

1964

## Reports - Financial Statement; Report of the Editor; Committee Reports; Conservation in Iowa, 1963

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1964]

## REPORTS

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**Financial Statement**

December 31, 1963

## GENERAL OPERATING FUND

Balance from December 31, 1963 ..... \$ 858.77

## Receipts:

Dues	\$ 2,782.88
Exchange of Scientific Documents	195.50
Gifts	2.00
Bond Interest	82.80
Interest on savings	395.20
AAAS grant	555.00
Refund on AAAS expenses	4.95
Postage Refund	11.72
Visual instruction credit	1.16

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4,031.21

4,035.30

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\$ 4,889.98

## Expenditures:

Printing	768.48
Jiffy Bags	87.20
Supplies	54.36
Phone calls	59.41
Postage	704.28
Dues refund	.50
Bank charges & corrections	1.30
Returned check	1.00
Talent Search	398.29
Editorial expenses	124.79
Travel expenses	204.91
Honoraria:	
P. A. Meglitsch	100.00
D. C. Foley	100.00
Ames meeting expenses	264.12
Academy conference	35.52
AAAS grant:	
Sister M. A. McManus	280.00
E. R. Brady	275.00
Science Teaching Journal	445.34
Transfer to savings	130.80

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4,035.30

Cash on hand December 31, 1963 ..... \$ 854.68

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\$ 4,889.98

## PARISH MEMORIAL FUND

Deficit for 1963 ..... -438.54

## Receipts:

Rent	4,140.00
Pump refund	49.50

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4,189.50

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\$ 3,750.96

## Expenditures:

Fire association	5.00
Taxes	920.68
Phone calls	5.70
Legal services	414.00

Insurance .....	50.16	
Mileage .....	30.94	
Repairs & upkeep .....	1,105.10	
	<u>2,531.58</u>	
		2,531.58
Cash on hand December 31, 1963 .....		<u>1,219.38</u>
		\$ 3,750.96

SUMMARY

General operating fund		
Balance brought forward .....	858.77	
Receipts .....	4,031.21	
Total .....	<u>4,889.98</u>	
Parish fund		
Balance brought forward .....	-438.54	
Receipts .....	4,189.50	
Total .....	<u>3,750.96</u>	
TOTAL RECEIPTS .....		\$ 8,640.94
General operating fund expenditures .....	\$ 4,035.30	
Parish fund expenditures .....	<u>2,531.58</u>	
Total .....		\$ 6,566.88
Balance in checking on December 31, 1963 .....		<u>2,074.06</u>
		\$ 8,640.94

STATEMENT OF ASSETS

U. S. Savings Bonds .....	\$ 3,000.00	
Aines Building & Loan Savings .....	6,344.10	
Union Story Trust & Savings .....	218.64	
Checking account .....	<u>2,074.06</u>	
Total assets on December 31, 1963 .....		\$11,636.80
Total assets on December 31, 1962 .....		<u>9,852.17</u>
Net gain during 1963 .....		\$ 1,784.63

## Report of the Editor

At this time, 2100 copies of Volume 63 of the *Proceedings of the Iowa Academy of Science* are being printed by the Graphic Publishing Co., Inc., Lake Mills, Iowa. They will be released early in May. The editor must apologize to the Academy for the late release of the volume. Every effort will be made to hasten the delivery of the next issue. I cannot too strongly express my gratitude to the editorial board, without whose hard work and cooperation the publication of the *Proceedings* would be almost impossible. I wish to thank the many contributors, also, who have cooperated with them in our efforts to establish a more uniform style for the *Proceedings*.

PAUL A. MEGLITSCH, *Editor*

## Report of the Finance and Endowment Committee

The assets of the Academy were increased by more than \$1700 during the year, which was somewhat greater than a deficit sustained during the preceding year. This indicates a sound financial position and suggests that moderately increased activities can be financed with our present income.

The deficit of 1962 resulted in large part from initial heavy costs of rehabilitation of the buildings on the Parish farm. With the completion of the most urgent repairs and additions, the farm began to provide income to the Academy in 1963, and the increase in assets came largely from this source. A moderate and regular program of improvement of the buildings over a period of several years is contemplated, so as to bring the property to a status which is comparable to that of adjacent farmsteads. Over this period, a restricted but yet substantial income will be realized from the Parish farm.

A successful and expanding Visiting Scientist Program was made possible through a further substantial grant from the National Science Foundation. Because of this NSF support, the Academy was able to expand approximately \$20,000 during the year on this worthy program. An application for a grant to support a reactivated Junior Academy program was submitted to the NSF through the High School Relations Committee.

The present receipts of the Academy are such that a moderate increase of activities may be undertaken, such as support of the Junior Academy and the expansion of the program for the annual meeting of the Academy. In order to cope with a major increase in costs, such as paying the salary of a full-time secretary or field representative, or bearing the entire cost of printing the Proceedings, it would seem that sources of additional income must be sought.

### RECOMMENDATIONS

1. The Parish farm be leased for an additional period of three years, beginning March 1, 1965, to the present tenant, Mr. Nelson Sager. The rental fee is to be increased from \$17.25 per acre to \$18 per acre, with the possibility that an increase in fee may be negotiated when substantial improvements are made in the farm buildings. Concurrently with the new lease, our legal representative, Mr. B. E. Hunter, has agreed to accept a reduction of his fee from 10 per cent of the gross income to \$300.

2. A provision be made in the annual budget for an amount in the range of \$1000 to \$1500 for the rehabilitation or replacement of dilapidated buildings for normal maintenance.
3. An exploration be made of the possibility of voiding the clause of the Parish will which requires the Academy to retain possession of the farm for a period of 75 years.
4. Continuing or expanded financial support be given to the Junior Academy through the High School Relations Committee.
5. Continuing support be provided to the Science Teaching Committee for defraying part of the cost of publishing the Iowa Science Teacher's Journal.
6. No major new financial commitments, such as engagement of a full-time secretary, be considered without a concurrent increase in dues of members of the Academy.
7. A determined effort be made to keep Iowa legislature properly informed of our objectives and activities, with a view to insuring continuing financial support for printing and Proceedings.

PROPOSED BUDGET, PARISH FARM FUND, 1964

RECEIPTS

Rent .....	\$4,140.00	\$4,140.00
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EXPENDITURES

Taxes .....	\$ 920.00	
Legal services .....	414.00	
Insurance .....	50.00	
Fire protection .....	15.00	
Mileage .....	50.00	
Repairs and upkeep .....	1,000.00	
	<hr/>	
	\$2,449.00	\$2,449.00

Net Income .....		<hr/>
		\$1,691.00

F. EMMITT JACOB, Des Moines  
 VERNER JENSEN, Cedar Falls  
 DON LEWIS, Iowa City  
 NEAL F. MOREHOUSE, Charles City  
 FRANK R. PARCHEN, JR., Clinton  
 IRVIN H. GERKS, CHM., Cedar Rapids

## Report of the Membership Committee

During the year from April 20, 1963 to April 17, 1964, the membership committee of the Iowa Academy of Science elected 188 new associates and 130 new student associates. At the spring business meeting on April 17, 1964, the Academy approved 2 transfers from fellows to emeritus fellows, 10 transfers from associates to fellows, and elected 13 new fellows. The resulting membership of 2074 consists of 1 honorary fellow, 61 emeritus fellows, 10 life fellows, 627 fellows, 905 associates, and 470 student associates.

The names of the honorary fellow, emeritus fellows, life fellows, transfers from associates to fellows, and new members of all classes are listed below:

### HONORARY FELLOW

Conrad, Henry S. (07G) ..... Lake Hamilton, Florida

### EMERITUS FELLOWS

Aikman, J. M. (28G) ..... Iowa State University, Ames  
 Allen, Edward S. (31A) ..... Grinnell College, Grinnell  
 Bakke, Arthur L. (11G) ..... Iowa State University, Ames  
 Barnes, M. E. (32G) ..... State University of Iowa, Iowa City  
 Bartsch, Paul (1895F) ..... Lorton, Virginia  
 Biester, H. E. (38FG) ..... Iowa State University, Ames  
 Boyd, Mark F. (07F) ..... Rockefeller Foundation, Tallahassee, Florida  
 Bryan, Alvin W. (35FG) ..... State University, Iowa City  
 Buchanan, R. E. (02G) ..... Iowa State University, Ames  
 Clittenden, E. W. (20A) ..... State University, Iowa City  
 Cornog, Jacob (23C) ..... State University, Iowa City  
 Coss, James A. (19C) ..... Morningside College, Sioux City  
 Crosthwait, David N. Jr. (35BC) ..... Michigan City, Indiana  
 Culbertson, J. B. (22C) ..... Cornell College, Mt. Vernon  
 Dodd, L. E. (14B) ..... Port Angeles, Washington  
 Erwin, A. T. (1900G) ..... Des Moines, Washington  
 Evans, John E. (22I) ..... Iowa State University, Ames  
 Gaessler, William G. (16C) ..... Iowa State University, Ames  
 Geiser, S. W. (15F) ..... Southern Methodist University, Dallas, Texas  
 Getchell, R. W. (07C) ..... State College, Cedar Falls  
 Giese, Henry (29B) ..... Iowa State University, Ames  
 Gilkey, H. J. (39ABE) ..... Iowa State University, Ames  
 Gilman, Henry (20C) ..... Iowa State University, Ames  
 Gilman, J. C. (21G) ..... Iowa State University, Ames  
 Gouvens, Cornelius (21A) ..... Iowa State University, Ames  
 Graber, M. E. (20AB) ..... Morningside College, Sioux City  
 Gwynne, Charles S. (27E) ..... Iowa State University, Ames  
 Hartzell, Albert (18F) ..... Boyce Thompson Institute, Younkers, N.Y.  
 Hawk, Grover C. (17F) ..... Hedrick, Iowa  
 Heitkamp, George W. (17BC) ..... Loras College, Dubuque  
 Helmick, P. S. (15B) ..... Drake University, Des Moines  
 Hissong, R. D. (31FG) ..... Sioux City  
 Kemmerer, Mrs. Mable C. Williams (04I) ..... Claremont, California  
 Knight, Harry H. (25F) ..... Iowa State University, Ames  
 Lantz, C. W. (22G) ..... State College, Cedar Falls  
 Levine, Max (25G) ..... Honolulu, Hawaii  
 McKelvey, Joseph V. (21A) ..... Iowa State University, Ames  
 Martin, George W. (24G) ..... State University, Iowa City

Melhus, Irvin E. (16G)	Iowa State University, Ames
Meyer, Alfred W. (25B)	Coe College, Cedar Rapids
Moots, Elmer E. (23A)	Whittier, California
Paddock, F. B. (24F)	Iowa State University, Ames
Palmer, E. Laurence (14G)	Ithaca, New York
Patterson, T. L. (20F)	Corona del Mar, California
Peterson, Ben H. (21C)	Coe College, Cedar Rapids
Plagge, Herbert J. (13B)	Iowa State University, Ames
Runner, J. J. (20E)	State University, Iowa City
Sanders, W. E. (01FG)	Tucson, Arizona
Schoewe, Walter H. (17E)	Lawrence, Kansas
Sherman, L. P. (20C)	Grinnell
Smith, Helen F. (35A)	Iowa State University, Ames
Snedecor, G. W. (30A)	Iowa State University, Ames
Trowbridge, Arthur C. (12E)	State University, Iowa City
Van Tuyl, Francis M. (11E)	Golden, Colorado
Wellhouse, W. H. (22F)	Iowa State University, Ames
Wilson, Ben H. (17F)	Joliet, Illinois
Willson, L. H. (21B)	Iowa State University, Ames
Witschi, Emil (30F)	State University, Iowa City
Wolden, B. O. (09G)	Estherville
Wylie, C. C. (26A)	Cedar Rapids
Zabel, H. E. (39)	Deer Creek, Minnesota

#### LIFE FELLOWS

Burton, Mrs. Vernon Devine (46G)	Mankato, Minnesota
Jones, David T. (26F)	Bourbonnais, Illinois
Kopf, Kenneth (31G)	San Francisco, California
Kreider, Orlando C. (32A)	Iowa State University, Ames
Miller, Wayne L. (57C)	Burlington
Palmer, Edward C. Jr. (471)	Sioux City
Pilicer, Abraham (57CF)	Cedar Rapids
Wenberg, Edwin H. (38E)	Caracas, Venezuela
Wilson, L. R. (35EG)	University of Oklahoma, Norman
Yos, David A. (53G)	Portales, New Mexico

#### TRANSFERS FROM ASSOCIATE TO FELLOWS

Adams, Richard D.	Himmel, Keith
Anderson, W. I.	Jones, Charles W.
Bohlen, David H.	Lott, Fred W. Jr.
Clausen, Bernard	Lyon, Howard W.
Goss, Robert C.	Sauer, Pauline L.

#### NEW FELLOWS

Anderson, Jack M., Iowa State, Ames	Gibb, E. Glenadine, State College, Cedar Falls
Bachmann, Roger, Iowa State, Ames	Hamilton, E. W., State College of Iowa, Cedar Falls
Clotfelter, Beryl E., Grinnell College, Grinnell	Hinman, Eugene E., Mt. Vernon
Cornette, James L., Iowa State, Ames	Humphreys, James E., Bettendorf
Dittmer, Donald R., Simpson College, Indianola	Lambe, Robert C., Iowa State, Ames
Embree, Robert A., Westmar College, LeMars	Layton, Wilbur L., Iowa State, Ames
	Miller, Wilmer J., Iowa State, Ames

#### NEW ASSOCIATES

Alfred, Sister Mary, Sacred Heart Convent, Early	Aperans, Agris, Cedar Falls
Alspaugh, Wm., Avoca	Ashby, William, Des Moines
Anderson, Ronald M., Marion	Bare, Keith, Marshalltown
	Beck, Harry S., Cedar Falls

- Becker, George C., Stevens Point, Wisconsin  
 Becker, William, Fort Dodge  
 Bennett, William, Eagle Grove  
 Bogard, Dolores A., Des Moines  
 Bosveld, John, Columbus Junction  
 Bredbenner, Novella, Des Moines  
 Brown, Sarah, Newton  
 Burright, John, Pierson  
 Bywaters, James, Keota  
 Caldwell, Viola, Waverly  
 Carolanne, Sister Mary, BVM, Clarke College, Dubuque  
 Carr, Duane T., Coe College, Cedar Rapids  
 Catherine, Sister M., Dubuque  
 Chandler, Everett, Oskaloosa  
 Chapman, Leona Hetzel, Creston  
 Chuck, Edward M., Mason City  
 Clarke, Woodrow, Council Bluffs  
 Classon, Warren, Davenport  
 Cole, Carol, Iowa City  
 Cook, Gilbert, Larchwood  
 Cook, Jerry, Davenport  
 Cox, A. H., Newton  
 Crawford, Daniel, Iowa City  
 Cross, John S., State College, Cedar Falls  
 Cummings, Byran, Columbus Junction  
 Cunningham, Gerald A., Marshalltown  
 Dennis, Sister Mary, PRVM, Charles City  
 De Young, Marvin, Dordt College, Sioux Center  
 Dostal, Melvin F., New Hampton  
 Duncan, David R., State College, Cedar Falls  
 Edith, Sister Mary, Regis H.S., Cedar Rapids  
 Edwardetta, Sister M., St. Joseph's Academy, Des Moines  
 Edwards, David C., Iowa State, Ames  
 Eisenmann, Paul, Iowa City  
 Elliott, Harold, Newton  
 Emery, Elwin, Perry  
 England, John M., Anita  
 Eveland, Vern K., Iowa City  
 Ferguson, Jerry W., Iowa State, Ames  
 Findley, Dale Gene, Muscatine  
 Findley, Jon D., Mediapolis  
 Foster, Glen, Packwood  
 Gano, C. Wayne Jr., Grinnell  
 Genelda, Sister M., Luxemburg  
 Geovanni, Sister M., Dyersville  
 Goecke, Gene, Clear Lake  
 Goettsch, Betty C., Ames  
 Gordon, Alan, Woodward  
 Gregg, Dorothy E., Des Moines  
 Gygi, F. Richard, William Penn Col., Oskaloosa  
 Haman, A. C., State College, Cedar Falls  
 Hanawalt, Ella M., Wartburg College, Waverly  
 Hand, Thomas, Des Moines  
 Handy, Sister Mary A., Dubuque  
 Haney, William, Springville  
 Hankins, Donald, Muscatine  
 Hanson, Robert W., State College, Cedar Falls  
 Harfst, Kenneth, Iowa Falls  
 Hartman, William, Belle Plaine  
 Haun, Richard, Des Moines  
 Helms, Don Ray, Swisher  
 Herdliska, Margaret, Fairfield  
 Hill, Mrs. George R., Newton  
 Hinrichs, Robert, Iowa City  
 Ho, Clara, Iowa State, Ames  
 Hohenthauer, Willard, Lemars  
 Howard, Alan D., Davenport  
 Hubbard, Francis P., Calmar  
 Hungerford, James, Marshalltown  
 Hunt, Gerald, Redfield  
 Hyatt, John D., Truro  
 Janela, Sister M., BVM, Waterloo  
 Jeffries, Virginia, Corydon  
 Jones, J. Ackland, Parsons College, Fairfield  
 Jons, Marilyn, Sac City  
 Kaefersteine, Sister Mary Vincentia, BVM, Clarke College, Dubuque  
 Keithahn, Mrs. Lena M., Mason City  
 Kenkel, Rev. Leonard, Des Moines  
 Koepnick, Larry, Iowa City  
 Koltenbach, Sister M. A., Dubuque  
 Krockover, Gerald H., Iowa City  
 Lair, Clela, Newton  
 Larson, Howard, Roland  
 Larson, Keith D., Ames  
 Larson, Mrs. Virgie, Spencer  
 Larson, W. E., Iowa State, Ames  
 Lee, Millard A., Wartburg College, Waverly  
 Lersten, Nels R., Iowa State, Ames  
 Lewiston, Harley, Jewell  
 Little, Herbert, Council Bluffs  
 Lockhart, Gary, Iowa City  
 Long, Stanley A., Milwaukee, Wis.  
 Loterbour, Alan L., West Union  
 McCoid, Merle, Iowa City  
 McCoy, James, Fort Madison  
 McCurdy, John William, Burlington  
 McKean, Sister Mary Gretchen, Davenport  
 McMeen, James, Iowa City  
 Maatman, Russell, Dordt College, Sioux Center  
 Margretta, Sister M., OSF, Ossian  
 Marianne, Sister M., OSF, Pochontas

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|--|--|
| Marie, Sister William, Ryan                          | Smith, Charles W., Charles City                    |
| Martina, Sister M., Des Moines                       | Smith, Norman, Huxley                              |
| Mary, Sister, Lansing                                | Snyder, Harry E., Iowa State, Ames                 |
| Mast, Sam, Mason City                                | Solon, Lindy, Ames                                 |
| Means, Carl E., Cedar Rapids                         | Sowers, Darrell, Rockwell                          |
| Melchert, Thomas E., U. of Iowa,<br>Iowa City        | Soy, Eloise, Jesup                                 |
| Melsa, Cleon, Iowa City                              | Spera, Agnes, Council Bluffs                       |
| Miller, Loren B., Tipton                             | Sprague, Kenneth, Truro                            |
| Miller, Phillip, Iowa City                           | Sprouse, Gerald, Upper Iowa U.,<br>Fayette         |
| Morris, Peter, State College, Cedar<br>Falls         | Stark, Ronald G., Iowa City                        |
| Morrow, Nancy, North Liberty                         | Statler, S. S., Wellman                            |
| Murphy, Bert A., Madrid                              | Steele, L. L., Iowa City                           |
| Nordenson, Craig D., Dubuque                         | Stockton, Lulu, Newton                             |
| Oliver, Gary L., Mason City                          | Tauber, Anne, Ames                                 |
| O'Neill, William, New Hampton                        | TePaske, E. Russell, State College,<br>Cedar Falls |
| Onken, Richard, Iowa City                            | Tisdale, John R., Cornell College,<br>Mt. Vernon   |
| Pederson, Ordell R., Exira                           | Toomsen, Duane, Waterloo                           |
| Penney, John R., Mason City                          | Torgeson, David R., Iowa State,<br>Ames            |
| Peters, Lyle, Iowa City                              | Tweeten, Paul W., Clinton                          |
| Petersen, Richard Ray, Le Mars                       | Tyler, Dr. D. W., Grinnell College,<br>Grinnell    |
| Peterson, Grant, Marshalltown                        | Vera, Sister Mary, Clarke College,<br>Dubuque      |
| Pilgrim, Donald H., Luther College,<br>Decorah       | Vondra, Carl F., Iowa State, Ames                  |
| Polson, Charles D., Des Moines                       | Von Yeast, Clafin J., Cedar Rapids                 |
| Quinn, Patricia, Iowa City                           | Wagner, Sister Mary Placid, OSF,<br>Dubuque        |
| Reason, Keith S., Clear Lake                         | Walton, Mary, Alden                                |
| Rebertus, Donald G., Oskaloosa                       | Ware, Kenneth D., Iowa State,<br>Ames              |
| Richter, Erwin W., State College,<br>Cedar Falls     | Wehner, Carl, State College, Cedar<br>Falls        |
| Rohan, Sister Mary Isidine, Rock<br>Island, Illinois | Weiss, Ronald D., Ute                              |
| Rosella, Sister M., Breda                            | Welp, Robert R., Fort Dodge                        |
| Roselyn, Sister M., SCC, LeMars                      | Welp, Theodore L., Ames                            |
| Rudkin, Robert, Ottumwa                              | West, D. N., Fontanelle                            |
| Rulon, Russell, Luther College, De-<br>corah         | Whelchel, Stanley, Cedar Falls                     |
| Salyer, Larry D., Guthrie Center                     | White, Bernard J., Loras College,<br>Dubuque       |
| Schenken, Larry L., Cedar Rapids                     | Wild, Wayne, Buena Vista College,<br>Storm Lake    |
| Schenkin, Paul, Cedar Rapids                         | Wilson, Kellogg V., Woodward                       |
| Schirner, Silas W., State U. of Ia.,<br>Iowa City    | Wilson, S. Lane, Drake U., Des<br>Moines           |
| Schrader, David M., State U. of Ia.,<br>Iowa City    | Woods, Floyd, Jr., Washington                      |
| Semler, Duane H., Davenport                          | Young, Tom L., Ames                                |
| Shields, Walter, Des Moines                          |  |
| Sick, Melvin, Stuart                                 |  |
| Sickles, John H., Muscatine                          |  |
| Simpson, Dayton, Greenfield                          |  |

#### NEW STUDENTS

T. Scott Abney, Phil M. Aldrich, Rosemary Andrew, Orm Aniline, Ronald G. Armbruster, Gilbert J. Banville, David J. Behmer, Blair R. Behringer, John Betts, Randall Beyer, David Bice, Billy C. Black, II, Thomas Bobbitt, Ward Bowersox, Charles H. Brinkman, David R. Brown, Edward William Brown, Merton F. Brown, Jr., Rodney Brown, Merlin L. Butikofer, Clinton Clarke, Kenneth G. Clee, Virgil Cope, George W. Cossman, John F. Cox, David C. Culver, Dean H. David, John L. DePasquale, Ted Drish, Warren K. Dunkel, James H. Elwell, Leland C. Ernest, Donald Evans, Richard W. Faas, Douglas P. Fay, Joseph Frangella, David Fredericksen, John A. French, Philip J. J. French, Edgar Ganfield, Phil J. Garry, Ronald

A. Gilson, Richard A. Glahn, Arnold Goldman, Dolores Irma Graf, Bill Gran, Michael W. Hager, Jerry Bruce Halsted, Jane Hanisch, Glenna M. Hayes, Thomas Henzler, James F. Hofmann, Kenneth R. Holmes, Marion Huff, Harlen C. Hunter, Gene Raymond Huntsman, Ross L. Iverson, Thomas Jacobs, David Lee Johnson, John A. Jung, Glen Kellerhals, Sandra Kessler, J. R. Kiekenapp, Dave Kiple, Michael Hugh Kjome, Floris Ann Kloos, Paul D. Knapp, Richard Lear, Robert E. McAdams, Lee I. McCann, John McCarthy, Jean McKinnie, John E. Morris, Kathy Mortenson, Victor G. Mossotti, Benedict F. Neubauer, Larry R. Nielsen, John Norback, Robert J. Olds, Roger Olson, Sister J. Ousephparampil, Carolyn Palcic, Steven Palmer, Michael M. Patterson, Walter F. Pautsch, Jr., Don Perry III, Donald Peterson, Jean F. Peterson, Jean Pierce, Jerry J. Platt, Thomas Reed, B. T. Ridgeway, Raleigh Robertson, Duane Robinson, Gene M. Rohr, Norman Rohrig, Thurman W. Rowse, Charles Michael Rukgaber, Judy A. Sauerbry, Gerald J. Scheppers, Carol Lou Scott, Nancy Senti, Carol M. Shaffer, Robert A. Skillman, Gary Smith, James Payne Smith, Jr., Ellen Snyder, Glenn M. Snyder, Paul Whitney Sparks, C. Robert Sperati, Margaret Patricia Stahl, John Steffens, Robert C. Stevens, Stanley Roger Strike, Edward Thorland, David Thomas, Irwin P. Ting, Paul Toom, James W. Townsend, Nancy Van Horn, David F. Vernon, Neal F. Viemeister, Larry D. Vredenburgh, Richard Watts, Al Wheeler, Jr., Richard W. White, W. Ralph Whitney, George Wolf, Beverly Sue Young, Gail Lynn Zivin.

The names of the following deceased members were read in memoriam:

Aitchison, Allison (08E) . . . . . State College of Iowa, Cedar Falls  
 Bandy, Mark (57E) . . . . . Wickenburg, Arizona  
 Bennett, Walter W. (14f25F) . . . . . Arnolds Park, Iowa  
 Cable, E. J. (06E) . . . . . State College of Iowa, Cedar Falls  
 Cavitt, J. W. (51C) . . . . . Cedar City  
 Craft, W. A. (39F) . . . . . Iowa State University, Ames  
 Davidson, D. T. (f52E) . . . . . Iowa State University, Ames  
 Farley, William W. III (50B) . . . . . Palo Alto, California  
 Hewitt, Earl A. (f35CF) . . . . . Iowa State University, Ames  
 Hjort, Lillian V. (31) . . . . . Oskaloosa  
 Jaques, Harry Edwin (16fe51F) . . . . . Mt. Pleasant  
 Martin, John N. (f12e57G) . . . . . Iowa State University, Ames  
 Medcalf, William E. (63C) . . . . . University of Dubuque, Dubuque  
 Morrison, J. W. (07e50G) . . . . . Alta, Iowa  
 Rundle, R. E. (60C) . . . . . Iowa State University, Ames  
 Sallee, Roy M. (47FG) . . . . . Macomb, Illinois  
 Woods, Roscoe W. (f31e63A) . . . . . State University of Iowa, Iowa City

MEMBERSHIP COMMITTEE

ARTHUR J. BOSCH	O. C. KREIDER
H. L. DEAN	EMIL C. MILLER
KARL E. GOELLNER	HAROLD SWANSON
B. F. GRAHAM	MARY M. VINJE
IRA J. GWINN	WILLARD J. POPPY, <i>Chairman</i>
CHARLES W. JONES	

## **Report of the High School Relations Committee**

The High School Relations Committee met in the fall of 1963 to evaluate the program of the Junior Academy of Science. Committee discussion precipitated a general review and eventual reorganization of structure, philosophy and content of state meetings of the Junior Academy. Much of this work was carried out by individual contact between the chairman and committee members throughout the year.

Developments in the area of specific objectives for the Junior Academy were stated as follows:

1. To provide an effective instrument which can continue serving the interests of schools, secondary students, teachers and Iowa communities every year.
2. To provide educational activities and experiences similar to activities of senior scientists.
3. To promote cooperating relationships between scientists, secondary students, and teachers.
4. To provide recognition for superior student achievement in science activities.
5. To demonstrate the nature of the scientific enterprise by student observation, exploration and participation in science research or activity.
6. To encourage the capable student to continue and enlarge his research interests in science.
7. To provide scientific meetings for junior scientists.
8. To provide opportunities for teachers to enlarge their influence upon capable secondary students outside of regular class situations.

The concept of science-fair type projects was discarded in favor of written and oral presentation of selected student research papers. In addition, student winners in other science organizations were honored by invitation to give their research papers at the state meeting of the Junior Academy.

Certificates of Recognition were purchased to replace certificates of special awards. New membership cards and stationary were also purchased.

Membership in the Junior Academy of Science was opened to

*schools* for the first time. Previously, membership could only be obtained by a science club. This was done to help teacher-sponsors free themselves from the social aspects of club work and concentrate on academic scientific research by individual members in his school. The sponsor is privileged to honor the student by designating him as a member of the Iowa Junior Academy of Science with a membership card.

The official titles and functions of the Junior Academy were changed to parallel those of modern established scientific associations. The officers for 1963-1964 were as follows:

- President—Steve Miller of Mason City
- Vice-President—Dennis Morrell of Charles City
- Secretary—Lewis Heghin of Fairfield
- Treasurer—Larry Langton of Dowling High, Des Moines
- Director of Publications—Walter Gohman of Cedar Falls, S.C.I. High School
- Director of Science Manuscripts—Sister Mary Martina, Dowling High School, Des Moines
- Director of Elections—Ruth Mahan of Cedar Falls, S.C.I. High School
- Director of Programs—William Houser, Roosevelt High School, Des Moines

The Junior Academy meeting was changed to a Saturday meeting and coordinated to the program of the Iowa Academy. Papers were to be read in section meetings similar to the parent organization, the Iowa Academy of Science. Much of this was accomplished by the needed rewriting of the constitution which was offered to the clubs for trial use this year. Their payment of dues were to indicate that they tentatively approved the constitution. At the suggestion of the Board of the Iowa Academy and in line with the present constitution, the delegates are asked to approve the new constitution at the state meeting in Decorah. All indications to date are favorable to the new constitution.

The Junior Academy of Science will be supported in its work during the 1964-1965 school year by a grant from the N.S.F. under the directorship of Dr. Robert E. Yager. The job of directing the grant will be made easier by the new constitution and all that it implies.

The Junior Academy is looking forward to another successful year in 1964-65 with the following directors whose appointments are hereby requested:

- Director of Programs . . . . .
- Director of Science Manuscripts . . . . .

Director of Elections .....  
 Director of Publications .....

The High School Relations Committee wishes to commend the Iowa Academy of Science for its support during this year of study and work. The committee feels that the Junior Academy may become a great stimulating force in the education of Iowa science students.

CLIFFORD MCCOLLUM, *Cedar Falls*      ROBERT E. YAGER, *Iowa City*  
 DAVID V. MCCALLEY, *Cedar Falls*      R. T. PORTER, *Iowa City*  
 WILLIAM AZBELL, *Waverly*      VERNE GUNDERSON, *Mason City*  
 FRANK STARR, *Chairman—Waterloo*

## The Science Teaching Committee

The Science Teaching Committee has been active during the year as the new *Iowa Science Teacher's Journal* has become a reality. Four issues of volume one have appeared and have been met with considerable approval as voiced by the science teaching community of the state. Contributions in terms of articles, news items, and advertisements have been many and of a high quality. There is currently enough material to print four issues of volume two during 1964-65.

In addition to the Journal the committee has assisted the Iowa Science Teachers Association make the transition as it has become an active section of the Academy. The committee has been represented on the executive committee of ISTA and has exerted leadership in the restructuring operations of ISTA. The organization has become much more representative as well as active in promoting effective teaching in the state.

The committee has also been active in completing arrangements for the science teaching section sessions. The forty-two papers for this first year attest to the interest of the group as well as to the activity of the committee.

The teaching committee has considered the problem of teacher recognition at the secondary level. The committee feels that there is merit in the Academy's continued recognition of superior teaching. In fact, the committee recommends an expanded program of teacher recognition.

The Science Teaching Committee has also assisted the High School Relations Committee develop the Science Symposium program for the Junior Academy of Science. The committee

members stand ready to get this program organized as it provides a means of improving science teaching and science curricula in the secondary schools of the state.

Although many activities of the committee have centered upon secondary school teaching, there has been considerable activity concerned with teaching science in the elementary school. Although ideas concerning program and activity centered specifically upon teaching science at the college level have been discussed, little action can be reported.

#### Recommendations

1. The Iowa Science Teacher's Journal should be continued under the sponsorship of the Academy. This should be an expanded version of twenty-four pages instead of the sixteen pages used for volume one. This will increase the cost to about \$1000 for four issues (1600 copies for issue one to be used for promotional purposes and 400 for each of the remaining three issues).
2. The Academy of Science office at Ames should continue as the headquarters for ISTA in terms of mailings to the membership — including the four issues of the Journal.
3. The Science Teaching Section should be continued as a section of the Academy on a permanent basis. Five papers presented at the section meeting should appear in the *Proceedings*; the remainder can be used for material for ISTJ.
4. The Academy of Science should sponsor a general teacher recognition program at the annual meeting. The Science Teaching Committee should organize this recognition ceremony and attempt to coordinate such award programs in the state.
5. The Science Teaching Committee should explore further the possibility of sponsoring teacher conferences within the state with NSF and other outside support.

DONALD BIGGS, Ames  
 JAMES DIVELBISS, LeMars  
 DELMA HARDING, Ames  
 RAY HAUN, Des Moines  
 LELAND WILSON, Cedar Falls  
 ROBERT YAGER, Chm., Iowa City

## Report of the Committee on Science Talent Search

A brochure announcing the Eighteenth Iowa Science Talent Search was sent to all the high school science teachers in the State on April 9, 1963. In November a second mailing was made.

Collins Radio Company appropriated \$1500 in cash scholarships for seven Iowa Honorees, to be presented upon their entering the college of their choice. The Academy supports the administrative costs of the Talent Search Committee.

During 1963, science teachers in 54 schools secured 311 sets of examination materials for participation in the national and state competition. Fifty-one entrees were completed. Two entrants from Iowa received honorable mention in the National Contest.

On February 12, the 54 entrees were returned to Iowa. After individual examination of the papers, the Science Talent Search Committee met at Drake University March 28, and selected seven honorees for 1964. The Eighteenth Iowa Honor Roll is as follows:

- \*1st Place—\$500—Harold Kent Grieshaber, 1528 Tobeson Ave., Bettendorf, Iowa
- \*2nd Place—\$300—Rita Mary Healy, 1322 Union St., Boone, Iowa
- 2nd Place—\$300—Dwight David Walker, 1173 E. Court St., Iowa City, Iowa
- 3rd Place—\$100—Michael Jay Klass, 3630 Pierce Place, Sioux City, Iowa
- 3rd Place—\$100—Nic Wilcox Lebrand, RR1, LeClaire, Iowa
- 3rd Place—\$100—Barry Jay Levin, 1213 Broadlawn, Bettendorf, Iowa
- 3rd Place—\$100—Candace Ann Schau, 1615 Monterey Court, Bettendorf, Iowa
- \*Honorable Mention in 23rd National Science Talent Search

The honorees were entertained at the Collins Radio Company in Cedar Rapids on April 16. On Friday, April 17, they were taken to the meeting of the Iowa Academy of Science where each received a certificate of his award.

Collins radio company will continue their support of this program next year. The Committee wishes to thank Collins Radio for this continued support.

Science Clubs of America furnished the examinations and other materials by which the contestants were judged. The Committee also thanks the science teachers who give their time and energy to sponsor the contestants.

CHARLES F. ALLEGRE  
R. V. DREXLER  
GRANT O. GALE  
IRVIN H. GERKS

G. CHESTER LEU  
JOSEPH C. ROUTH  
JOE D. WOODS, Chairman

## Iowa Visiting Scientist Program 1963-64

The Iowa Visiting Scientist Program opened its fourth busy year with a greater number of early September visits than have been made in years past. Many schools now depend on this Program to provide some enrichment for their science and/or mathematics programs. Already a number of requests have been made for scientists to visit schools during 1964-65. During this year a number of schools requested help from the Visiting Scientist Program for the first time.

To date, all schools appear to be most satisfied with the scientists' visits and no unhappy situations have developed. Ten schools have cancelled their visits because of unexpected conflicts.

One variation of the 1963-64 Program was the evaluation-orientation session held for scientists, teachers, and schools on October 12, 1963 at Iowa State University. The details of this session will be presented later.

### A. General Information

1. Scientists and visits	1963-64	1962-63
Number of scientists participating .....	103	103
Number of scientists who have made visits .....	95	94
Number of visits made as of March 18, 1964 .....	257	263
(as of 4/8/63)		
Number of visits arranged but not completed .....	76	50
Number of visits cancelled .....	10	4

This year the scientists have been requested to complete as many planning sessions as possible by telephone in order to extend the travel funds. In the past, the scientist has usually visited the school in advance of his visit to plan with the administrator, teachers, and students. The scientist has made a personal planning visit where he feels it is essential and personal planning visits have been made if the scientist were new or if the school were being visited for the first time. It is anticipated that more than 350 visits will be completed before the end of this school year.

A study was made in October which produced the following information:

#### 1. Schools

Number of schools never requesting a scientist—130
Number of schools requesting 1st year only—46
(Some reorganization as some schools are no longer listed)
Number of schools requesting 2nd year only—50
Number of schools requesting 3rd year (for the first time)—56
Number of schools requesting 4th year (for the first time)—27
Number of schools requesting 1, 2, 3, 4 years—16
Number of schools requesting 1, 2, 3 years—23; Number of schools re-

questing 2, 3, 4 years—19; Number of schools requesting 3, 4 years—21; Number of schools requesting 1, 4 years—4; Number of schools requesting 2, 4 years—9; Number of schools requesting 1, 2, 4 years—7; Number of schools requesting 1, 3, 4 years—5; Number of schools requesting 2, 3 years—23; Number of schools requesting 1, 2 years—20; Number of schools requesting 1, 3 years—12.

Number of catholic schools participating during last four years—31

Number of junior colleges—3

Number of elementary schools only—6

Number of private schools—2

Number of junior high schools only—5

Schools who did not like program during an only trial and no more requests—4

Schools who cancelled or visits were not properly handled and no more requests (for past three years)—11

Areas of help:

Chemistry (Biochemistry)	Physics
Biology	Psychology
Science Education	Electronics
Geology (Geological Survey)	Astronomy
Mathematics	Zoology
Botany	Sociology
Conservation	Aeronautics
Chemical Engineering	Metallurgy

Areas of help needed:

- All areas in western Iowa
- Biologists at Luther or Waverly or Cedar Falls
- Chemists at Cornell
- Biologists and Chemists at Crinnell
- Biologists and Physicists at Drake
- Could use more biologists at Ames
- Scientists in all areas at Morningside College

*B. Evaluation-Orientation Meeting*

Since no evaluation had been made of the Iowa Visiting Scientist Program since its inception a representative group of scientists and school personnel were invited to meet at the Memorial Union, Iowa State University, Ames, October 12, 1963. All scientists who had not visited schools before were invited to attend this meeting also in an effort to orient them to the Program. The program, discussion topics, and list of participants is attached.

This meeting was most successful because it provided an opportunity to exchange ideas to improve the school visits and administration of the Program. A list of discussion topics was sent to each participant in advance and the discussions were most helpful.

The Academy Treasurer has issued a report which includes the financial summary for 1962-63 and the first half of the 1963-64 of the Iowa Visiting Scientist Program.

*C. Program Evaluation*

Interest and cooperation still is high among the participating

scientists. They have made the visits as requested, unless there was a conflict with other commitments, and have helped recruit other scientists' help. Most of those going on leave have participated after they returned.

The schools are most enthusiastic as evidenced by the evaluation sheets they complete after a scientist's visit. (See attached evaluation sheets.)

#### D. *Publicity*

The University of Iowa News and Information Service has made every effort to publicize this Program locally. A notice of the scientist's visit has been sent to the local papers previous to his visit so the community is informed of his coming. This apparently has created interest among the parents who, in some cases, have met with the scientist.

#### E. *New Areas*

Curriculum help still is one of the areas which schools most frequently request help. It is hoped the Iowa Science Curriculum Guides will be available to the schools next year and, if so, more help will be requested in this area.

Schools are still requesting help in the content areas in an effort to keep their teachers informed of new developments in science.

The effort to include and emphasize psychology this year did not result in numerous requests for help in this area. Possibly more schools will feel the need in this area next year.

The National Science Foundation is again to be commended for the way it has handled its part of the Iowa Visiting Scientist Program. The freedom allowed the director has helped meet the various requirements of each school. It is hoped the Program for 1964-65, authorized by the recent grant from the National Science Foundation, will help develop even more enthusiasm and understanding of science and mathematics.

## Conservation in Iowa, 1963

Iowa is blessed with soil and water resources upon which its wealth as an agricultural area is built. These resources are also essential for industrial development and for the health and recreation of our population present and future. Agriculture, industry and population are putting increased pressure on these resources. The Iowa Academy of Science includes within its membership specialists in many aspects of natural resource management and thus has a particular opportunity and responsibility to provide leadership in the formulation and coordination of conservation concepts. Each year the Committee on Conservation has summarized the principal developments in various aspects of natural resource management in Iowa.

As of June 30, 1963, approval had been secured for 54 Small Watershed Programs, with 3 of these completed and with 25 awaiting planning priority. In the Little Sioux Flood Prevention Project, a pioneer project started in 1946, 49 sub-watershed projects are now completed, 3 are under construction, and 3 others being planned. Modern soil surveys have been completed and published for 11 counties.

Under the new program in developing income-producing outdoor recreation, 1,082 acres have changed from agricultural to recreational use and plans have been made on an additional 3,583 acres, with 47 owners switching to outdoor recreation as their primary source of income.

New picnic and primitive camping areas were opened up in 1963 on all three major State Forests: Yellow River State Forest, McGregor; Stephens State Forest, Chariton; and Shimek State Forest, Farmington. There are approximately 35,000 woodland owners in Iowa who have an average of 45 acres of timberland per farm. Forest products valued at \$132,000 were taken from 15,227 acres under the Cooperative Forest Management Program in 1963.

Property loss of \$183,000 resulted from 75 wild fires which burned 2,278 acres, the worst record in 10 years. A total of 83 rural fire departments are now supplied with fire tools for use on grass and timber fires where hand tools are necessary to suppress a fire. The first fire tower in Iowa was erected on the Yellow River Forest in 1963.

Tree farming in Iowa continued to increase in 1963. The Tree Farm program, sponsored by the Iowa Retail Lumberman's Association, The Iowa Bankers Association. The American Forest Products Industries, Inc., and The State Conservation Commis-

sion, is designed to recognize landowners who practice good **forestry**. To become a tree farmer, a landowner must actually carry out proper cutting practices, timber stand improvement and other practices on his woodland. The 141 tree farmers now have 10,002 acres of woodland.

The population of white-tail deer, estimated at 19,000 during the winter of 1963, increased to an estimated 33,000 by the December 1963 hunting season. Bow hunters and shotgun hunters harvested 538 and 6,601 deer respectively. An additional 1,137 deer were killed by traffic, illegal hunting, and miscellaneous agents in 1963. The harvest was composed of 69% fawns and 1½ year olds, indicating a conservative harvest. Field surveys by air and ground indicate that the Rio Grande wild turkeys released in the Yellow River Forest in Allamakee County are at least maintaining their original numbers (39 stocked in the winter of 1960-61). They have been found at points several miles from the release site. Ruffed grouse drumming counts indicate a relatively stable huntable population in a limited area of northeastern Iowa. The 1963 brood stock of pheasants increased slightly according to the spring crowing count. Spring weather conditions were very favorable for an early start in nesting activity over most of the primary pheasant range. Brood counts indicated below normal production in north central and northeast Iowa due to severe hail and rainstorms. Reproductive success was excellent in the western third of Iowa, and the greatest population increases were noted in this area. All surveys indicated a higher population in 1963 and the best since 1958. It was estimated that over 1,250,000 cocks were harvested during the extended 54-day season.

The stocking experiments aimed at increasing ringnecked pheasant populations in southeastern Iowa are continuing. Survival of released birds has to date been relatively good, with favorable weather no doubt being of considerable importance. Several more Reeves pheasants were liberated in Stephens State Forest in south central Iowa. However, the total number released to date is too small to give any conclusive results as to this species' adaptability to Iowa conditions.

The 1963 quail population was near a 10-year high due to the build-up in numbers which followed the destructive 1959-60 winter. Most of the quail are in the southern 3 tiers of counties, with huntable numbers as far north as Story County. They are also common along the Mississippi and Missouri Rivers. Over the years, however, quail and other native game bird populations have diminished in southern Iowa, in response to urban expansion, roadside clearing and intensive land use. In limited areas, quail are still numerous. The once common upland

plover is quite rare, and prairie chickens, ruffed grouse and turkey are gone from southern Iowa. Wide scale management programs to retain quail cover would be prohibitive in cost. Therefore, habits of other game birds which may be adaptable to southern Iowa environment are being studied.

Cottontail rabbit populations increased over much of Iowa during 1963. The roadside index was 5.6 rabbits per 10 miles, with a 14-year average of 4.6. Breeding, which began late in February, proceeded rapidly. By March 14, most females were carrying first litters. Warm, dry weather in late winter and much of spring encouraged early breeding and enhanced survival of more juveniles than normal. A decline in numbers of jackrabbits has occurred since 1958.

Squirrel production was low in 1963. Juvenile/adult age ratios were 1.02 for fox and 0.65 for grays compared to 14-year averages of 1.17 and 0.97 respectively. Production was reflected in below normal success reported by hunters. Mast crops, consisting of nuts and acorns, were low over much of northern Iowa and near normal in southern areas.

The favorable weather conditions and excellent marsh water levels in the prairie pothole region of Iowa were responsible for a small increase in the number of nesting waterfowl. A total of 2,169 birds were banded this summer by drive trapping in selected marshes in the prairie pothole region. Of the birds banded, approximately 75% were blue-winged teal, 10% mallards, 8% coot, 4% wood ducks, and 3% other species. Iowa had a split waterfowl season this fall for the first time. Hunting from October 5 to 13 was above average and required only 2.08 hours to bag a duck, 34% of which were bluewinged teal, 19% wood duck, and 14% mallard. From October 26 to November 17, the bag consisted of 18% bluewinged teal, 11% wood duck, and 32% mallard and it took 5.10 hours per duck harvested.

Cooperative Wildlife Research Unit investigations have continued with emphasis on disease incidence in wildlife, serology and ecology of pheasants, development of a new census technique for wood ducks, and a re-evaluation of the call count method for censusing mourning doves. Two books were published the past year:

Errington, Paul L. 1963. Muskrat populations. Iowa State Univ. Press. 665 pp.

Haugen, Arnold O. and Harlan G. Metcalf. 1963. Field archery and bow hunting. Ronald Press. 213 pp.

Precipitation during 1963 did not cause any serious flood problems in Iowa. Adequate rainfall throughout the growing season reduced the need for irrigation in 1963 but increased

interest in irrigation was noted as the year ended with moisture deficiencies throughout the State. On December 31, 1963, water-use permits in force included 505 for irrigation, 26 for recreation, 391 for industry, 94 for municipal purposes and 370 for storage. All requests for renewal of permits terminating in 1963 were granted. The Iowa Natural Resources Council initiated activity in the field of comprehensive planning for water management and a committee representing state agencies with interests in this field was organized. Representatives of the Council held numerous meetings throughout the state with local groups, communities and counties who have become more interested in flood plain zoning and the effect of floods on proposed future development.

The Soil Conservation Service reports that 77,506 cooperators are helping in soil and water conservation on 14.5 million acres in Iowa. Terracing, the most significant land treatment measure, showed a 12% increase in 1962-3 over the preceding 2-year period. A new push-up type of terrace with seeded backslopes permits the use of wider power equipment and the development of more farmable land surface. As the land between the terraces is farmed, the soil moves down the slope decreasing the grade until eventually the land being farmed forms level benches.

The water levels in the shallow water-table wells throughout the state were slightly above average at the beginning of 1963. The water levels declined until spring rains brought about a seasonal rise but during the late summer levels began to decline and at the end of the year they were generally slightly below average. Thus, a net loss of ground-water storage slightly occurred during the year, reflecting the below-normal precipitation recorded over the state. No major changes were apparent in the cones of depression in the deep Jordan sandstone aquifer at Mason City. Owing to the use of air conditioning during the summer, the water level in the Silurian aquifer at Cedar Rapids declined about 1.5 feet.

Streamflow in 1963 for Iowa streams was mostly below median. The year started with normal streamflow in the northern part of the state and below median in the southern part. Fortunately, July was exceptionally wet except in the extreme western part of the state, temporarily relieving the drouth conditions. Dry conditions prevailed the remainder of the year. October streamflow was the lowest since 1956 in the southern and north-western parts of the state. Winter arrived with streamflow below median.

Over three dozen stream improvement devices were installed

in Elk Creek in Delaware County, in cooperation with the Delaware County Conservation Board and the Fisheries Section of the State Conservation Commission. Several different kinds of devices were installed on an experimental basis on this small trout stream, including gabions (commercially produced wire baskets which are filled with rocks), trash catchers (woven wire fences installed in the stream bed, reinforced with rock, which fill up with floating trash and act as deflectors), and log deflectors. The gabions were installed early in the summer, and their performance to date has been encouraging.

The Iowa Conservation Commission continued to take an active part in the activities of the Upper Mississippi River Conservation Committee. One walleye spawning area was discovered by pumping eggs from the river bottom, but knowledge of spawning habits and areas is still meager. A study of channel catfish in the Mississippi River was initiated in an attempt to explain recent declines in the commercial catch. Bottom fauna of the pool area above Keokuk Dam was found to be similar to that found 30 years ago with *Hexagenia* mayflies being the most abundant insects. These mayflies serve as an intermediate host of flukes which mature in catfish. The flukes are not known to injure the catfish, however. Studies at the Cooperative Fisheries Research Unit indicated that lactic acid buildup in the blood of channel catfish during capture and transportation may result in mortality when the fish are stocked in other waters.

A fishery survey of Missouri River oxbow lakes was completed in 1963 by Iowa and Nebraska biologists. Although rough fish, mainly gizzard shad and carp, dominated the populations of each lake, crappies, channel catfish, largemouth bass, sauger and walleye were also important. Approximately 22,849 fishermen visited the 700-acre De Soto Bend Lake between May 1 and September 15.

Water levels in the natural lakes area were near normal during the early portion of 1963 but late fall drought conditions accompanied by unusually warm weather brought about sharp declines in water volumes. Dry conditions over the past three winters have resulted in no prolonged build-up of snow on the shallow natural lakes and consequently little or no loss of fish through oxygen depletions. A number of these shallow, natural lakes furnished excellent local fishing for larger bullheads and occasionally for walleye and northern pike. Copper sulfate was used for the control of blue-green algae at East Okoboji, Storm Lake, Swan Lake (Carroll County), Minnewashta, Upper Gar, Lower Gar and Spirit Lake. A limited amount of chemical was used in control of rooted aquatics and some underwater weed cutting was continued.

Creel census on the natural lakes indicated average fishing success except that bullhead fishing was the poorest in recent years. Yellow perch fishing was particularly good on West Okoboji and Spirit Lake. Yellow bass in Clear Lake reached a more desirable size and were important in both summer and winter fishing.

Fish toxicants were used to renovate Nodoway Lake at Greenfield; McKinley Lake at Creston; Fontana Lake, Lake Oelwein and the rest of the Otter Creek watershed in Buchanan and Fayette Counties; and part of Sweet Marsh in Bremer County. These waters were restocked with suitable game fish. The redear sunfish has been stocked in 25 artificial lakes and reservoirs but their success has not been evaluated as yet.

In the Conservation Commission Waters Section's Erosion Control program, 35 permanent erosion control structures and 12,000 feet of terraces were constructed in the watersheds of State-owned artificial lakes and approximately 10,000 tons of protective riprap was placed on the shores of various State-owned natural and artificial lakes. Four access areas, providing boat ramps, loading docks, parking areas, picnic areas, camping areas, water and sanitary facilities were developed on the Mississippi River. One large area on the Missouri River was developed to provide camping, picnicking and boat launching facilities, and several hundred acres of land adjacent to the river have been acquired.

Outdoor recreation is continuing to expand and the preservation and development of suitable areas for outdoor recreation is of critical importance. The 92 State Parks and Preserves reported an all-time high of visitor-days in 1963, more than 8 million. The greatest increase in activities occurred in the area of camping where 426,080 camper days were recorded compared with 311,404 in 1962. Appropriations from the 59th and 60th General Assemblies permitted much needed capital improvements and repair.

In January 1964, Governor Harold Hughes appointed a 24-man "Advisory Committee on Conservation of Outdoor Resources." He urged that the Committee

1. Determine what the outdoor recreation wants and needs of the people of Iowa are today and what they will be in 1970, 1980, 1990 and 2000.
2. Survey the outdoor resources Iowa has for meeting its present and future requirements, and recommend steps for conserving and developing them.
3. Recommend areas where land should be set aside for future

recreational use, plans for acquisition, what their use should be and priorities in development.

4. Recommend any policies, programs or legislation which the Committee feels are required to enable Iowa to meet its present and future needs in the areas of conservation and outdoor recreation.
5. Study and make recommendations regarding any other aspects of the conservation and outdoor recreation picture which the Committee feels are pertinent.

With the present emphasis upon outdoor recreation areas, we must remember the need to preserve natural areas for study and for the preservation of native flora and fauna and of significant geological and historical features. The Iowa Academy of Science has led in the preservation of some prairie sites. One member of the present committee noted that one Delaware County stone outcrop prairie and cedar glade which was suggested as a site for preservation has been ruined by rock quarrying operations and that other similar areas are presently threatened.

The Academy welcomes the recent formation of the Iowa Society for Preservation of Historic Sites and the Iowa Chapter of Nature Conservancy as allies in this important conservation task.

The Iowa Chapter of the Nature Conservancy was organized at the 1963 meeting of the Iowa Academy. Membership has increased from about 20 to about 75. Members are widely scattered over the state and include many non-scientists as well as natural scientists. The Iowa Chapter has begun an inventory of natural areas needing protection in Iowa. It is also attempting to acquire several areas by gift or purchase. One of these would become a major teaching and research facility of Iowa State University. Another, which includes about 80 acres of virgin forest and a remarkable boreal plant community in northeastern Iowa, would become a primaeval area for permanent protection. Several bogs, prairies, and woodlands are also under consideration. An important school natural area containing an excellent native prairie remnant is being established with the assistance of The Nature Conservancy at the new Ames High School site. Liaison is developing between the Iowa Chapter and other organizations.

J. M. AIKMAN  
R. D. BULLARD  
M. A. ELLERHOFF  
H. G. HERSHEY

F. H. MENDELL  
E. P. POLDER  
E. B. SPEAKER  
K. D. CARLANDER, Chairman