

1954

## Reports: The Secretary; The Treasurer; The Editor; Committee Reports

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Getchell. The retiring section chairmen announced their successors for 1954-55 to be:

Botany—Norman H. Russell, Grinnell  
 Chemistry, Inorganic and Physical—Charles Tanford, Iowa City  
 Chemistry, Organic and Biological—Hans Wynberg, Grinnell  
 Geology—Sherwood D. Tuttle, Iowa City  
 Mathematics—H. T. Muhly, Iowa City  
 Physics—Dorothy M. Taylor, Dubuque  
 Psychology—A. C. Westerhof, Des Moines  
 Zoology—Leroy H. Saxe, Jr., Iowa City

The 1954 session was then adjourned.

JEAN L. LAFFOON, *Secretary*

## Report of the Secretary

After seven consecutive years of increases in membership, the Academy shows a slight loss in its enrollment as of March 1. The figures as of that date are: honorary fellow 1, emeritus fellows 12, life fellows 17, fellows 343, associates 829, total 1202. This is a loss of 10 members from March 1, 1953. The decrease in numbers of students and faculty members of the colleges of Iowa probably account for this slight decline.

Several committee appointments were made by President H. Garland Hershey during the year. Dr. G. O. Hendrickson was designated as Chairman of the Conservation Committee for the term 1953-1959. J. M. Aikman, M. A. Ellerhoff, H. S. Fowler, H. G. Hershey, F. H. Mendell, E. B. Polder and E. R. Speaker were named as the other members of this committee. U. A. Hauber was added to the Membership Committee, G. O. Gale and A. F. Voigt to the High School Relations Committee, and R. L. Shriner to the Library Committee.

Unfortunately, it was not possible to distribute volume 60 of the Proceedings during the fiscal year 1953-1954. The first copies of this volume were mailed on March 3, 1954. On that date copies were mailed to nine large libraries, thus definitely establishing the date of publication. Distribution to members and to other institutions was unavoidably delayed until later in the month. The volume will be sent to over 300 institutions. This circulation compares favorably with most other scientific journals, and is far better than many.

On August 31, 1953, after 10 years and seven months of faithful

and efficient service, Dr. Cornelius Gouwens resigned from the office of Secretary-Treasurer. President Hershey appointed me to fill out the unexpired term. I have found the records of the Academy to be in excellent condition, thanks to the careful work of Dr. Gouwens. The officers, committee chairmen and section chairmen have effectively carried out their official duties and have been most cooperative in aiding and prompting me during my period in office. In particular, Dr. Gouwens and Dr. J. C. Gilman have been very generous with their time and assistance.

The entire Academy is indebted to Dr. F. E. Brown for his continued fine work in supervising the Iowa Science Talent Search and to the Clinton Foods Corporation of Clinton, Iowa, for the substantial sum contributed to make this project possible.

JEAN L. LAFFOON, *Secretary*

## Treasurer's Report

March 1, 1953 — August 31, 1953

### Current Expense Account

#### *Receipts*

Balance on hand March 1, 1953 .....		\$ 444.57
Dues .....	\$ 649.00	
A.A.A.S. Grant .....	178.00	
Interest .....	43.75	
Sales .....	58.78	
Redeposit of returned check .....	1.00	
Miscellaneous .....	.15	
	\$ 930.68	
Total .....		\$1,375.25

#### *Expenditures*

Stationery printing .....	\$ 244.41	
Postage .....	34.58	
Secretary's office expenses .....	6.89	
F. G. Brooks, Honorarium .....	100.00	
J. M. Jauch, Honorarium .....	25.00	
W. J. Thomsen, 1952 Prize Award .....	50.00	
Junior Iowa Academy of Science .....	75.00	
Harris Palmer, A.A.A.S. grant .....	78.00	
P. S. Helmick, A.A.A.S. grant .....	100.00	
Bank charges .....	17.43	
Bad check returned by bank .....	1.00	
To savings account, Int. and fellow fees ....	85.75	
	\$ 818.06	
Balance on hand Aug. 31, 1953 on deposit Union Story Trust and Savings Bank .....		\$ 557.19

### Savings Account

Balance on hand March 1, 1953 .....		\$ 710.76
<i>Deposits</i>		
Interest .....	\$ 4.45	
U. S. Bond Interest .....	43.75	
Fellow fees .....	42.00	
	\$ 90.20	
Balance on hand August 31, 1953 on deposit Union Story Trust and Savings Bank, Ames, Iowa .....		\$ 800.96

**Statement of Total Assets**

U. S. Treasury bond series F	
Face value \$1,000.00, purchased	
December, 1943. Present value .....	\$ 914.00
U. S. Treasury bond, series G .....	3,500.00
Savings Account, August 31, 1953 .....	800.96
	<hr/>
Total endowment fund .....	\$5,214.96
Checking account, current funds on deposit	
Union Story Trust and Savings Bank ....	\$ 557.19
	<hr/>
Total assets August 31, 1953 .....	\$5,772.15

CORNELIUS GOUWENS, *Secretary-Treasurer*

I have received all assets listed above in the name of the Iowa Academy of Science.

JEAN L. LAFFOON

**Report of the Auditing Committee**

(Period of March 1, 1953 to August 31, 1953)

We have audited the accounts of the treasurer, Cornelius Gouwens, and find them correct and in good order. We have verified the balance at the bank and have examined the securities listed and find his statement of assets correct and complete.

JAMES A. SLATER  
P. G. ROBINSON

## Treasurer's Report

September 1, 1953 — March 1, 1954

### Current Expense Account

#### *Receipts*

Balance on hand August 31, 1953 .....		\$ 557.19
Dues .....	\$ 406.00	
Interest on U. S. bonds .....	43.75	
Sales of Proceedings .....	2.16	
	\$ 451.91	
Total receipts .....		\$1,009.10

#### *Expenditures*

Stationery, printing .....	\$ 83.46	
Postage .....	30.00	
Secretary's petty expenses .....	2.84	
Editor's office expenses .....	15.02	
F. G. Brooks, expenses, Academy Conference delegate .....	25.00	
D. C. Stroud, Secy. Jr. Acad., stipend ....	25.00	
Cornelius Gouwens, Secy.-Treas., stipend	50.00	
Jean L. Laffoon, Secy.-Treas., stipend ....	50.00	
Academy Conference, Contribution .....	13.00	
W. D. Frankforter, refund of dues .....	2.00	
Bank charges .....	.60	
Savings account, interest on bonds .....	43.75	
	\$ 340.67	
Balance on hand March 1, 1954, on deposit, Union Story Trust and Savings Bank, Ames, Iowa .....		\$ 668.43

### Savings Account

Balance on hand August 31, 1953 .....		\$ 800.96
<i>Deposits</i>		
Interest on savings account .....	\$ 7.72	
Interest on U. S. bonds .....	43.75	
	51.47	
Balance on hand March 1, 1954, on deposit, Union Story Trust and Savings Bank, Ames, Iowa .....		\$ 852.43

**Statement of Total Assets**

U. S. Treasury bond, series F	
Face value \$1,000, purchased December 1943, due 1955. Present value .....	\$ 929.00
U. S. Treasury bonds, series G .....	3,500.00
Savings account, March 1, 1954 .....	852.43
	<hr/>
Total endowment fund .....	\$5,281.43
Checking account (current expense account), March 1, 1954 .....	\$ 668.43
	<hr/>
Total assets, March 1, 1954 .....	\$5,949.86
Total assets, March 1, 1953 .....	\$5,555.33
	<hr/>
Gain in assets during year .....	\$ 394.53

JEAN L. LAFFOON, *Treasurer*

**Report of the Auditing Committee**

(Period of September 1, 1953 to March 1, 1954)

We, the undersigned, have audited the accounts of the treasurer, Jean Laffoon, and find them correct and in good order.

LOIS H. TIFFANY  
ELLIS A. HICKS

**Report of the Executive Committee**

The Executive Committee met at 2:40 p.m., April 30, 1954, in room 106 of Curtiss Hall, Iowa State College. President H. G. Hershey presided. Others present were R. W. Getchell, J. L. Laffoon, F. G. Brooks, M. L. Grant, G. O. Hendrickson, J. C. Gilman, P. S. Helmick, W. C. Oelke and F. E. Brown.

The reports of the Secretary, Treasurers, Auditing Committees, Editor, Librarian, and the standing committees on Biological Survey, Finance and Endowment, Conservation, High School Relations, Membership, and Science Talent Search were adopted.

The committee considered the question of a manuscript, "A Bibliography of Iowa Birds," by the late Dr. T. C. Stephens. By invitation, Dr. J. H. Bodine met for a short time with the committee to give information concerning the manuscript. It was

moved and accepted that the next president of the Academy appoint a committee to consider what action should be taken on the manuscript.

Dr. Grant reported that he is still investigating possible places for publication of a paper by R. E. Cleary on Iowa fish.

The Secretary was instructed to announce that the next meeting of the Academy will be at Davenport on April 15 and 16, 1955, the host institutions being St. Ambrose College and the Davenport Museum. A motion was made and approved to accept the invitation of Grinnell College to meet there on April 20 and 21, 1956. Tentative acceptance was given to an invitation from Iowa State Teachers College to meet there in 1957.

The committee discussed possible changes in the eligibility requirements for the membership status of emeritus fellow. It was moved and accepted that an amendment to the constitution be initiated, the amendment to provide that a fellow must be 70 years of age and have had a 25-year total membership in the Academy to be eligible for the status of emeritus fellow.

At 5:45 p.m., the meeting was recessed so that the members could attend the dinner and address. The committee reconvened at 9:20 p.m. with the same personnel except for the absence of Dr. Helmick.

It was pointed out that the Academy is an unincorporated association and that this status has certain legal disadvantages. A motion was made and accepted that the next president appoint a committee to initiate the incorporation of the Academy and whatever constitutional changes that might be necessary in order to become a corporation.

Possible uses for the current A.A.A.S grant were discussed. A motion that the decision regarding the grant be deferred for later Executive Committee action was approved. It was moved and accepted that it be the policy of the Academy to pay an annual fee to the Academy Conference of \$1.00 for each 100 members in the Iowa Academy, as requested by the Academy Conference. A motion that it be the policy of the Academy that one copy of a volume of the Proceedings containing a biography of a deceased member be sent to the family of the deceased and that one copy be sent to the author of the biography if necessary.

A letter from C. H. Brown was read. The committee recognized the retirement of Mr. Brown from the directorship of the Iowa State College Library and recognizes Mr. R. W. Orr as the official Librarian of the Academy. The Secretary was instructed to write



letters expressing the appreciation of the Executive Committee to C. H. Brown and Cornelius Gouwens for their past services.

It was moved and accepted to validate the action of the President and Secretary in accepting as associates three individuals proposed for membership at the 1953 meetings but whose names were inadvertently omitted from the report of the Membership Committee.

The meeting was adjourned at 10:50 p.m.

JEAN L. LAFFOON, *Secretary*

## Report of the Committee on Finance and Endowment

The Committee on Finance and Endowment has examined the report of the Secretary-Treasurer and finds that while the finances of the Academy are in excellent condition as of this date, the rise in costs of printing and postage make it imperative that the dues for membership be raised. We therefore recommend that the following amendment to the Constitution be adopted.

Amendment of the Constitution: *Revision of Constitution*

Sec. 3. "*Membership*—The membership of the Academy shall consist of, (1) honorary fellows, (2) fellows emeritus, (3) life fellows, (4) fellows, (5) associates and (6) student associates."

Add paragraph before *Privileges*:

"Student associates shall be elected from bona fide students in institutions of learning. Their student-rating must be vouched for annually by a professor in the department of the institution in which they are enrolled."

Add under *Privileges*: "Student associates shall be entitled to all privileges granted associates.

Sec. 4 *Fees* . . . . third sentence and following: "Fellows shall be required to pay an entrance fee of \$2.00, also an annual fee of \$2.00 due at each annual meeting *including* the one at which time he was elected. Any fellow in good standing may become a life fellow by payment of \$50.00 which shall be additional to the entrance fee. Associates shall pay only the \$2.00 annual dues, but on election as fellows are required to pay the \$2.00 entrance fee in addition to the annual fee for that year. Student associates shall pay only \$1.00 for annual dues."

The Committee further recommends that \$500.00 from the

savings account be invested in U. S. government bonds at such time as will be best suited to the finances of the Academy.

Respectfully submitted,

ROBERT S. CASEY

ROY A. NELSON

L. P. JOHNSON

JOSEPH C. GILMAN, *Chairman*

## Report of the Editor

Volume 60 of *The Proceedings of the Iowa Academy of Science* was officially placed in the mails March 4, 1954. It consisted of 780 pages. Seventeen hundred copies were printed. This is the largest volume of *The Proceedings* yet published. The printing was done by The Verstegen Company of Sioux City. The workmanship is most commendable. We especially appreciate their having equipped themselves to set and print mathematical and chemical formulae and equations.

The editor wishes to express his appreciation of the cooperation of the section chairmen in collecting and screening the papers presented at the meeting and submitted for publication. The section chairmen constitute our editorial board and only with them can we have the proficiency in all fields of science needed for evaluating the papers presented in the various sectional meetings.

F. G. BROOKS, *Editor*

## Report on the Distribution of the Proceedings of the Iowa Academy of Science

March 1, 1953 — February 28, 1954

Since the Proceedings of the Iowa Academy of Science for 1953 were not received in time to be distributed during the present year, it seems desirable to report only on miscellaneous volumes sold during the year. The report on the distribution of volume 60 will appear in the report for the year ending February 28, 1955.

The Report of the Iowa Academy of Science Sales Fund follows:

		1952/1953		1953/1954
Balance on hand	March 1, 1952	\$495.75	March 1, 1953	\$560.75
Sale of Proceedings (plus postage)	1952/53	71.06	1953/54	60.94
Total Funds Available	1952/53	566.83	1953/54	621.69
Disbursement for postage	1952/53	6.08	1953/54	4.19
Balance	March 1, 1953	\$560.75	March 1, 1954	\$617.50

CHARLES H. BROWN, *Librarian*

## Report of the Membership Committee

The membership committee of the Iowa Academy of Science, consisting of the undersigned, wishes to submit the following report. The members of the committee have again been active this spring in canvassing their respective areas for new members. The chairman wishes to express his very great appreciation for the fine work done by his associates on the committee and also by several other Academy members who have aided in the work.

The usual letters accompanied by the pamphlet describing the work of the Academy went out to those schools in which there are few if any active members. This has been done for a number of years with very meager results and it is the opinion of the chairman that this type of mail solicitation is largely wasted effort. Next year it is hoped that more direct personal solicitation can be arranged in a number of areas not easily reached by members of the present committee.

The membership committee wishes to present the following for election to the Iowa Academy of Science:

### Transfer from fellow to emeritus fellow:

Two applications received, but not presented pending action of the Executive Committee relating to this type of membership.

### Transfer from fellow to life fellow:

Orlando C. Kreider, Ames.

### Transfer from associate to fellow:

H. Seymour Fowler, Cedar Falls; Delma E. Harding, Ames; Ellis A. Hicks, Ames; Jean L. Laffoon, Ames; Emmett B. Polder, Dubuque; George M. Robertson, Grinnell.

### Election as fellow—

17 persons whose names are starred in the list of fellows.

### Reinstatement as associate:

R. W. Orr, Ames; James R. Wick, Ames.

### Election as associate—

144 persons whose names are starred in the list of associates.

Respectfully submitted:

L. P. JOHNSON

H. L. DEAN

R. V. DREXLER

R. W. GETCHELL

U. A. HAUBER

O. C. KREIDER

H. T. LIGGETT

W. C. OELKE, *Chairman*

## Report of the Biological Survey Committee

The recently published 60th volume of the Proceedings of the Iowa Academy of Science contains seven papers which represent the work of the members of the present committee and their students, dealing with contributions toward a biological survey of Iowa. These are: Rare Iowa Plants (Thorne), Iowa Vascular Plants (Grant), Flora of Southwestern Iowa (Fay), Flora of Dickinson County (Grant), Flora of Cedar County (Fay and Thorne), Aquatic Monocotyledons of Iowa (Beal), and Certain Compositae of Iowa (Davidson). Much of this, and considerable previous work is summarized in a paper in the present volume (Thorne—The current status of our knowledge of the vascular plant flora of Iowa).

In addition, the same volume contains eighteen other papers in this general field, dealing with algae (Rose), fungi (Moore), aquatic dicots (Monson), violets (Russell), forest types (Dick-Peddie), protozoa (Saxe and Schmidt), ants (King and Sallee), fish surveys (Carlander; and Cleary), carp (Moen), catfish (Harrison), birds (Weston), pheasants (Klonglan and Kozicky; and Nomsen), grackles (Bliese), mammals (Polder), raccoon (Cabalka et al.), and beaver (Sanderson).

Numerous additional examples from other publications could be given of fragmentary contributions made during the past year to a biological survey of Iowa, but the above are cited as representative of the types of work the committee is interested in encouraging. The committee does not expect that all such contributions will ever be compiled into a single series of comprehensive reports, but every year sees many small sections of the Iowa biota, treated taxonomically or ecologically, rather thoroughly studied, with previously gathered information compiled and brought up to date, and new research added. Only in this slow piecemeal way will the full task be brought closer and closer to completion, and, of course, it will never be finished.

The committee is always interested in receiving suggestions concerning what particular projects or phases of biology might be most fruitfully investigated, and, if questions of coordination should arise, it would be willing to act as a clearing-house of information. Our aim is simply stated: to make the biological resources of the

State of Iowa better known and better understood, both to specialists in science, and to the general public.

HENRY S. CONRAD

PAUL MEGLITSCH

H. E. JACQUES

ROBERT F. THORNE

MARTIN L. GRANT, *Chairman*

## Report of the High School Relations Committee for 1954

The 1953 convention of the Junior Academy of Science of Iowa was held in Mount Vernon on the campus of Cornell College on April 17 and 18. The exhibits were on display in a building known as the "Old Gym". In spite of inadequate facilities for properly displaying the exhibits the judges felt that the general quality of the exhibits was much better than in former years. Awards were made as follows:

### SUPERIOR

<i>School and Location</i>	<i>Award</i>
Campus School, Cedar Falls.....	Physical Science
City High, Charles City.....	Physical Science
Wilson High, Cedar Rapids.....	Physical Science
Senior High, Clinton.....	Physical Science
Alpha Beta Kappa, City High, Cedar Falls.....	Physical Science
Roosevelt High, Cedar Rapids.....	Biological Science

### EXCELLENT

City High, Iowa City.....	Physical Science
City High, New Hampton.....	Physical Science-Biological Science
Alpha Beta Kappa, City High, Cedar Falls.....	Biological Science
St. Joseph's Academy, Dubuque.....	Biological Science
High School, Tipton Consolidated....	Biological Science-Physical Science

The essay project was conducted by the Senior Director of Essays, Mr. W. H. Seubert, East High of Sioux City. Awards were made as follows:

### SUPERIOR

<i>Pupil and School</i>	<i>Topic</i>
Don W. Smith, Clinton High	
.....	Potentialities of A.D.C. Saturated Core Magnetic Amplifier
Shirley Larkin, St. Joseph's, Dubuque.....	Osmosis
Wayne Heinmiller, City High, New Hampton	
.....	Construction of an Electric Eye

### EXCELLENT

Gerald Guralnik, City High, Cedar Falls.....	Cosmic Rays
--	-------------

Mary Ann Ploog, City High, Cedar Falls.....	The Atomic Clock
Mark Van Slyke, Jr., City High, Cedar Falls....	Chemistry Magic Wand
Marilyn Meuller, Roosevelt, Cedar Rapids.....	Importance of Washing
Kathleen O'Brien, St. Joseph's, Dubuque.....	The Old Shot Tower
Donald Bauer, Senior High, Keokuk	
.....	How Mankind will Benefit from Stations in Space
Clayton Shalla, Senior High, Keokuk	
.....	Radium and Radioactive Elements
Jim Wilson, City High, New Hampton.....	Cancer
Peter Barstow, East High, Sioux City.....	Journey to Mars
Elaine Pospishil, Wilson High, Cedar Rapids	
.....	Narcotics and the Drug Habit
Sylvia Blaha, Wilson High, Cedar Rapids.....	Modern Drugs

The Executive Committee of the Junior Academy met at Cedar Falls on the campus of Iowa State Teachers College on September 12, 1953. The meeting was called to order by President Emory Howell of Charles City. Other members present were Vice-President Tracy Sweet of Charles City; Secretary Mary Ann Ploog of Cedar Falls; Treasurer Jon Bruns of Cedar Rapids; Senior Councilor, Everett Alton of Iowa City; Junior Councilor, W. H. Diedrichsen of Tipton; Senior Director of Essays, Sister Mary Edwina, B.V.M., St. Joseph's Academy of Dubuque; Junior Director of Essays, Walter Gohman of Campus School, Cedar Falls; Publications Advisor, Richard Van Dyke of Charles City; and Permanent Secretary, Dean C. Stroud of Des Moines. We appreciated the presence of Dr. J. W. Kercheval and Dr. C. W. Lantz, members of the faculty of I.S.T.C., at our meeting. They long have been identified with the work of the Junior Academy. Dr. Kercheval is also a member of the High School Relations Committee of the Iowa Academy of Science.

In line with the suggestion made at the 1952 executive committee meeting for a revision of the constitution of the Junior Academy, it was voted to use the name "Iowa Junior Academy of Science" which conforms to the name imprinted on the new seal. The change seemed to follow the pattern as used by junior academies of other states. At the suggestion of Mr. Stroud the executive committee voted to approve a change from the title of "Permanent Secretary" to "Executive Secretary" as applied to the Junior Academy.

Because of need for copies of our brochure, a revision of its contents was made and information about the Junior Academy and its activities were brought up to date.

New ways for promoting membership in the Junior Academy were discussed. Such suggestions as these were made: 1) Publicity

in the Iowa Science News Letter; 2) Possible TV program over WOI-TV; 3) An article in the ISEA journal about the Junior Academy; 4) Local newspaper publicity.

A new point system for rating the science essays was discussed and accepted as follows: Scientific worth, 30%; Accuracy, 20%; Originality, 20%; Clarity (charts, graphs, English), 30%.

The need for having clubs renew membership in the Junior Academy each year and the securing of new members was an important item of business. At the date of this report, April 22, 1954, the roster of clubs contains 23 names. Of this number 19 were members in 1952-53; 2 are from schools that previously had a club in the Junior Academy; and 2 are new club members this year. The roster of clubs is as follows:

Science Club, High School.....	Panora
Science Club, City High.....	Iowa City
Science Club, City High.....	Charles City
General Science Club, Amos Hiatt School.....	Des Moines
Students of Science, St. Joseph's.....	Dubuque
S. O. S., Wilson High.....	Cedar Rapids
Alpha Beta Kappa, City High.....	Cedar Falls
O. L. V. A. Scientists, Our Lady of Victory Academy.....	Waterloo
Biology Club, Roosevelt High.....	Cedar Rapids
East High Chemists, East High.....	Sioux City
Tipton Science Club, Cons. School.....	Tipton
Science Club, High School.....	Nora Springs
Science Club, Campus School.....	Cedar Falls
Tri Sci, City High.....	New Hampton
Phi-Chem Club, Senior High.....	Keokuk
Bi-Phy-Chem Club, Senior High.....	Oelwein
Ye Atomic Powers, High School.....	Denison
Chem-Phy Club, City High.....	Manchester
Chemistry Club, Senior High.....	Clinton
Science Club, High School.....	Oskaloosa
Science Club PC <sub>2</sub> , High School.....	Clear Lake
Atoms and Eves, East High.....	Waterloo
Science Club, East High.....	Des Moines

Again, the Charles City Science Club, under the able leadership of Mr. Richard Van Dyke, has done exceptionally well in publishing our "Iowa Science News Letter." The slight change in the name was voted at the September 1953 executive committee meeting. We appreciate very much the assistance of Dr. F. E. Brown and his committee in the help given for the September issue of our News Letter. The subscription list has increased over the previous year but it is far from what it should be. The S. O. S. Club of St. Joseph's Academy of Dubuque; the Tri-Sci Club of

New Hampton; the Alpha Beta Kappa's of City High of Cedar Falls and the S. O. S. Club of Wilson High of Cedar Rapids are to be commended for furnishing the majority of the subscriptions this year. With a total student membership of 607 in all the clubs of the Junior Academy, and only 167 total subscriptions, it does not speak well for the individual support of our publication.

The affiliation of the Junior Academy with Science Clubs of America has been in effect during the year in the usual manner. We are grateful to the SCA for their publications that are so useful for club activities.

The recommendations of the High School Relations Committee to the Iowa Academy of Science are as follows:

- 1) To continue the financial support of the work of the Junior Academy to the amount of \$75.00 for 1954-55;
- 2) That the entire membership of the Iowa Academy of Science be asked to promote as actively as possible the formation of science clubs and their enrollment for membership in the Junior Academy;
- 3) That the appointment of the following persons as adult advisors be made for the Junior Academy for 1954-55:  
 Senior Councilor, W. H. Diedrichsen, Tipton  
 Junior Councilor, Harold Bryant, Oelwein  
 Senior Director of Essays, Walter Gohman, Cedar Falls  
 Junior Director of Essays, R. H. Dillon, Oskaloosa  
 Publications Advisor, Richard Van Dyke, Charles City  
 Executive Secretary, Dean C. Stroud, Des Moines

Respectfully submitted,

L. P. JOHNSON

J. W. KERCHEVAL.

DEAN C. STROUD, *Chairman*

## Report of the Committee on Science Talent Search

Each of the seniors chosen for the Seventh Iowa Honor Roll chose a college or university at which to continue his education. Recommendations were written for all of them. We believe that five of them received at least a tuition scholarship. Two honorees failed to secure scholarship grants and information regarding scholarships for two of the honorees has not been received.

Two notices of the Eighth Iowa Science Talent Search were sent to each high school in Iowa. The first notice was sent before the close of school in May 1953 and the second in September. Both included a two color placard suitable for posting on the high school bulletin board. Fifty-six teachers ordered 337 sets of en-



trance blanks from Science Clubs of America. Thirty six completed entries were received by the Iowa Committee on Science Talent Search late in February 1954.

After preliminary examination of papers by individual members of the committee and discarding of those having the lowest grades, all of the better entries were circulated to all members of the committee. Finally the committee met on April 3 and selected the following for the Eighth Iowa Honor Roll:

1. Clark Francis Adams, 610 Second Avenue, Charles City, Iowa.
2. Robert Hanna Helmick, 1065 44th Street, Des Moines 11, Iowa.
2. Richard Orla Poe, 515 Home Park Blvd., Waterloo, Iowa.
2. Deborah Welt, 602 Fifth Avenue, Iowa City, Iowa.
3. Paul James Firnett, 605 Grand Ave., Charles City, Iowa.
3. Robert Waltman Miller, Morning Sun, Iowa.
3. Mary Ann Ploog, 413½ Main Street, Cedar Falls, Iowa.
3. Clark Marcus Varnum, 612 State St., Tama, Iowa.
3. Robert Wayne Woody, 724 East 4th Street, South, Newton, Iowa.

Each of the honorees has selected a college or a university and recommendations have been sent to these schools with a request that scholarships be granted, unless a scholarship has been awarded.

On April 29, Clinton Foods Inc. entertained the honorees at Clinton, and brought the group to Ames on the City of Denver. After the certificates were awarded, Friday, April 30, the honorees, their parents, their teachers and the members of the Committee were guests of Clinton Foods Inc. at a lunch served at the Memorial Union. George T. Peckham, Jr., Research Director for Clinton Foods Inc., represented the company on all of these occasions.

The Ninth Iowa Science Talent Search for Clinton Foods Science Scholarships is already planned. Notices will go to all high school science teachers within a few days.

The committee is under obligation to many persons and organizations for funds, sponsorship, publicity and entertainment of the honorees. Especially we wish to thank Clinton Foods Inc. for their grant of \$2,000.00, Science Clubs of America for sending the entries to us, the Iowa Academy of Science and the Junior Academy of Science of Iowa for their sponsorship, Information Service of Iowa State College for assisting us in circulating information, the newspapers, radio and television stations for their generous contributions to our enterprise, and the citizens of Ames for their assistance in entertaining our guests.

ELERY R. BECKER

GRANT O. GALE

J. V. MCKELVEY

JOSEPH I. ROUTH

F. E. BROWN, *Chairman*

## Report of The Academy Conference Meeting

The Academy Conference held five sessions at Hotel Bradford in Boston, December 28 and 29, 1953. The first session was a business meeting at which reports were heard from Secretary Leland H. Taylor of West Virginia University and from six committees previously appointed.

At the second session a delegate from each academy represented gave a three-minute report on a particularly significant recent activity of his academy. These reports were helpful in providing a knowledge of the extent of academy function.

At the third session there were panel presentations of three topics. Your representative was on the panel assigned to the topic, "Opportunities of Secretaries to Serve their Respective Academies." Other panels discussed the topics, "Opportunities of Academies to Serve the High School Teacher," and "Opportunities of Academies of Science to Serve the Interest of the General Public."

Delegates to the Academy Conference were guests of the A.A.A.S. at a dinner held in the Oak Room of Hotel Bradford Monday evening. The final session was held in conjunction with the Eighth Annual Junior Scientists Assembly held in the Lobby Salon of Hotel Bradford, Tuesday morning, December 29.

F. G. BROOKS

## Report of the Committee on Conservation

Iowa can well be proud that the entire state is covered with 100 soil conservation districts managed as described in last year's report. At the start of 1954, nearly one-fourth of all the farmers of the state, some 44,000, were cooperating actively with their local soil conservation districts in planning and applying soil and water conservation measures. Major practices included are contouring, terracing, strip cropping, grassed waterways, improved rotations, drainage, tree planting, wildlife planting, gully control, pasture renovation and farm ponds.

Much emphasis is given to the watershed approach to soil and water conservation and flood prevention at this time. During the past year, four pilot watersheds were authorized by the United States Department of Agriculture under special appropriation by Congress to develop team-work among local, state and federal

agencies in demonstrating a flood prevention program and to demonstrate the economic and physical effects of a watershed program. These four pilot watershed areas are Honey Creek, Mule Creek, Upper Plymouth, and the Sioux County Soil Conservation Districts, respectively. Each area contains about 8,000 acres and includes all or part of some 40 to 75 farms. Tentative prepared work plans outline improvements to be installed over a five-year period. These include those measures that will be applied by the farmer himself, as well as those that will be applied through assistance available from the Federal government through the Soil Conservation Service.

In the Backbone State Park area, where silting and flood damages have been quite severe, conservation progresses well through cooperation of the district commissioners in the area affected, the Iowa State College Agricultural Extension Service, the Iowa State Conservation Commission, and the Soil Conservation Service. Major projects include recommended purchase of lands unsuited for agriculture and the expansion of the land treatment program.

The Iowa State Board of Control has agreements with local soil conservation districts covering plans for conservation work on all of the lands under their control. Great strides have been made in improvement of drainage, pasture renovation, better rotations and mechanical practices.

At its 1949 spring meeting the Conservation Committee of the Academy accepted from the Iowa State Conservation Commission the responsibility of acting in a research and advisory capacity on the care and use of the Howard County and Pocohontas County prairie tracts recently purchased by the Commission. These two tracts have since been designated by the Commission, respectively, as the Hayden prairie and the Kalsow prairie. The former is 199 acres in extent and the latter is 160 acres.

Past studies indicate that, floristically, the two prairie tracts are uniform areas of great homogeneity individually and in comparison with each other, and that the Hayden prairie gave significantly greater yields of forage and mulch, but not of roots, in the upper 18 inches of soil. More favorable climate in terms of precipitation and temperature, more favorable aeration porosity in the upper soil and more favorable previous treatment may account for the greater quantity of hay and mulch at the Hayden prairie. Mowing for hay had been closer and more frequent on the Kalsow than on the Hayden prairie.

On the basis of the above information, plans were made by Dr. J. H. Aikman to investigate the effect of the removal of excess

organic matter by burning portions of the Hayden prairie. In each of eight pairs of plots 144 by 144 feet selected at random, one plot was burned and the other left unburned for comparison. The burning operations by the fish and game division of the Iowa State Conservation Commission were successfully completed on February 19, 1954.

Quantitative investigations of the quantity of organic matter removed by burning and of the effect of this removal on the floristic composition and general plant growth conditions of the prairie vegetation of the tract are in progress. It is anticipated that the information obtained from the burning experiment will be of much value in making management plans for prairie areas in this and other states.

In the cooperative Federal aid and State farm-game habitat program of the Iowa State Conservation Commission, on a total of 205 areas, including 547 acres of privately owned land, 558,042 trees and shrubs were planted, and parts of the areas were seeded to grass in the past four years. As part of the same cooperative program during the past year about 3,000 acres of land were purchased for marsh restoration by the Commission.

The cooperative Federal aid and State fisheries program is carried out by the Commission in these basic directions: the acquisition and development of public access to streams and lakes, the acquisition and development of sloughs for spawning areas adjacent to major fishing lakes, and the acquisition and development of abandoned strip coal mines for fish and wildlife purposes.

The Commission has purchased 733 acres in three mine areas. Completed construction recently created three water impoundments on the Pella mine area to which access roads have been built. About 72,500 trees and shrubs have been planted for wildlife cover and erosion control, and many acres have been seeded to legumes and grasses at mine areas.

In the field of fisheries recent years of liberalized fishing regulations have provided much more outdoor recreation for the people of Iowa. Creel census and lake surveys designed to evaluate populations do not indicate declines in abundance of the important species.

The populations of pan-fish types, such as perch, crappie, bluegill and bullhead, are generally about normal. The yellow bass, where established, are abundant and are providing excellent angling. The results of recent introduction of this species in three lakes are under careful observation, since the need for a good

nid-season fish is great and the yellow bass leaves little to be desired in this respect. The white bass has declined in most lakes, possibly following cyclic tendencies.

The chief predatory species, including walleye, northern pike and black basses, are maintaining themselves well. Catches have been normal for them, despite increased angling pressure in the past ten years and a considerably increased length of season during the past four years. The recent years of high water have contributed toward an increase in northern pike populations.

The rough fishes, including carp, buffalo, gar and sheepshead, are under fair control. The removal of these fishes from inland waters is accomplished entirely by the Fisheries Department of the Conservation Commission using seines and traps in strategic areas. In recent years adequate water levels have aided in affecting peak operations of permanent weir traps at major inlet areas of lakes. The numerous gizzard shad poses very difficult problems in a few lakes, particularly at Blackhawk Lake, Sac County. Intensive seining and a heavy predator stocking program are tending to reduce the shad population.

The population of minnows in the natural lakes may be considered normal at this time. The desirable spot-tail shiner has returned in abundance in some of the major lakes.

In southern Iowa, with few natural lakes, the artificial lakes and reservoirs provide many acres of fishing water. New areas are continuously planned and constructed. Four new lakes: Geode, Darling, Nine Eagles and Cold Springs, were opened to fishing on June 15, 1953. Fishing success on opening day and through the remainder of the season was considered excellent.

Hatchery trout are stocked each year in the same numbers, but the trend during the past few years is to release trout of a larger average size. The channel catfish population, apparently dominated by a large sub-adult group, is thought to be larger than at any time during the last three years. Walleye populations, on the increase, are dominated by the 1948- and 1951-year classes. Exceedingly good year classes in 1950 and 1951 have increased the population of northern pike to a five-year high, a probable peak. The crappie population in the rivers had a good 1950 hatch and river crappie fishing was at a four-year peak in 1953. Smallmouth bass populations, dominated by the 1948- and 1949-year class, reached an angling peak in 1953, and poor reproduction in 1950 and 1951 may cause a decline in the fishable portion of the population soon.

Among the mammals, three species of fur-bearers have extended their recorded ranges. The gray fox recently was reported from Boone, Monona, and Crawford counties by Conservation Commission employees. An otter, taken illegally in Jackson County in March this year, is in possession of the Conservation Commission. This is the farthest south record of the state for the species in recent years. A bobcat was seen by Professor Polder and students in Dubuque County in May, 1953, and he has reports of the species from adjacent counties. The raccoon population continues to be large, although dead raccoons are reported somewhat more frequently this spring than in recent years.

Because of the numbers of nuisance reports and the small number of beavers trapped late last year, the Conservation Commission opened a late winter season for taking beavers, February 1 to March 15, 1954. Fur buyers reported purchase of 6,565 beaver pelts for the two seasons. The beaver's take of corn and flooding, which results from the animal's dams in streams, is considered by some farmers not to be offset by current low pelt values. The complaints are the most numerous in northern and eastern counties. The farmer is urged by the Conservation Commission to trap in season, and to obtain permission to blow up dams when the Commission and he determine them as causes of destructive floods.

Approximately 4,000 deer were taken by hunters in the first open season on the animal in about 75 years. Nearly 4,000 licensed hunters and an estimated larger number of farmers, not required to have licenses to hunt on their own lands, sought the deer. A February, 1954, count by Conservation Officers estimated 12,000 deer in all of the counties of the state. The highest concentrations are in northeast and southwest timbered areas along larger rivers.

With drouth conditions muskrat production was low last year. Cottontails are at a low level, with highest numbers in southwest counties. Fox and gray squirrels increased slightly in the past year. In squirrel hunters state-wide reports more than 90 percent of the take was fox squirrels.

Among the birds, the scarcity of open water last autumn kept the waterfowl from settling in large numbers on their way south. Preliminary observations this spring indicate a greater number of migrant waterfowl than last autumn's counts may have suggested. The prairie chickens are reported from the same localities, perhaps in lesser numbers than last year. The early 1954 counts of bobwhites by Conservation Officers indicated no marked change

in their number from 1953. The ring-necked pheasant population centers shifted to some extent in 1953, for increases over previous years were noted in southwest and west central areas, whereas the birds were below peak numbers in northern counties. Ruffed grouse, confined to northeast counties, showed increases last year.

The training of teachers in conservation education is expanding. The Izaak Walton League and the All Iowa Conservation Council are offering scholarships to teachers at the Cooperative Teachers Conservation Training School, which holds two sessions each summer at Springbrook State Park near Guthrie Center.

To learn the current programs of conservation teacher training in Iowa colleges Dr. H. S. Fowler conducted in January and February, 1954, a survey of their conservation education offerings. The list of colleges offering teacher-education was taken from the pamphlet, *Information About Selection and Placement of Teachers*, a publication of the Iowa Association of School Boards. Questionnaires were sent to 23 senior colleges and to 19 junior colleges. Replies were received from 20 senior colleges and 17 junior colleges.

Of the 37 colleges participating in the survey, 17 offer courses in conservation. These courses are offered at the freshman level in 11 schools, sophomore level in 12; junior level in 9, and senior level in 9. Four colleges offered graduate credit in conservation. Credit for the courses in conservation vary from one semester hour to nine quarter hours. Only three colleges offer conservation as a separate course, 16 colleges integrate conservation with other subjects, chiefly biology, while 8 colleges reported that conservation was taught both ways.

Only five colleges indicate that their conservation courses were of the workshop type. Six colleges offer the courses in the regular session, two offer courses during summer sessions and ten colleges offer conservation courses both in the regular session and in the summer session. In regard to techniques used in the course, 18 colleges indicated use of textbooks, 19 listed field-trips, and 15 invited resource persons to instruct.

Ten of the colleges enroll less than 25 persons in their conservation courses each year, two colleges have 25 to 50 enrolled, three have 51 to 75 students, two enroll 76 to 100, and in three colleges more than 100 students enroll in conservation courses.

Conservation courses are offered in a variety of departments in the colleges. The departments listed more frequently are Biological Sciences, Education and those in a division of Agriculture.

Courses offered have a wide variety of titles, depending upon the departments in which the courses are presented.

Eighteen colleges reported that they covered Soils, 18 mentioned Water, 17 included Forests, 18 covered Wildlife and Fishes, 10 mentioned Human Resources, and 13 colleges indicated they included Conservation of Mineral Resources in their conservation courses. One college reported History and Socio-economic relations as an integral part of their program, while one college mentioned inclusion of flood control.

During the coming summer, courses in conservation will be offered at only five different institutions. This seems regrettable, since summer is the time in which many teachers improve their professional standing by procuring additional course work.

This survey of college offerings in conservation opens the way to additional studies concerned with the need for conservation training on the part of Iowa teachers such as these. Do school administrators believe conservation is an appropriate and necessary part of the teacher-training program? What are the basic understandings in conservation needed by public-school teachers? Is there a need for a required course in conservation for teachers-in-training? How do public school teachers teach conservation? How may conservation be taught better in elementary and secondary schools?

Respectfully submitted,

GEORGE O. HENDRICKSON, *Chairman*

**Committee:**

J. H. Aikman	F. H. Mendell
M. A. Ellerhoff	E. B. Polder
H. S. Fowler	E. B. Speaker
H. G. Hershey	G. O. Hendrickson

## Report of the Committee on Resolutions

RESOLVED:

1. That the Academy express deep gratitude to the administration and faculty and especially to the Local Committee at Iowa State College for the excellent facilities provided at the meeting of 1954.

2. That we express our sincere thanks to Cornelius Gouwens for his many years of faithful service to the Academy as one of



its most able Secretary-Treasurers.

3. That an expression of sincere thanks be extended to C. H. Brown for long and faithful service as Academy Librarian.

4. That the Academy commend and thank Clinton Foods, Inc. for continued contributions toward the maintenance of the Junior Academy of Science and the Science Talent Search in Iowa.

5. That we deplore the tendency of some elements of government to make it difficult or impossible for talented scientists to effectively serve their country.

H. S. CONARD

P. S. HELMICK

R. L. HULBARY, *Chairman*

### Report of the Necrology Committee

The committee on Necrology reports the passing of the following members and requests that the audience rise while their names are read: Nathaniel G. Alcock, Harry M. Blomquist, John F. Carlson, Charles C. Deam, Arthur C. Gilkey.

Respectfully submitted,

CHARLES GWYNNE, *Chairman*

J. K. KNIPP