
MINUTES OF THE SEVENTY-EIGHTH ANNUAL MEETING OF THE SOUTH DAKOTA ACADEMY OF SCIENCE

The Seventy-eighth Annual Meeting of the South Dakota Academy of Science was held 16-17 April 1993 at the South Dakota School of Mines and Technology in Rapid City, South Dakota.

The Executive Council met at 7:00 pm Thursday, 15 April, for a final check of plans for the two days to follow.

Papers in both the Senior and Junior Academy began at 8:00 am on Friday, 16 April and continued through the day. There were 95 Senior Academy papers presented. There were 12 papers presented in a special session for undergraduates (Research Experience for Undergraduates). There were thirty-one papers presented in the Junior Academy. One hundred and forty-seven people registered for the annual meeting.

At the opening session Dr. Richard Gowan, President of the South Dakota School of Mines and Technology, welcomed all to the campus. In his address at the opening session President Nels Granholm encouraged all members of the Academy to not think small but to realize that we have strength in the expertise of the membership of the Academy. President Elect Keith Perkins addressed the historical and current uses of freshwater clam shells and contended that the mere presence of humans has a profound influence on the environment. He also called for a special effort from Academy members with respect to the Biodiversity Trust for South Dakota.

The Academy keynote address was given by Dr. Helena Chum. She addressed the issue of intelligent stewardship of our resources, with specific emphasis on closing the loops in the waste stream. She made a special case for turning specific kinds of wastes into resources through the process of recycling. After the address Dr. Gowan hosted an informal reception in the classroom building for all Academy members.

Academy President Nels Granholm called the annual business meeting to order Saturday morning, 17 April 1993. The meeting began with presentation of the top papers from the Junior Academy. These papers are included in the Proceedings.

Granholtm affirmed that it had been a good year to be president of the Academy. He acknowledged the fine work of Fred Peabody, Robert Tatina, Robert Looyenga, Michael Foss, and Mary Jensen and thanked President Elect Keith Perkins for his outstanding discussion of unionid clams.

In light of the role of the Academy in an upcoming national project, the Biological Diversity Trust, President Granholtm suggested the South Dakota Academy of Science begin an ongoing project on biodiversity. Elements of this project could include:

1. A biodiversity symposium at the 1994 annual meeting.
2. Concerted effort to identify published studies and compile bibliographies dealing with baseline biodiversity data on flora and fauna of South Dakota. Because of our expertise in such studies, the Academy is the most appropriate entity for this statewide assessment.

An ad hoc subcommittee of the Executive Council recommended:

1. The appointment of Keith Perkins to a five-year term on the Biological Diversity Trust.
2. The establishment of a Northern Great Plains Biodiversity Committee to oversee biodiversity activities of the Academy.

Granholtm noted that the Academy needed to elect a new Proceedings Editor due to the retirement of Carroll Hanten. He relayed Hanten's sincere thanks to all members of the Academy who, over the years, participated in review of manuscripts. The Executive Council has discussed the position of editor with Emil Knapp, who has been involved in publication of the Proceedings for several years. Knapp outlined manuscript review procedure and other editorial policy.

Secretary/Treasurer Fred Peabody discussed modifying certain bylaws in order to clarify the overall functions of the standing committees. The proposed changes will be sent to the membership for review prior to action at the 1994 annual meeting.

Other items coming out of the Executive Council meetings included:

1. The intent to examine the possibility of placing the records of the Academy in a college or university archives.
2. The need to establish better lines of communication and clearer duties for the Junior Academy.
3. The need to modify succession in the presidency of the Academy since Vice President Tim Sorenson will be on sabbatical leave for the coming year.

Secretary Peabody reported that the 38 applications for new regular membership and 33 applications for associate membership in the Academy would bring the total membership to 452. There are,

however, 87 members who are two or more years in arrears with their dues. The bylaws specify that these members' names are to be removed from the membership list. This would put the current membership at 365.

Reports from officers and committees were received and approved. They are printed below.

At the close of the meeting Nels Granholtm expressed his pleasure in passing the gavel to Keith Perkins and wished him the best in the presidency during 1993-94. Perkins declared the Academy adjourned until the April 1994 meeting at Sioux Falls College.

REPORT OF THE NOMINATING COMMITTEE

The Nominating Committee, composed of Audrey Gabel, Chair, Jim Martin, Don Abraham, Harry Hecht, and Jan Palmer, presented a slate of candidates, and elections were held. The officers for 1993-1994 are as follows:

Executive Council

President Keith Perkins, Sioux Falls College
 President Elect Arvid Boe, SD State University
 First Vice President Timothy Sorenson, Augustana College
 Second Vice President John Thomas, University of SD
 Secretary-Treasurer Frederick J. Peabody, University of SD
 Proceedings Editor Emil Knapp, Augustana College
 First Past President Nels Granholtm, SD State University
 Second Past President Mark Gabel, Black Hills State University
 Member at large, second year . . Robert Looyenga, SD School of Mines
 Member at large, second year . . . David Swanson, University of SD
 Member at large, first year Ron Fahy, Rapid City Stevens HS
 Member at large, first year Audrey Gabel, Black Hills State Univ.

Junior Academy Committee

John Landegent, Sioux Falls Lincoln HS
 Linda Baloun, Sioux Falls Lincoln HS
 Ron Fahy, Rapid City Stevens HS
 Sherry Price, Belle Fourche HS
 Mark Farrand, Rapid City Central HS

Membership Committee

Bob Tatina, Dakota Wesleyan University
 Gil Blankespoor, Augustana College
 Tom Durkin, SD Dept. of Environment and Natural Resources
 William Roggenthen, SD School of Mines
 Curtis Card, Black Hills State University

REPORT OF THE AUDITING COMMITTEE

The Auditing Committee finds that the books and records of the South Dakota Academy of Science for the year 1992 are in good order and that the Academy is in good financial standing. It was noted, however, that the yearly cycle of income and expenditures leaves a low balance in the Academy's treasury just before the annual meeting. The Auditing Committee asks that the Executive Council further investigate the situation and recommend to the Academy any action required.

William P. Jensen, Chair

REPORT OF THE MEMBERSHIP COMMITTEE

The Membership Committee met at 2:45 pm on 16 April 1993. In attendance were Gil Blankespoor and Robert Tatina. We acted on the following:

1. A list of 38 new regular members and 33 new associate members was read and approved.
2. The network of campus contacts who serve as liason between the committee and the membership by publicizing the Academy among their colleagues was discussed. We felt that the network was successful in that 38 new regular members were added to the rolls this year (ten were added last year when no network existed). We recommend that this network be continued.
3. The Membership Committee thanks its campus contacts who include: Gil Blankespoor, Mark Gabel, Sam Gingerich, Nels Granholm, Cliff Lewis, Tom Durkin, Mike Foss, Jim Schmulbach, Sr. Laetitia Kilzer, Bill Roggenthen, and Robert Waddell.
4. The Membership Committee recommends that the Academy authorize it to produce posters to be used by its campus contacts to advertize the Academy and its 79th annual meeting.
5. The Membership Committee recommends the adoption of the proposed bylaw change regarding the composition and responsibilities of the Membership Committee.

Robert Tatina, Chair
 Gil Blankespoor
 Bill Roggenthen
 Tom Durkin
 Bob Waddell

REPORT OF THE AWARDS COMMITTEE

Mary Jensen, science instructor at Stevens High School in Rapid City, has been selected as the Outstanding Physical Science Teacher for 1993. Due to a lack of nominations, no Outstanding Biology Teacher of the Year was awarded in 1993. On behalf of the entire South Dakota Academy of Science, we congratulate Mary on her achievement.

Robert Tatina
 Terry Aslesen
 Robert Hilton
 Tim Mullican
 James Lefferts

TREASURER'S REPORT**Statement of Receipts, Disbursements, and Changes in Cash Balances**

Cash Balance, 1 January 1992		
Certificate of Deposit	\$4619.90	
Checking Account	3238.86	
Total Beginning Cash		\$7,858.76
Receipts		
Dues	\$1009.00	
Annual Meeting Registration	2139.65	
Proceedings Sales	182.24	
Page Charges	4248.77	
Interest on Investments	229.33	
Total Receipts		\$7,808.99
Cash Available for Disbursements		\$15,667.75
Disbursements		
Proceedings	\$4417.00	
Annual Meeting	2440.44	
Supplies	1018.22	
Postage	773.72	
Printing	635.04	
Junior Academy	60.00	
National Dues	26.55	
State Corporation Fee	15.00	
S. D. Science Teachers Association	150.00	
Refund	7.00	
Total Disbursements		\$9,542.97
Cash Balance, 31 December 1992		
Certificate of Deposit	\$4849.23	
Checking Account	1275.55	
Total Ending Cash		\$6,124.78

Frederick J. Peabody, Treasurer

REPORT OF THE RESOLUTIONS COMMITTEE

The membership of the South Dakota Academy of Science thanks Dr. Richard Gowan, President of South Dakota School of Mines and Technology for making the campus facilities available to the Academy and for hosting the 1993 annual meeting of the Academy. In addition, our thanks to Dr. Gowan for hosting the President's reception.

The Academy extends a thank you to the local planning committee and in particular to chairman Bob Looyenga, for making the excellent arrangements for the meeting.

A resignation in the presidential succession sequence resulted in an acceleration in the sequence and for this reason we extend thanks to president Nels Granholm for his address "One Breath Per Year" subtitled "No More Apologies for South Dakota" which caused us to ponder being South Dakotans and to appreciate our Academy.

Thanks to President Elect Keith Perkins for his address "Unionidae Clams as an Element of Biodiversity in South Dakota." His presentation certainly led us to reflect upon the importance and complexity of biodiversity.

Thanks to Dr. Helena L. Chum for her very provocative address; "Can Biomass and Waste Play a Role in the Future of Fuels, Chemicals and Electric Power?"

President Nels Granholm is commended for the leadership he has provided the Academy this year.

A thank you for the leadership and support given to the Junior Academy membership by the Junior Academy Committee and high school science teachers whose students participated in the Junior Academy.

Carrol Hanten, editor of the Proceedings of the Academy of Science since 1975 is recognized for her dedication and commitments to the Academy.

We are appreciative of the time, effort, and expertise provided by Emil Knapp in publishing the Proceedings.

The Academy congratulates Mary Jensen, science teacher from Rapid City Stevens High School as recipient of the Physical Science Teacher of the Year award.

The Academy recognizes the Junior Academy award winners Dan Redhage and Melanie Howard from Rapid City Stevens.

Respectfully submitted,
Roy Kintner and Mike Foss

JUNIOR ACADEMY COMMITTEE REPORT

The annual junior academy of science research paper competition was held Friday, April 16, 1993, on the campus of South Dakota School of Mines and Technology. Thirty-one students from three area schools joined the academy and presented papers.

Dan Redhage and Melanie Howard, both from Rapid City Stevens High School, were selected to present their papers to the senior academy at the Saturday morning meeting. Their abstracts will be printed in the *Proceedings*. Scholarships were generously provided by the University of South Dakota, Dakota State University, Black Hills State University, Dakota Wesleyan University, Augustana College, South Dakota School of Mines and Technology, and South Dakota State University. Marguerite Mayer of Rapid City Stevens will accept a scholarship from SDSU as the senior winner.

Dan Redhage, Melanie Howard, and Heather Carpenter will be presenting papers at the Tri-State Symposium in St. Paul, Minnesota, in November 1993. Alternates are Sharla Marx and Nathaniel Marcoe. All are students at Stevens High School. Lisa Camp of Stevens High School was given a \$50 research grant by the junior academy for her project. She was the only student who applied in the 1992-93 year for this support grant. Due to the generous support of the junior academy by local contributors, all presenters were awarded at least one prize.

One area of concern for the committee is the education of high school science teachers about the Junior Academy. We see the same schools active each year and are concerned that other schools do not fully understand the function and purpose of the Academy of Science. We ask that academy members at the college level try to link with local high schools and offer them technical assistance as well as help in encouraging students to do a research project as part of their curriculum.

The committee is grateful for the cooperation and support of SDSM&T and especially acknowledges the efforts of Bob Looyenga. The judges for this year's competition were Kevin Jensen, Ken May, Dale Skillman, Robyn McKay, Dennis Aldinger, Hubert Theissen, and Paula Andenas. They did very good work, and we thank them very much.

Mary L. Jensen, chair
Robertta Gaines
Dennis Aldinger
Jerry Loomer
Ron Fahy
Delbert Goodwin

SOUTH DAKOTA ACADEMY OF SCIENCE MEMBERSHIP

Letters after names indicate field of science: A, mathematics; B, physics; C, chemistry; E, geology; G, biological sciences; J, psychology; K, economics; M, engineering; O, agriculture; T, computer science; W, atmospheric science; Y, general science.

Life Members

Majorie Beatty (A)
Henry V. Cobb (J)
Mark W. Delzell (G)
William Ekeman (A)
S. Gordon Froiland (G)
Harold Foss (G)
Harold B. Goodell (G)
Morton Green (E)
Edna Grieb (A)
John Paul Gries (E)
Al L. Halstead (C)
Marion Hilpert (G)
William F. Houk (G)
Ernest J. Huggins (G)
Harlan L. Klug (G)
William Kohlmeyer (O)
Richard John Landborg (C)
Ralph H. McGregor (A)
John C. Mickelson (E)
Gottfried I. Moller (B)
Walter Morgan (G)
Oscar E. Olson (C)
Fay L. Partio (B)
Robert M. Pengra (G)
Roy W. Rissky (C)
George Semeniuk (G)
Charles A. Taylor (G)
Theodore Van Bruggen (G)
Charles M. Vaughn (G)
Victor S. Webster (C)

Augustana College

Gilbert W. Blankespoor (G)
Maureen Diggins (G)
Arie Gaalswyk (A)
Steven Haataja (A)
Milton P. Hanson (C)
Leland G. Johnson (G)
Robert Roy Kintner (C)
Emil F. Knapp (A)
Martha J. Lindbeck (C)
Verlyn Lindell (A)
V. Ronald Nelson (B)

Lansing M. Prescott (G)
Jay R. Smith (A)
Timothy Sorenson (A)
J. D. Thompson (B)
Larry L. Tieszen (G)
Karel Vander Lugt (B)
Arlen Viste (C)
Duane E. Weisshaar (C)
Chet Whitney (B)

Black Hills State University

Curtis Card (A)
Thomas P. Cox (J)
Dan Durben (B)
Audrey Gabel (G)
Mark Gabel (G)
Art Griesser (G)
D. W. Hildebrand (G)
Jack B. Lozier (G)
Gene M. Meier (J)
Chris Salazar (G)
Dewey A. Shroul (G)
Rebecca Studt (G)

Dakota State University

Clyde K. Brashier (G)
Robert Buckman (G)
Lee Carlson (A)
David E. Cook (C)
Dale Droge (G)
Patrick F. Fields (E)
Michael E. Foss (B)
Jeffrey S. Palmer (A)
Paul W. Rasmussen (C)
Rick Simmons (A)
Jerald A. Tunheim (B)

Dakota Wesleyan University

Carroll Loran Hills (C)
James L. Lefferts (C)
Tim R. Mullican (G)
Robert Tatina (G)

Mount Marty College

Shahrokh Ghaffari (C)
Shirley Jennewein (G)
Sr. Laetitia Kilzer (C)
James Rasmussen (G)
John W. Stene (A)

National College

Leonard Huneke (A)

Northern State University

Narayanawamy Bharathan (G)
Seema Bharathan (G)
Duane A. Dolesji (B)
A. S. Elkhader (A)
Samuel B. Gingerich (C)
Lenore M. Koczon (C)
Susan Landon-Arnold (G)
Raj K. Markanda (A)
John C. Naughten (G)
Dwayne A. Rehfeld (C)
Dan Tallman (G)
Erika Tallman (G)
Lu Zhang (A)

Sioux Falls College

W. F. Klawiter, Jr. (B)
L. Cliff Lewis (C)
Keith Perkins (G)
William Soeffing (G)

South Dakota School of Mines and Technology

Darcy J. Anderson (E)
T. Ashworth (B)
Gordon L. Bell, Jr. (E)
Mike Boucher (T)
David A. Boyles (C)
Matthew J. Bunkers (W)
D. R. Dayananda (E)
Arthur T. DeGaetano (W)
Andy Detweiler (W)
Randy A. Elder (E)
Mark D. Fahrenbach (E)
M. R. Hansen (B)
Don C. Hopkins (B)
L. Ronald Johnson (W)
J. Haworth Jonte (C)
Antonette Logar (T)
Robert Looyenga (C)

James Reid MacDonald (E)
James E. Martin (E)
Fernand Marquis (B)
James R. Miller, Jr. (W)
Jan A. Puszynski (C)
Perry H. Rahn (E)
Robert D. Redin (B)
William M. Roggenthen (E)
John Foster Sawyer (E)
Bruce A. Schumacher (E)
Daniel W. Varner (E)
Cathleen Webb (C)
Jack Weyland (B)
Janet Whitmore (E)
Jason D. Wurnig (B)

South Dakota State University

Sherwood O. Berg (G)
Arvid Boe (G)
Larry Browning (B)
Scott Buskerud (G)
Thomas E. Chase (G)
Chen H. Chen (G)
Sharon Clay (G)
Nancy Cook (C)
Darrel W. DeBoer (O)
Douglas J. Dieterman (G)
James J. Doolittle (G)
George H. Duffey (B)
Royce J. Emerick (C)
Lester D. Flake (G)
Jeffrey L. Gellner (G)
Harry A. Geise (O)
Nels H. Granholm (G)
Louise Guild (G)
Harry G. Hecht (C)
Teresa Hein (B)
Warren Hein (B)
Kenneth F. Higgins (G)
David C. Hilderbrand (C)
Michael Hildreth (G)
Paul Hoffer (O)
David J. Hurley (G)
H. L. Hutcheson (G)
William P. Jensen (C)
Leslie Kamstra (G)
Kevin J. King (G)
Robert A. Kohl (G)
Gary E. Larson (G)
Thomas A. Machacek (G)
Charles McMullen (G)

Donald McRoberts (C)
 Gerald A. Myers (G)
 Clyde D. Oswald (G)
 Gary B. Peterson (G)
 Oren Quist (B)
 Joel Rauber (B)
 R. N. Reese (G)
 Diane Rickerl (G)
 Rolland R. Rue (C)
 Ali Salehnia (T)
 Charles Scalet (G)
 Stephen J. Schiller (B)
 James D. Smolik (G)
 Leo Spinar (C)
 Nancy Thiex (C)
 Edward Twidwell (G)
 Jason S. Van't Hul (G)
 Everett M. White (G)
 Zeno W. Wicks III (G)
 Patricia K. Wieland (G)
 Jo Ann Willgohs (G)
 David W. Willis (G)
 Ken Yocom (A)
 Rong Yu (G)

University of South Dakota

Donald R. Abraham (B)
 Mary Abraham (C)
 Ron L. Batstone-Cunningham (C)
 James Batt (G)
 Frank O. Brady (C)
 Jack Butler (G)
 John W. Carlson (A)
 C. M. Christensen (E)
 Howard Coker (C)
 Cleland Cook (A)
 Ralph K. Davis (E)
 Frances A. Day (G)
 Kurt Dean (G)
 Raymond D. Dillon (G)
 George Duchossois (A)
 Frank A. Einhellig (G)
 Royce C. Engstrom (C)
 Charles R. Estee (C)
 Jose D. Flores (A)
 Matthew A. Flowers (G)
 Brent Graves (G)
 Richard Hammond (E)
 Timothy H. Heaton (E)
 Donna Henderson (A)
 Thomas Holme (C)
 Derric L. Iles (E)
 K. Wayne James (B)

Martin J. Jarrett (E)
 Allen D. Johnson (G)
 Gary D. Johnson (E)
 Christina Keller (B)
 Miles Koppang (C)
 Karen L. Koster (G)
 Jennifer E. Larson (G)
 Alexander Mehaffey, Jr. (A)
 Norman Miller (C)
 M. A. Mortazavi (A)
 Kenneth L. Murphy (B)
 Daniel Arthur Neufeld (C)
 Karen Olmstead (G)
 Paul B. Otto (Y)
 Frederick J. Peabody (G)
 Robert J. Peanasky (C)
 Stan F. Pence (E)
 Christine Pharr (C)
 Sara J. Robb-Gaspars (G)
 Cheryl A. Schmidt (G)
 James C. Schmulbach (G)
 Gary D. Small (C)
 Harold L. Smith (G)
 M. Robert Stoner (C)
 David L. Swanson (G)
 John Thomas (C)
 Don Ticknor (T)
 Melin J. Tipton (E)

High Schools and Middle Schools

Dennis G. Aldinger (E)
 Rapid City Stevens H. S.
 Paula R. Andenas (C)
 Crow Creek H. S.
 Mike Barondeau (C)
 Edmunds Central H. S.
 Ron Fahy (G)
 Rapid City Stevens H. S.
 Mark Farrand (Y)
 Rapid City Central H. S.
 Roberta Gaines (C)
 Rapid City Stevens H. S.
 Delbert Goodwin (Y)
 Belle Fourche Roosevelt M. S.
 Larry Hines (Y)
 Sturgis H. S.
 Marvin Hanson (B)
 Wolsey H. S.
 Mary L. Jensen (Y)
 Rapid City Stevens H. S.
 John Landegent (G)
 Sioux Falls Lincoln H. S.

Jerry Loomer (B)
 Rapid City Stevens H. S.
 Tom Merrill (Y)
 Yankton M. S.
 Jan Palmer (Y)
 Warner H. S.
 Sherri Price (Y)
 Belle Fourche M. S.
 Vijaya Ramakrishnan (C)
 Rapid City Central H. S.
 Jane Roseland (C)
 Rapid City Stevens H. S.
 Marvin D. Selnes (C)
 Sioux Falls Science Center
 Cassandra K. Soeffing (Y)
 Sioux Falls Axtell Park M. S.
 Arlyn Thomas (B)
 Sioux Falls Roosevelt H. S.
 Richard J. Thomas (Y)
 Aberdeen Central H. S.
 Chester Vander Zee (G)
 Sioux Valley H. S.
 Alan B. Ward (Y)
 Viborg H. S.
 Mary Warren (Y)
 Belle Fourche Roosevelt M. S.

Out-of-State Schools

Dennis T. Disrud (G)
 Minot State University, North Dakota
 Robert D. Hempel (G)
 Western Iowa Tech
 Lynn M. Hodgson (G)
 University of Hawaii
 Glenn E. Kietzmann, Jr. (G)
 Wayne State University, Nebraska
 Allen J. Kihm (E)
 Minot State University, North Dakota
 Robert A. Kreber (G)
 University of Wisconsin
 Peter Maldonado (C)
 Findlay College, Ohio
 James D. Patterson (B)
 Florida Institute of Technology
 Theodore W. Schultz (K)
 University of Chicago
 Russell H. Stanhope (Y)
 Worcester Science Center, Mass.
 Wade Winters (G)
 Uniondale High School, Iowa
 Ronald Zawislak (E)
 Middle Tennessee State University

Non-Academic

Doug Backlund (G)
 S.D. Natural Heritage Program, Pierre
 Kailash Bhatt (G)
 S.D. Dept. of Envir. and Nat. Res., Pierre
 Timothy Bjork (G)
 S.D. Dept. of Envir. and Nat. Res., Pierre
 Joan Bortnem (G)
 S.D. Dept. of Envir. and Nat. Res., Pierre
 Kevin J. Buhl (G)
 U.S. Fish and Wildlife, Yankton
 Michael D. Cepak (G)
 S.D. Dept. of Envir. and Nat. Res., Pierre
 James A. Donohue (E)
 S.D. Arch. Research Center, Rapid City
 Thomas V. Durkin (C)
 S.D. Dept. of Envir. and Nat. Res., Pierre
 James Effinger (E)
 University of New Mexico
 Edgar H. Enszt (E)
 U.S. Soil Conservation Serv., Rapid City
 Paul Fugazzotto (C)
 Urinary Research Center, Rapid City
 Gary Haag (G)
 S.D. Dept. of Envir. and Nat. Res., Pierre
 Thomas G. Hack (G)
 S.D. Dept. of Envir. and Nat. Res., Pierre
 Louis Hamilton (E)
 U.S. Geological Survey, Huron
 Steven J. Hamilton (G)
 U.S. Fish and Wildlife, Yankton
 Carroll J. Hanten (G)
 S.D. Dept. of Agriculture, Pierre
 Robert L. Hanten (G)
 S.D. Game, Fish, Parks, Pierre
 Angela Langer Heilman (C)
 Langer Black Hills Silver, Spearfish
 Randolph Hilding (G)
 S.D. Dept. of Envir. and Nat. Res., Pierre
 Ronald A. Holm (G)
 S.D. Dept. of Envir. and Nat. Res., Pierre
 Joe Ideker (G)
 McDonnell Nat. Hist. Center, Texas
 Carrie Jacobson (G)
 S.D. Dept. of Envir. and Nat. Res., Pierre
 Gregory C. Johnston (G)
 S.D. Dept. of Envir. and Nat. Res., Pierre
 Jeffrey D. Jung (C)
 T&R Service, Colman
 Thomas M. Juntti (Y)
 Educe Educ. Technologies, Rapid City
 Joseph A. Kawatski (G)
 Oikos Publishers, Holmen, Wisconsin

Kent Keenlyne (G)
U.S. Fish and Wildlife, Pierre

Mark Lawrensen (G)
S.D. Dept. of Envir. and Nat. Res., Pierre

Ken Madison (G)
Dept. of Envir. and Nat. Res., Watertown

Matthew L. McDermott (G)
S.D. Dept. of Envir. and Nat. Res., Pierre

Gerald McGillivray (G)
S.D. Dept. of Envir. and Nat. Res., Pierre

Eugene L. Miller (G)
Northern Grain Insect Lab, Brookings

James J. Norton (E)
U.S. Geological Survey, Rapid City

David J. Ode (G)
S.D. Natural Heritage Program, Pierre

Dean A. Pease (G)
S.D. Dept. of Envir. and Nat. Res., Pierre

Walter E. Riedell (G)
Northern Grain Insect Lab, Brookings

Timothy Rogers (C)
S.D. Dept. of Envir. and Nat. Res., Pierre

John Foster Sawyer (E)
S.D. Geological Survey, Rapid City

Lee Ann Smith (G)
S.D. Dept. of Envir. and Nat. Res., Pierre

Patricia M. Tille (G)
Sioux Valley Hospital, Sioux Falls

Robert D. Townsend (C)
S.D. Dept. of Envir. and Nat. Res., Pierre

Mark Vomacka (G)
S.D. Dept. of Envir. and Nat. Res., Pierre

Donna Vulcan (W)
Pennington Co. Air Quality, Rapid City

K. C. Wehde (G)
EROS Data Center, Sioux Falls

Associate Members

Julie Bacon, Sioux Falls College

Brian Ballard, Mount Marty

Lisa Belmonte, Black Hills State

Matthew J. Bunkers, SDSM&T

Becky Cate, Mount Marty

Shannon A. Charles, Black Hills State

Marian Charles, Black Hills State

Yuejian Chen, SDSM&T

Kristy R. Deal, SDSM&T

Beth Goodwin, Black Hills State

Mara A. Grace, USD

Julia S. Heaton, USD

Matt Herber, Mount Marty

Deborah A. Iverson, Sioux Falls College

Matthew J. Jorgenson, Augustana

David S. Kruse, USD

Dena Li Ming, Black Hills State

Bhavesh Makin, SDSM&T

Mike E. Martin, SDSM&T

Ty R. McMichael, Black Hills State

Lisa L. Moe, Black Hills State

James A. Moore, Black Hills State

Olve Oeyehaug, BHSM&T

Jennifer Peterka, Black Hills State

Rahul Ramachandran, SDSM&T

Anthony Renli, SDSM&T

Lawrence Robb-Gaspers, USD

Aloysius A. Rodriguez, SDSM&T

Anjan Kumar Roy, SDSM&T

Brad Schultz, SD DENR

Tony L. Tays, Black Hills State

Vicki Walker, Mount Marty

David Winkler, SDSM&T

Ann Wordekemper, Mount Marty

Mike Wortham, Sioux Falls College

Wei Guang Zhao, USD

Junior Academy

Jeremy Berdan, Belle Fourche Roosevelt

Lisa Camp, Rapid City Stevens

Heather Carpenter, Rapid City Stevens

Jennifer Couch, Belle Fourche Roosevelt

Missy Dishman, Rapid City Stevens

Barb Ehman, Rapid City Stevens

Carrie Fischer, Rapid City Stevens

Jeremy Fish, Belle Fourche Roosevelt

Mackenzie Gammeter, Rapid City Stevens

Kelley Gaul, Rapid City South

Dan Goeders, Belle Fourche Roosevelt

Becka Goodwin, Belle Fourche High

Melanie Howard, Rapid City Stevens

Chris Jackson, Belle Fourche Roosevelt

Tara Johnson, Rapid City Stevens

Andrea Klein, Belle Fourche Roosevelt

Jordana Knecht, Rapid City Stevens

Kelli Lamb, Belle Fourche Roosevelt

Nathaniel Marcoe, Rapid City Stevens

Sharla Marx, Rapid City Stevens

Jodie Massie, Belle Fourche Roosevelt

Marguerite Mayer, Rapid City Stevens

Chabella McCarthy, Rapid City Stevens

Jay Mendel, Rapid City Stevens

Angie Monheim, Rapid City Stevens

Dan Redhage, Rapid City Stevens

Aimee Rosario, Rapid City Stevens

Charlie Rounds, Rapid City Stevens

Nicole Schule, Belle Fourche Roosevelt

Kate Wilson, Rapid City Stevens

Dave Wippel, Rapid City Stevens