be aired. Do E.S. & F. students have anything special to negotiate for? I urge all those interested in our student body to contact Bob and express your interest.)

Jim Chanatry

The COMPETITION IS OPEN for 30 Herbert H. Lehman Graduate Fellowships in the Social Sciences and Public and International Affairs for 1973, the State Education Department has announced. Established by the 1965 Legislature to honor former Governor Lehman, these fellowships are made for graduate study in universities in New York State and will be awarded for use in September 1973. U.S. citizenship is required; residency in the state is not required, but to be eligible, students must have received a baccalaureate degree no later than September 1973 and may not have begun graduate study by the time of application. Each fellowship will cover a period of up to four years and carry a value of up to $19,000, with awards conditional upon funding by the current session of the Legislature. Application forms may be requested directly from the Regents Examination and Scholarship Center, State Education Department, Albany, N.Y. 12224. Application and credentials deadline is March 15, 1973.
The zoology department here at the college is involved in great amount of research being conducted by professors alone and in conjunction with other institutions and organizations. The first synopsis from this department concerns itself with work being conducted by Dr. Roy Hartenstein, professor of animal physiology and histology. His current research is an extension of work begun in 1967 and dealing with nitrogen metabolism in the sow bug. Work was initiated on the sow bug to determine the mechanism by which it can deaminate amino acids (remove a nitrogen-containing unit from a larger organic acid to which it was once bound) to produce ammonia. Until this time, it was classically thought that only aquatic species had the physiologic capacity for producing ammonia as the major waste product. The sow bug, being a terrestrial isopod, violated that once established concept. Dr. Hartenstein’s discoveries and subsequent studies of the sow bug, crayfish, and more recently mammalian white blood cells, have turned the project in a new and additional direction. His interest was primarily in the ability of these invertebrate organisms to deaminate amino acids with the subsequent formation of ammonia. This aspect is still under investigation, but in the course of his work, two enzymes, aldehyde oxidase and peroxidase, have been isolated, purified, and characterized.

As a result of work done by six European scientists, it was found that one of these enzymes occurs in the white blood cells of individuals stricken with human myeloid leukemia. This enzyme, peroxidase, cleaves ammonia from a wide variety of amino acids. Working now with mammalian blood, Dr. Hartenstein is interested in extending his research to understand the relationship of peroxidase with leukemic and normal white blood cells.

He theorizes that the deamination of amino acids by leukemic cells may provide a necessary carbon source for the respiration of these cells. If so, it may be possible to arrest leukemic cells by inhibiting the peroxidase in white blood cells.

He and a graduate student, Douglas Merrill, are in the process of isolating the peroxidase from normal white blood cells. One this has been accomplished, it will be possible to examine various potential inhibitors. One of these may someday be useful in alleviating the severity of leukemia in certain individuals. All of this is at present, theoretical, but Dr. Hartenstein feels it is a goal worth pursuing.

Bill Branson

TWO DEPTS. ARE BETTER THAN ONE!

The department of entomology and chemistry here at the college, separately and in conjunction with each other, are involved in several pheromone studies that involve insects such as tropical ants, grain storage beetles, and several species of bark beetles to much larger animals such as the black-tailed deer. These studies are done in conjunction with other institutions and agencies found around the world in Brazil and Costa Rica and nationwide in Louisiana, Wisconsin, California, Ohio, Utah, Idaho, and New York.

As an example, I will describe the study presently being done by the cooperative research of the department of entomology and the department of chemistry at this college with a research institute in Delaware, Ohio on the ATTRACTANT FACTORS AFFECTING BEHAVIOR OF THE SMALLER EUROPEAN ELM BARK BEETLE. The project directors at this college are Dr. Lanier, Dr. Simeone, and Dr. Silverstein aided by W. Jones, A. Gualtieri, J. Bartles, E. Elliot, and G. Pearce.

Field studies from a study on TREE AND WOOD INSECT ECOLOGY AND MANAGEMENT headed by Dr. Simeone

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were conducted in 1969-70 and results showed that virgin females, initially attracted by host material, produced an additional attractant presumed to be a pheromone which results in aggregating large numbers of male and female smaller elm bark beetles. In order to prove this hypothesis, Dr. Lanier gathered 3 kg. of frass (fecal material plus boring dust) from the laborious work of 100,000 virgin female beetles. From bioassays of this frass, done in Delaware, Ohio, 3 attractant compounds were found which attracted males. In order to perform a more complete search for other possible attractant pheromones which might be present air trappings were obtained from the nuptial chambers of virgin females. Low and behold two new compounds were found. The long and tedious work of identifying these compounds have been turned over to Dr. Silverstein and his crew. Using hydrogenolitic and MNR spectroscopy techniques one compound has been identified and the others are still in the process.

Some possible uses of these pheromones are to trace the spread of the elm bark beetle and thus the Dutch elm disease by sampling different areas with attractant traps. Also, these attractant traps could be set up near healthy elm trees to prevent their infection since as quoted from Dr. Lanier "bark beetles are like college students in that they would rather mate than eat." Normally, after emergence the young bark beetles don't run into a mate for some time and this necessitates their need to seek food in the meanwhile. This is when the elms become infected. These traps will provide an early stimuli and remove the beetles before they have a chance to infect the trees.

This work could have far reaching effects in uncovering a tool that might curb the spread or possibly halt the spread of the Dutch elm disease which is carried by the beetles. This is not to mention the doors of knowledge and techniques that have been unlocked in the field of chemical ecology by this study.

Mike Girvin

The fifth year students in Landscape Architecture who were doing off-campus research are back on campus now and are preparing their projects for presentation to the public in the near future.

The staff of the silviculture department has increased this semester with the addition of Prof. Wesphall. He is teaching two courses this semester, both in tree improvement, while working as he has for the last year on a project with seed iso-enzymes.

Judy Wolfe

TAKE A LOOK

For those of you who have never stepped into the confines of that mysterious building called "Baker" things are happening down there. On the fourth floor that houses the Wood Products Engineering department, the walls are covered with highly polished squares of wood, labeled by name, that truly make you realize the beauty of wood. But even if you only enter the foyer, it is worth the minute walk down there to stop in and see the demonstration in the entrance area on the third floor concerning the Dutch elm disease and its implications. No one can avoid seeing the damage it has done, especially in the Syracuse area. This demonstration shows how biologists and chemists join together in doing research and what scientific instruments come into play. So, give it a try. Find out what Baker is all about.

Pam Zito
STUDENT JOB HUNTING: SUGGESTED PROCEDURE

1. Get the official or unofficial transcript from the Registrar's office. Several copies are valuable for applications. Or make unofficial Xerox copies from one. Registrar charges $1.00 each.

2. Go to the S.U. Office of Career Services, 804 University Ave., Ext. 3616, there you will be advised on recruiters being on campus for interviews. Ask for Mr. George Abbott.

3. Get hold of "The College Placement Annual 1973"—this is published by the College Placement Council Inc. and lists 2,000 firms and agencies addresses and professions they hire. This is mainly useful to Seniors and Graduate Students. (The above S.U. office will have one.) You can get a copy, just stop and ask!

4. Contact Mr. John Reeves (Student Services) Room 108 Bray (X-231) he often has part-time job (especially camp counselor type) information.

5. Check bulletin boards outside of All Depts. and the Graduate Office. For example, Forest Engineering students might do well to acquaint themselves with the School of Landscape Architecture's job information bulletin board. It is located on the third floor of Marshall Hall near Room 327. (Offices and governmental agencies hiring Landscape Architects usually have need for Engineering STAFF also.) Do not ask the Forest Service Office in Marshall for help!

6. Write 25 or more letters of application for jobs on your own. Don't put down an address that will require forwarding of mail. If you return home for the summer, advise all businessmen (that you applied to) of the change of address. (Jobs are usually held open for only about 5 days. You either answer or lose the opportunity.)

7. Call the N.Y.S. Department of Labor. Ask for Mr. Abbott (Ext. 243). Phone 474-7271. Do it NOW, and request information and C.S. exam schedules for various positions. You will probably have to appear in person at the office at 677 S. Salina Street (across from Carrolls). Plan to spend 2 hours there.

8. DO NOT TAKE THE WORD of another applicant that an organization is "not hiring". Often this is used as a pleasant refusal of an applicant. Find out for yourself by applying yourself!!

9. Please do not immediately refuse ANY job you might be offered even if you aren't interested, or can't report when needed. Remember we have many students out looking for work. Someone is bound to be searching for the very job you don't want or can't accept. Please advise Ron Frodelius, (Room 12, Basement of Bray Hall) of any such situations, or leave forms, letters, etc in his
8. (cond't.) mailbox in Room 312 Bray, BEFORE turning in a NO to the offer you've had. Help each other!!

9. Please answer all job offers with a courteous acceptance or decline. (Don't let the time limit answer for you if you wish to decline). An answer is gratefully received, and will help us all be considered for future positions.

10. In Reference to #5 above, FOLLOW-UP LETTERS referring to your application are a good way of getting your name once again in front of potential employers. DON'T BE AFRAID OF USING THE TELEPHONE ON LIKELY PROSPECTS!!!!!!!


12. If you are a member of S.A.F. contact their:
   "Employment Referral Service"
   Society of American Foresters
   1010 Sixteenth Street, Northwest
   Washington, D.C. 20036 Telephone 202-296-7820
   Any professional Society you are a member of will have opportunities to help you find work. Ask them.

13. Check the yellow pages of Syracuse phone book p.181-184 for employment agencies. (These charge for services). (Some only charge when they find employment for you.)

14. Contact the student employment service (SES) of the S.U. student affairs office. They serve as an information center for students seeking summer and part-time jobs on campus and off. John Curtice, a personnel intern in the student-community relations division of the student affairs office, coordinates the office.

   SES initiates contact with potential employers and receives requests from them for part-time help. Employers with part-time job openings can call SES at Ext. 2621 and 2622.

   The jobs are listed on cards which students can look through at the SES office, 311 Steele Hall. Students contact the employers directly for further information. An average work week is 20 hours, but some temporary part-time jobs offer work for a single day or week.

   SES also operates a south campus office in Building D-2, the Married Student Center at Skytop, where duplicates listing are on file. People who want to use this service are advised to call there first because the Skytop office is open at irregular hours. The extension is 3840.

   NOTE: If your school or Department does not have any Faculty or Staff member with some responsibility for assisting you, the student in job hunting maybe it's time they did!

   Ron Frodelius
MEETING MINUTES

MANIA

During last week's meeting of the Foolish Fishermen and Non-Violent Cold Weather Bird Bagger's Society, several interesting items were discussed.

Due to the fact that the club was a mere one week of age, certain unavoidable subjects were brought to issue, the first being that of the club's name. Mr. Steven Campwell, recently appointed chairman of the Grief and Grievance committee, was persistent in pointing out that the very title of the club contained 23 syllables and took approximately 3.8 seconds to say (this being based on a study consisting of 62 different time trials involving 17 jewelers and 11 dentists at a confidence level of 25% and maximum probable error of ±3 seconds). He also maintained that he did not think many of the club's members could actually be called "Bird Baggers" in the true sense of the word(s), partially because it is a rare occasion when a member actually shoots a bird, but mostly because we don't ordinarily carry paper bags in the field. He also ventured so far as to say that he personally did not consider himself a "Foolish Fisherman." A tally was taken to find out how many members had actually succeeded in shooting a bird (sparrows and chickadees notwithstanding) the past season. Only one member had scored and he sheepishly admitted that the grouse had actually been involved in a head-on collision with a 12" DBH Pinus Interruptus as it attempted its getaway. Another tally was taken to see if any members had carried paper bags in the field during the recent season. Two members (names withheld upon request) admitted that on opening day of duck season, they had carried bags to their blinds "for the sole purpose of bagging birds." Fred Crit then claimed that, with this new piece of evidence, it had been proven that there actually were Bird Baggers amongst us and that the name should stick. The issue was voted on--14 for, 1 opposed. Mr. Campwell, suffering from his first administrative defeat, threatened to sabotage our spinning reels and fray our fly lines. Under such threats of backlash violence, the remaining members decided that the vote should be nullified. The issue was tabled for an unspecified later date. In regards to the length of the name, it was eventually decided that the length of the name gave the club an air of distinction and importance. In cases where the length of the name caused undue stress (like on letterheads and monogrammed T shirts), it could simply be abbreviated to FFNVGWBBS. All agreed.

As to the question of whether or not Mr. Campwell was a foolish fisherman (FP) or not (NFS); this issue was also tabled for an unspecified later date.

Other things that weren't too important were ignored by all and amidst peace and brotherhood the members departed through the rickety door whence they came.

The following letter was recently received by Dean Payne:

Dear Sir:

I am sorry to bother you, but I would like you to kindly help me. I wish to come down to America very soon, and as such, I would like to make some friends before coming down. Furthermore, I would like these friends to be from your college. Would you please put the following particulars about me on any of your bulletin boards. My name: Sola Ademokun, a Nigerian girl of nineteen years; Address: SW9/232 Ago Taylor, Ibadan, Nigeria; Hobbies: singing, swimming, looking after pets.

Goodbye sir, and please kindly do anything you can to find as many

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friends in your college. Thanks sir.

Yours faithfully
Sola Ademokun

Ed. note: Mail to and from Nigeria (one way) takes about a week.

DEAN LARSON AT SAF

Dean Charles Larson addressed foresters from government and industry on Jan. 24 during a N.Y. Section Society of American Foresters winter meeting session on "Educational Needs of Foresters."

According to Larson, the socio-

logical, economic, and political

processes are of utmost importance in this new era. He emphasized the necessity for flexibility as a characteristic of a professional forester who is to remain successful throughout his career. Larson also defined a manager as one who applies "management" which he described as "the process of planning and decision making, followed by implementation."

Some of the dialogue which occurred in the seminar follows:

The employer wants a person (employee) with capacity for growth and the ability to assume responsibility. However, one must be able to meet her (or his) first job with reasonable effectiveness.

We're coming to the point where a 4 year college graduate is unemployable. A two year man can get a job; but complete management responsibility requires more than 4 years of education.

I agree that students probably learn best by doing but they do have to have a foundation to build on.

All foresters are going to have to devote more time to continuing education. This is true of faculty, too. It is equally important to replenish the ground experiences by working with private industry or government. A forester can become obsolete in 2 years. A college should teach you how to learn without hurting you too much.

Dean Larson concluded this seminar by professional foresters with some profound thoughts. "Above all," he said, "a forester must be proficient in providing recognition of the alternatives in the management of the forest land resource, and in effectively implementing programs for the realization of the goals and objectives of both land owners and society in general. The resource manager is an integrator who brings together fiscal, human, material, and technical resources, and molds them together in a smoothly functioning system."

"MANAGING OUR COASTAL ZONE," a conference sponsored by the New York State Sea Grant Program, will be held at the University Center at Albany on February 20 and 21. (Because of the conference's workshop format, pre-registration is requested. Forms are now available from the Program Office in Albany.) By taking a critical look at issues and management, the Sea Grant Program seeks in this conference to assist the legislature and agencies of the state in the development of a plan and a management program for the coastal zone, through broad participation and interaction among the public, industry, and government. Registration deadline for the conference is February 5.

Special arrangements for student housing on the Albany campus can be made through the Sea Grant Program Office in Albany (518) 474-5787.

The SHOALS MARINE LABORATORY, a joint project of the State University of New York, Cornell University, and the University of New Hampshire, is offering a five-credit course, "Introduction to Marine Science," August 1-28, 1973, in its new facilities on Appledore Island, ten miles offshore at Portsmouth, New Hampshire. Designed primarily for undergraduates, the program offers an integrated presentation of various aspects of the marine sciences. Students may elect instruction in scuba techniques for NASDS certification. Further information and applications may be obtained by writing to Jay Freer, 202 Plant Science, Cornell University, Ithaca, New York 14850.
OUTLAWING TOXIC SHOT or... GET THE LEAD OUT!

As a result of "continued foot-dragging" by the federal government, the State of Maryland may lead the nation in outlawing the use of toxic lead shot in waterfowl hunting.

Maryland Natural Resources Secretary James B. Coulter has announced that the State is seriously considering a ban on the use of lead shot on State waterfowling lands for the 1973-74 season. "We're seeking the best information available on the alternatives," Coulter explained. "Before any ban is set, there will certainly be a thorough hearing."

The Maryland ban is being considered because of the annual loss of an estimated two to three percent of the continent's waterfowl, a yearly loss of millions of birds. Ducks, geese, and swans feeding along heavily hunted marsh and lake bottoms frequently swallow lead pellets along with seeds and grit. The lead shot enters the gizzard along with food and small pebbles and is eventually absorbed into the bloodstream. Several organs deteriorate, including the liver, kidneys, and gizzard. Even though feed in the area may be plentiful, the birds in effect starve to death. Dying birds become emaciated, and, as a crippling paralysis sets in, their wings begin to droop; walking and flying are unsteady. Death is slow and agonizing.

Massive waterfowl die-offs due to lead shot poisoning have been reported for well over a century. Last year on Maryland's eastern shore, at least 4,500 geese were found dead or dying and thousands more were ill due to lead shot ingestion.

Research has pointed to the use of non-toxic iron shot as the best alternative to lead. Evidence from extensive testing, including a 1968 Bureau of Sport Fisheries and Wildlife study, has clearly demonstrated that soft iron shot is suitable for waterfowl hunting.

The National Wildlife Federation has petitioned Interior Secretary Rogers C. B. Morton to issue regulations prohibiting the use of lead shot on federal lands. Last fall, pilot introduction programs for soft iron shot were held at seven federal hunting areas. Although the results of those programs are not yet fully compiled, initial hunter response to the soft iron shot was enthusiastic according to reports received by the NWF.

The Department of the Interior may be waiting for the results of testing being conducted by Winchester-Western at Milo Farms, Illinois. The test is expected to last "all winter" and is patterned after the 1968 BSFW study. "The test results are simply going to be a rehash of previous tests," Tom Kimball, NWF executive vice president charged. "The longer the federal government continues to drag its feet awaiting test results which we already have," Kimball declared, "the longer this senseless slaughter of millions of our waterfowl is going to go on."

"Soft iron shot will reliably do the job," he said. "By banning the use of lead shot, Maryland is taking a strong, courageous step forward."

"It's time that the federal government took that same step," Kimball added.

A NEW POPULATION SURVEY conducted by the Bureau of the Census shows that the proportion of Americans over the age of 25 that has completed one or more years of college has almost doubled in the past quarter of a century, from 12 to 23 percent, and the proportion that has completed four or more years of college has increased from 5 percent in 1947 to 12 percent of the population today.
National Student Lobby has launched a major campaign to save youth fares in response to the Dec. 7 Civil Aeronautics Board (CAB) decision that domestic youth fares are unjustly discriminatory and should be abolished. (On Dec. 14 CAB in effect did the same thing to international youth fares by raising them 21 percent. International youth fares are now thus equal to or higher than what international full fares will be by spring if the expected price was among international carriers is realized.)

Upon hearing the news of the Dec. 7 decision, NSL immediately sent a press release and in-depth stories on youth fares to major campus and non-campus newspapers and formed the Coalition to Save Discount Fares. The Coalition, which includes both student and senior citizen organizations, is putting advertisements in newspapers on every campus in the country urging students to write letters in support of youth fares. The letters will go to the Coalition to be counted. The Coalition will then forward the letters to key Congressmen and Senators.

TWA and other major airlines are going to testify to CAB that eliminating youth fares would hurt them financially. CAB hearings are expected in January 1973. NSL is pointing out that youth standby fares are no more discriminatory than the military standby which CAB still favors.

Although CAB has not yet set a specific date for terminating youth fares, the discounts could very well end as early as March. However, defer final cancellation of youth fares if students and Congress start to act.

CAB's flexibility and responsiveness was demonstrated in 1968 when it reversed its own examiner's decision that youth fares were unjustly discriminatory. CAB has soured on youth fares since then largely because of mail from older travelers and containing pressure from Continental Trailways and other bus companies that have lost riders due to low air fares.

In the 3-2 decision Dec. 7 CAB Chmn. Secor Browne, Vice-Chmn. Whitney Gilliland and member Robert Timm voted to end youth fares. CAB members Robert Murphy and G. Joseph Ninetti voted to keep them. The majority admitted youth fares undoubtedly generate more traffic for airlines. But the board argued that the fares are closed to people who would otherwise travel discount fare and are open to people who would otherwise travel full fare to an extent that this age discrimination is unjust. The minority argued that the discounts raise so much added revenue that, rather than burden full fare passengers, they benefit these travelers by contributing to common fixed costs. Moreover, the dissenters added, if any airlines feel they're losing on youth fares, they can cut or abolish the discounts.

As NSL and TWA point out, airlines make healthy profits on youth fares except when guaranteeing reservations. However, the board lumped both standby and guaranteed-seat youth fares together in its argument that the fares do not generate enough added passengers and revenue to warrant discriminating against middle-aged passengers.

In the mid-1960's CAB encouraged youth fares to attract passengers who did not have established travel habits. The board justified restricted standby discounts on the grounds that young people have more time than money while many middle-aged travelers are businessmen with travel expense accounts and fixed schedules.

Canal history

Syracuse's Canal Museum, housed in the last remaining administrative building for New York State's canal system, is devoted to a history of canal transportation upstate and nationally. Located at the once-important juncture of the Erie and Oswego canals in Syracuse, it is close by some still extant remains of the original "Clinton's Ditch" and the enlarged Erie Canal of today.
animal waste disposal

by Yong H. Kim
Department of Communication Arts
College of Agriculture and Life Sciences
at Cornell University

Rapid changes in agricultural production methods, coupled with the dramatic upsurge of public demand for clean air and pure water have spurred research in agricultural waste management. The College of Agriculture and Life Sciences at Cornell University has taken the lead in this area by developing a substantial research, development, and educational program directed at preventing pollution problems arising from animal wastes.

Farm animals in the United States annually produce more than two billion tons of waste products, about 10 times the amount of refuse produced by the human population.

With population growth and increasing meat consumption, total animal production has increased dramatically in recent years. The broiler industry, for example, expanded from 500 million birds in 1950 to 2,500 million in 1967. During the same period, beef cattle numbers rose 40 percent to 30 million head. Production methods have also undergone tremendous changes. Meat, milk, and eggs are increasingly produced in large confinement facilities, and such a system has been accepted virtually for all small animals such as laying hens and broilers. The trend is also increasing for beef, dairy cattle and hog operations.

Disposal Problems Increasing

Feeding animals in enclosed facilities has led to a farming operation comparable to manufacturing and other industries. As a result, the problem of handling, treating, and disposing of wastes from such concentrated production sites is becoming increasingly difficult. For example, a poultryman operating a 200,000-bird "egg factory" faces a waste disposal problem equivalent to a sewage load of a city with about 20,000 people. A beef cattle operation of 1,200-head, or a 10,000-head swine operation creates a similar situation.

A Growing Problem

Disposal of animal wastes was not a problem on the small, self-contained family farms during the early part of the century when rural America was an uncontested agricultural domain. Today, with city people moving into the countryside in increasing numbers and expanding recreational activities in open country, the problem of waste disposal has become more pressing.

In many cases, animal farms, large or small, are usually isolated from each other so cooperative ventures in waste treatment and disposal facilities comparable to municipal sewage treatment plants are seldom feasible. Therefore, each farm unit must devise its own system.

Waste Management Studies

Recognizing the growing problem of animal waste disposal, the College of Agriculture and Life Sciences has been involved in a wide range of waste management studies in recent years. Research efforts are directed to agricultural waste management, utilization, and disposal; nutrient buildup in surface and underground waters from crop land; the movement of nutrients to lakes, ponds, and other waterways; and factors affecting eutrophication.

The Agricultural Waste Management Laboratory and other research facilities on campus are all geared to develop one or more economically feasible systems for animal waste treatment and disposal and at the same time to find how manure can best be utilized for maximum crop production without causing air and water pollution.

Economic Feasibility Research

Focus is on research dealing with the economics of manure disposal, chemical, physical and biological properties of animal manures and of the odor components of waste products, various means of handling waste products, reutilization, and nutrient removal from waste water.

Extensive research is now being conducted on the nature of the odor components and the factors contributing to odor production from both liquid and dry poultry manure. Chemical components responsible for odors in liquid poultry manure have been determined and a variety of chemical masking agents and counteractants have been tested. None of the chemicals evaluated, however, was considered entirely successful. Because of their high cost, only a few of the compounds could be recommended in emergency situations.

Air Pollution

The best procedure for controlling air pollution is to prevent formation of odor compounds that are formed by the action of bacteria under anaerobic conditions during continued storage. Therefore, odor is effectively reduced either by rapid removal of moisture from the manure when
it is fresh, or by aeration of diluted manure to obtain more complete oxidation.

In one project, a team of engineers demonstrated that the method for treating poultry waste in oxidation ditches is effective in preventing odor production. The process, used successfully in hog operations in recent years, is expected to be an important alternative for poultrymen in curbing air and water pollution, especially in areas where risk of pollution is great. The system is now being tested under commercial conditions.

In another study, it was found that dry manure has less odor than liquid waste. Various devices are being evaluated to dry the manure. The removal of moisture has several advantages. In addition to reducing odors, moisture removal reduces weight and volume of the waste material to be handled and makes a drier product more suitable for reutilization.

Extensive Field Trials

Meanwhile, extensive field trials involving utilization of both poultry and cattle manures for crop production are under way. The researchers are concentrating on the timing of manure disposal, application rates, and handling and storage methods.

Both cattle and poultry wastes applied to soil in these experiments are closely monitored for the movement of nutrients from manure in the form of surface runoff and for accumulation of nutrients that contaminate ground water under various cropping systems. Results from these studies should provide information on the maximum manure application rates allowable to avoid excess nutrient buildup in the environment.

Faculty and staff in many disciplines at the College and other units at Cornell are involved in studies related to agricultural waste management.

Training Program

They are also active in graduate education and training of students interested in this field. A number of students are now enrolled in the training program doing advanced work at the master's and Ph.D. levels. Financial assistance available to qualified graduate students includes assistantships, fellowships and traineeships.

Those departments participating in waste management studies and teaching activities include agricultural economics, agricultural engineering, agronomy, animal science, food science, natural resources, poultry science, and rural sociology. In addition, related courses are offered in the biological sciences, chemical engineering, civil and environmental engineering, meteorology, and operations research.

legislation

Prefiled bills in the New York State Legislature of interest to State University and higher education in general:

Senate Bills

S.39 — Prohibits a student government of a state-operated college or university in the State University system or public college, college unit, graduate institution or community college under the jurisdiction of the City University of New York, from charging a mandatory student activity fee. (In Higher Education Committee.)

S.42 — Provides that for conferring rights, privileges and immunities and for imposing duties and liabilities, a person shall have reached majority upon attainment of age 18. (In Judiciary Com.)

S.62 — Provides that payment of tuition, fees and other charges of the State University and community colleges shall be deferred for students who are veterans of the armed services entitled to educational veterans' benefits, until such time as the benefits are received by the students. (In Higher Education Com.)

Assembly Bills

A.52 — Prohibits a student advisor from disclosing information acquired by him relating to the possession, use, sale or purchase of dangerous drugs in his professional capacity from a student consulting him for counsel, advice and guidance. (In Codes Com.)

State University

In the fall of 1972, there were approximately 235,000 full-time students enrolled in the State University, the largest system of higher education in the nation. Exclusive of its community colleges, State University will enroll an estimated 135,000 full-time and 45,000 part-time students in 1973-74, an increase of 6,400 full-time and 2,000 part-time students over the level budgeted for 1972-73.

The State's 38 community colleges will enroll an estimated 111,400 full-time and 93,800 part-time students in the fall of 1973. This represents an increase in total enrollment of 10,100 over 1972.
WRIST SLAP GIVEN FOR EAGLE KILLING:

A "piddling wrist slap" has been given to the helicopter slayers of a massive number of eagles in Wyoming and Colorado, and more eagles may be killed as the result of "stalling" by the Interior Department, charges the National Wildlife Federation.

In a Nov. 27 letter to Interior Secretary Rogers C. B. Morton, Thomas L. Kimball, NWF executive vice president, and Victor H. Kramer, director of the Institute for Public Interest Representation, Georgetown Law Center, cite the recent sentences handed to a Colorado rancher and a Wyoming pilot who pled guilty to federal charges of shotgunning eagles from helicopters. "Not only are the fines for the eagle slaughter far less than they should have been," Kimball asserted, "but the stockmen involved are apparently going to be able to continue to use the public range for private profit." The letter to Morton emphasizes that much of the blame goes to the Interior Department for failure to regulate the killings.

Kimball and Kramer described cases in which prominent stockmen from Colorado and Wyoming allegedly hired the Buffalo Flying Service, Buffalo, Wyo., in order to "blast the birds out of the sky from the cockpit of a helicopter." Although originally charged with slaying 65 American bald and golden eagles, Dean Visentiner, a Colorado sheep rancher, and Joe Evans, a pilot for the flying company, pled guilty to slaying 5 golden eagles. The Federation contends that the number of eagles was reduced in order to secure convictions "without the inconvenience of a trial."

In another conviction, the former manager of the Buffalo Flying Service, Doyle Vaughn, has admitted guilt in a Wyoming federal court in the slaying of 75 eagles in the same way. The flying company, itself pled no contest to the same charge. The original charge was for 366 slain eagles. Both Vaughn and the flying service were fined $500 and placed on unsupervised probation.

"That's only $6.66 per eagle slaughtered," Kimball exclaimed. "At about 50 cents a pound, you'd pay nearly a dollar more for a 15-lb. dressed turkey!" Under federal law, the defendants could have been sentenced $500 as well as spend six months in jail for each eagle slain.

Ranchers have argued that eagles take an excessive number of young lambs each year. In Wyoming in 1971, a mature golden eagle was found shot to death with a note tied to its legs with barbed wire. The note read: "To the continued safety of the flocks of Wyoming, for he died that the lambs may grow." Conservationists have argued that an incident of an eagle taking a lamb is rare and that the problem is grossly overstated.

The widespread slaying of eagles first came to light during Congressional hearings in August 1971. At that time, pilot James Vogan testified under oath that the Buffalo Flying Service was hired by at least nine ranches in Wyoming and Colorado to kill eagles. Vogan claimed that one Wyoming rancher, Herman Werner of the Bolton Ranch, Casper, Wyo., paid "at least $15,000 to the flying service in bounties. Vogan's records disclosed that 570 eagles were killed while in the employ of Werner. In testimony, Vogan claimed to have shot as many as 34 eagles a day, as well as coyotes, elk, deer, antelope, geese, and a bear. For his testimony, Vogan was given immunity from prosecution.

Werner has been charged with killing 366 eagles from helicopter and presently awaits trial. His attorney recently suffered a heart attack and action on the case will not resume until he recovers, not estimated until March or April. It is not known at this time whether the number of eagles Werner is charged with killing will be lessened as in the other cases.

The national outlook for the bald eagle population is considered bleak. The total in the lower 48 states is estimated to be as few as 3-4000 birds and pollution and diminishing habitat continue to take their toll. The southern species of bald eagle found in the Eastern half of the U.S. has already been classified an endangered species.

Besides the "tragic destruction of hundreds of eagles," the Federation and the Institute for Public Interest Representation are concerned that "public range land is being used for private profit" without regard for compliance with federal law. It has been against the law to shoot bald eagles since 1940.