

INFORMATION HANDBOOK

FOR MEMBERS



Alberta Palaeontological Society
PO Box 35111 Sarcee Postal Outlet
Calgary AB Canada T3E 7C7
www.albertapaleo.org

CONTENTS

Part 1

About the Society	1
Goals of the Society	1
Code of Ethics	2
By-Laws	2
Legislation pertaining to fossil collecting in Alberta	25

Part 2

Fossil identification	28
Record keeping	31
General cleaning techniques	31
Fossil preparation, repair, and consolidation	33
Cataloguing fossil specimens	35

APPENDICES

A. Fossil books to get started	37
B. Fossil websites	38
C. Palaeontological journals	39
D. Online library catalogues	39
E. Map resources	40
Acknowledgements	40

Part 1

ABOUT THE SOCIETY

1. The Alberta Palaeontological Society (APS) is a group of amateur and professional palaeontologists sharing a common interest in the science of palaeontology. The APS was founded in 1986 as a non-profit society.
2. The Society holds regular meetings on the third Friday of each month except June, July and August. Meetings are held at 7:30 P.M. in Room B108 at Mount Royal University, 4825 Mount Royal Gate SW, Calgary, Alberta.
3. We publish a quarterly *Bulletin* of interesting articles and news dealing with palaeontology. The *Bulletin* is distributed to all active members.
4. We hold elections in May of each year for Officer and Director positions. Officer positions are held for one year and director positions for two years. In accordance with the Bylaws of our Society the elected positions are:

OFFICERS: President
 Vice-President
 Treasurer
 Secretary
 Past President

DIRECTORS: Editor (Prepares quarterly *Bulletin*)
 Membership Director
 Program Coordinator (Organizes speakers for monthly meetings)
 Field Trip Coordinator (Organizes field trips and special events)

Curator, Fund Raising, Librarian, Social Director, Public Outreach, Symposium Coordinator and Webmaster are appointed and report to the Board.

GOALS OF THE SOCIETY

1. To promote the science of palaeontology through study and education.
2. To make contributions to the science by:
 - Discovery
 - Responsible collection
 - Curation and display
 - Education of the general public
 - Preservation of palaeontological material for study and future generations
3. To work with the professional and academic communities to aid in the preservation and understanding of Alberta's heritage.

CODE OF ETHICS

1. Determine the status of the land prior to collecting. Ensure that appropriate permission has been obtained from landowners. Do not collect in areas where it is prohibited (e.g. National, Provincial Parks).
2. Understand and comply with all regulations pertaining to collecting and removing of fossils.
3. Preserve sites for future generations by keeping collecting to a minimum. Specimens should not be ruined by indiscriminate hammering or use of inadequate equipment.
4. Avoid unnecessary disturbance of the environment. Try to leave the land as you found it. Take garbage out with you.
5. Collectors must record and maintain documentation of all relevant geographic and stratigraphic information for each fossil. Promptly catalogue, identify, number and preserve specimens collected, for your own knowledge and that of other collectors.
6. Report unique or important palaeontological finds to the appropriate museum, university or Geological Survey of Canada.
7. Barter, sale or purchase of scientifically significant fossils is not condoned. Members who fail to adhere to these ethics may have their membership in the Alberta Palaeontological Society revoked.

BYLAWS OF THE ALBERTA PALAEOLOGICAL SOCIETY

Approved by Special Resolution May 15, 2015

Approved and Filed by Alberta Corporate Registries May 21, 2015

Bylaws and Special Resolution Number: 10000307124452439

I.	NAME	
1.1	The Society	5
1.2	The Bylaws	5
1.3	Definitions	5
II.	MEMBERSHIP	
2.1	Qualifications	6
2.2	Voting	6
2.3	Privileges	7
2.4	Termination	7
2.5	Fees	7
2.6	Award Memberships	8

2.7	General Memberships	8
2.8	Conditions of Membership	9
2.9	Limitation of the Liability of Members	9
2.10	Register of Members.	9
III.	AFFILIATED SOCIETIES	
3.1	Umbrella Organization	9
3.2	Affiliated Society	9
3.3	Newsletter and Website	10
3.4	Co-operation	10
3.5	Restrictions	10
3.6	Liability	10
3.7	Termination of Affiliation	10
IV.	GENERAL MEETINGS	
4.1	Annual General Meeting	11
4.2	General Meeting	11
4.3	Special Meeting	11
4.4	Notice	11
4.5	Quorum	11
4.6	Motions and Statements	12
4.7	Correspondence	12
4.8	Parliamentary Procedure	12
V.	BOARD OF DIRECTORS	
5.1	General	12
5.2	Duties	12
5.3	Board Meeting	12
5.4	Notice	13
5.5	Quorum	13
5.6	Voting	13
5.7	Nomination and Election of Officers and Directors	13
5.8	Eligibility	13
5.9	Term Commencement	13
5.10	Vacancies	14
5.11	Conflict of Interest	14
5.12	Removal	14
5.13	Resignation	14
VI.	OFFICERS AND DIRECTORS	
6.1	General	14
6.2	Positions	15
6.3	Term	15
6.4	President	15
6.5	Vice-President	15
6.6	Secretary	15
6.7	Treasurer	16

6.8	Past-President	16
6.9	Membership Director	16
6.10	Editor	16
6.11	Program Co-ordinator	16
6.12	Field Trip Co-ordinator	16
6.13	Director at Large	16
VII.	COMMITTEES	
7.1	General	17
7.2	Duties	17
7.3	Committee Meeting	17
7.4	Notice	17
7.5	Quorum	17
7.6	Voting	17
7.7	Selection of Committee Members	17
7.8	Eligibility	17
7.9	Term	17
7.10	Vacancies	18
7.11	Conflict of Interest	18
7.12	Removal	18
7.13	Resignation	19
VIII.	FINANCE AND OTHER MANAGEMENT MATTERS	
8.1	Remuneration	19
8.2.	Spending	19
8.3	Borrowing	19
8.4	Contracts	19
8.5	Bank Account	19
8.6	Audit	19
8.7	Fiscal Year	19
8.8	Books and Records	20
8.9	Protection and Indemnity of Officers, Directors, and Committee Chairpersons	20
8.10	Cause	20
8.11	Expulsion	21
IX.	AMENDING THE BYLAWS	
9.1	Amending the Bylaws by Special Resolution	21
X.	TERMINATION OF THE SOCIETY	
10.1	Terminating the Society by Special Resolution	21

APPENDICES

Code of Conduct 22
Policy 22
Purpose 22
Application 22
Responsibility 22
Code of Conduct—Members 23
Code of Conduct—Board of Directors and Committees 23

I. NAME

1.1 The Society

The name of the society is the Alberta Palaeontological Society, a non-profit society, hereinafter referred to as the Society.

1.2 The Bylaws

The following Articles set forth the Bylaws of the Alberta Palaeontological Society. These Bylaws must be interpreted broadly and generously.

1.3 Definitions

In these Bylaws, the following words have these meanings:

- a) **Act** means the Societies Act R.S.A. 2000, Chapter S-14 as amended, or any statute substituted for it.
- b) **Affiliated Society** means an affiliate of the Alberta Palaeontological Society as described in Article 3.2.
- c) **Annual General Meeting** means the Annual General Meeting attended by the Members of the Society as described in Article 4.1.
- d) **Board** means the Officers and Directors of this Society.
- e) **Board Meeting** means any meeting attended by the Officers and Directors of the Board as described in Article 5.3
- f) **Bylaws** mean the Bylaws of this Society as filed with the Corporate Registry of Alberta.
- g) **Cause** means the basis for an action or response as described in Article 8.10.
- h) **Chairperson** means the designated Member in charge of a Committee or General Meeting.
- i) **Committee** means an assembly of Members of the Society as described in Article 7.1.
- j) **Constituted** means any properly called meeting of the Society where Quorum has been achieved.

- k) **Director** means a Member of the Board as described in Article 6.2.
- l) **General Meeting** means any meeting attended by the Members of the Society as described in Article 4.2.
- m) **Majority** means more than one half of the total number of the Members present.
- n) **Member** means a Member of the Society in good standing.
- o) **Officer** means a Member of the Board as described in Article 6.2.
- p) **Privileges** mean particular benefits, advantages or immunities enjoyed by a Member or class of Members that is not shared with others.
- q) **Quorum** means the number of Members required to transact business at a meeting, as described in Articles 4.5, 5.5, and 7.5.
- r) **Register of Members** means the official record containing pertinent information of the Members of the Society as described in Article 2.10.
- s) **Society** means the Alberta Palaeontological Society.
- t) **Special Meeting** means the Special Meeting attended by the Members of the Society as described in Article 4.3.
- u) **Special Resolution** means a resolution passed at a properly Constituted General Meeting or Special Meeting of the Society. There must be twenty-one calendar days notice for this meeting. Notice of the date, time, place, purpose, and proposed action to be taken must be stated. There must be approval by an affirmative vote of three-quarters of the Voting Members present.
- v) **Voting Member** means a Member entitled to vote at any meeting of the Society, as described in Article 2.2, 2.6, and 2.7.

II. MEMBERSHIP

2.1 Qualifications

Any interested persons, groups or institutions who support the objectives of the Society, and who pay the required annual membership fees qualifies for membership in the Society provided their application complies with the conditions set forth in Article 2.7, and the Board approves the membership application at a properly Constituted Board Meeting.

2.2 Voting

Each Voting Member 18 years of age or older shall be entitled to one vote at any General Meeting, Annual General Meeting, or Special Meeting of the Society. Voting for the election of the Board shall be done by secret ballot for each position of Officer or Director where more than one Member is nomi-

nated; otherwise, all Members nominated shall be elected by acclamation. All other voting shall be done by show of hands, unless a secret ballot is requested by any five Members. Such votes must be made in person and not by proxy or otherwise. The Chairperson shall cast a vote only in the event of a tie.

2.3 Privileges

Privileges enjoyed by a Member or class of Members of the Society include the right to:

- a) Vote.
- b) Hold office.
- c) Sit on Committees.
- d) Make motions.
- e) Receive the Society newsletter.
- f) Take part in field trips.
- g) Take part in Members-only events.
- h) Receive benefits, advantages, or immunities as determined by the Board at a properly Constituted Board Meeting.

2.4 Termination

If any Member is in arrears for membership fees for any year, such Member shall be expelled and automatically cease to be a Member of the Society, and shall thereafter be entitled to no membership privileges or powers in the Society. Society membership of any person, group, or institution shall be cancelled upon:

- a) The person's, group's, or institution's request in writing to the Board; or,
- b) Special Resolution for any reasonable Cause; or,
- c) The affirmative vote of all Members of the Board present at a properly Constituted Board Meeting for any reasonable Cause. In this instance, the person, group, or institution in question has the right to appeal the decision made by the Board at the next properly Constituted General Meeting at which time membership may be re-instated by an affirmative vote of three-quarters of the Voting Members present; or,
- d) The cessation of the Society.

2.5 Fees

Annual membership fees shall be determined at any Annual General Meeting or Special Meeting. Membership fees are non-refundable. Membership fees are payable no later than January 15 of each calendar year. Members in arrears for membership fees must re-qualify for membership in accordance with Article 2.1.

2.6 **Award Memberships**

The Following Award memberships may be bestowed upon qualified persons, groups, or institutions upon the affirmative vote of all Members of the Board present at a properly Constituted Board Meeting:

- a) **Life Member:** any past or present Member providing exceptional or meritorious service to the Society. Life Members are entitled to all membership Privileges. This membership is in effect for the lifetime of the recipient.
- b) **Honorary Member:** any person providing an outstanding contribution to the study of palaeontology. Honorary Members are entitled to membership Privileges with the exception of: voting, holding office, sitting on committees or making motions. This membership is in effect for the lifetime of the recipient.
- c) **Friend of the Society:** any person, group, or institution which has rendered outstanding service to the Society. Friend of the Society (*any person*) Members are entitled to membership Privileges with the exception of: voting, holding office, sitting on committees or making motions. Friend of the Society (*group or institution*) Members are not entitled to membership Privileges with the exception of: receiving the Society newsletter which may be redistributed among the group or institution's individual members only. This membership is in effect for the lifetime of the recipient.

2.7 **General Memberships**

- a) **Single Membership:** offered to any person 18 years of age or older. Single Members are entitled to all membership Privileges.
- b) **Family Membership:** offered to a group of people living in one household consisting of no more than two adults 18 years of age or older and their dependants (if any) under the age of 18. Adult family Members are entitled to all membership Privileges. Dependant family Members are entitled to membership Privileges with the exception of: voting, holding office, sitting on committees or making motions. A dependant turning 18 during the Family Membership term:
 - i. Shall remain a dependant Member within this membership category until the end of the membership term entitled to membership Privileges with the exception of: voting, holding office, sitting on committees or making motions; or,
 - ii. May notify the Board in writing of their wish to be classified as an adult family Member (maximum two adults per Family Membership allowed) with all membership Privileges; or,
 - iii. May notify the Board in writing of their wish to be removed from this

membership category at which time they may opt to purchase a Single Membership in accordance with Articles 2.1 and 2.7a.

- c) Institutional Membership: offered to any organization. Institutional Members are not entitled to membership Privileges with the exception of: receiving the Society newsletter which may be redistributed among the institutions individual members only.

2.8 Conditions of Membership

- a) No Member shall take it upon themselves to commit the time, resources or finances of the Society without prior written approval of such a commitment at a properly Constituted Board Meeting.
- b) No Member shall submit official Society documents to any official body without prior written approval of said submission at a properly Constituted Board Meeting. All such documents shall be signed in accordance with Article 8.4.
- c) Members shall at all times conduct themselves in a professional manner and in accordance with the Code of Conduct as outlined in Appendix A.
- d) All Members must agree to abide by the Code of Ethics as outlined in the *Alberta Palaeontological Society Information Handbook for Members* as amended from time to time.

2.9 Limitation of the Liability of Members

No Member is, in their individual capacity, liable for any debt or liability of the Society.

2.10 Register of Members

The Board shall keep an up to date Register of Members containing: the names and pertinent information of Voting Members (Single Members, qualifying Family Members, and Life Members), and non-Voting Members (non-qualifying Family Members, Institutional Members, Honorary Members, Friends of the Society, and Affiliated Societies). Distribution of the Register of Members shall be limited only to Voting Members of the Society. The Society and its Members shall abide by any provincial regulations as laid out in the Alberta's Freedom of Information and Protection of Privacy Act as amended, or any statute substituted for it.

III. AFFILIATED SOCIETIES

3.1 Umbrella Organization

The Alberta Palaeontological Society may act as an umbrella palaeontological organization for the province of Alberta for qualifying Affiliated Societies.

3.2 Affiliated Society

An Affiliated Society must be a non-profit organization located in the prov-

ince of Alberta whose objectives include the promotion of the science of palaeontology through study and/or education. An Affiliated Society must: operate as a distinct and separate legal entity; have its own Board of Directors; have its own bylaws; and manage its own finances. The Affiliated Society must be approved for affiliation with the Alberta Palaeontological Society by Special Resolution. The Alberta Palaeontological Society must be notified in advance of the objectives, programs, activities, and history of the applicant Affiliated Society.

3.3 *Newsletter and Website*

The Alberta Palaeontological Society shall publish event notices and articles submitted by the Affiliated Society in the Alberta Palaeontological Society's newsletter and/or website as space, time and editorial discretion permits. The Alberta Palaeontological Society shall provide either electronic or paper copies of the Alberta Palaeontological Society's newsletter to the Affiliated Society. The Alberta Palaeontological Society shall charge the Affiliated Society a publishing fee as negotiated by the Alberta Palaeontological Society Board and the Affiliated Society.

3.4 *Co-operation*

The Alberta Palaeontological Society may work with the Affiliated Society to organize joint events and field trips. The Alberta Palaeontological Society may provide other assistance as requested by the Affiliated Society, as time and resources permit.

3.5 *Restrictions*

Affiliated Societies are not entitled to membership Privileges with the exception of: receiving the Alberta Palaeontological Society newsletter which may be redistributed among the institution's individual members only. An Affiliated Society may not use the name, logo, or other mark of the Alberta Palaeontological Society without the express written permission of the Alberta Palaeontological Society.

3.6 *Liability*

The Alberta Palaeontological Society or any of its Members shall not be liable for the actions of an Affiliated Society.

3.7 *Termination of Affiliation*

If any Affiliated Society is in arrears for any negotiated fees, such Affiliated Society shall be expelled and automatically cease to be an Affiliated Society of the Alberta Palaeontological Society. Society affiliation shall be terminated upon:

- a) The Affiliated Society's request in writing to the Alberta Palaeontological Society Board; or,
- b) Special Resolution of the Alberta Palaeontological Society, for any reasonable Cause; or,

- c) The affirmative vote of all Members of the Alberta Palaeontological Society Board present at a properly Constituted Board Meeting for any reasonable Cause. In this instance, the Affiliated Society in question has the right to appeal the decision made by the Alberta Palaeontological Society Board at the next properly Constituted Alberta Palaeontological Society General Meeting at which time affiliation may be re-instated by an affirmative vote of three-quarters of the Alberta Palaeontological Society Voting Members present; or,
- d) The cessation of operation of either Society.

IV. GENERAL MEETINGS

4.1 Annual General Meeting

The Annual General Meeting of the Society shall be held during the month of May in each calendar year. This meeting shall be held for the election of Officers and Directors; the modification of Bylaws; and for such other business as may be placed before the Society by the Board.

4.2 General Meeting

General Meetings of the Society shall be held on or about the third Friday of each calendar month except for the months of June, July, and August as called by the Board.

4.3 Special Meeting

A Special Meeting shall be called by the President or Secretary of the Board upon receipt of a petition signed by one-third of the Voting Members or twenty Voting Members, whichever is smaller, setting forth the reasons for calling such a meeting.

4.4 Notice

Notice of the date, time, place, purpose, and proposed actions to be taken during any General Meeting, Annual General Meeting, or Special Meeting shall be given in writing to all Members at least twenty-one days in advance. The Board shall notify Members of changes in meeting dates, time, or place by publishing the changes at least three days in advance in the Society newsletter; by telephone (local telephone exchange Members only); and/or by acknowledged electronic mail.

4.5 Quorum

Fifteen percent of the Voting Members or fifteen Voting Members, whichever is smaller, shall constitute a quorum to transact business at any Annual General Meeting or Special Meeting. Ten percent of the Voting Members or twelve Voting Members, whichever is smaller, shall constitute a quorum to transact business at a General Meeting. If a quorum is not present within one-half hour after the set time of any Annual General Meeting or Special Meeting, the President shall adjourn the meeting and reschedule it for one week later at a

time and place as predetermined by the Board. The Board shall provide notice of the rescheduled meeting. If a quorum is not present within one-half hour after the set time of the rescheduled Annual General Meeting or Special Meeting, the meeting shall proceed with a minimum quorum of 5 Voting Members. If the minimum quorum of 5 Voting Members cannot be achieved, the President shall adjourn the meeting and reschedule it for the next scheduled General Meeting at which a minimum quorum of 5 Voting Members can be achieved. The Board shall provide notice of the rescheduled meeting.

4.6 *Motions and Statements*

Any Member wishing to make a Motion, Special Resolution, written statement, or survey regarding the affairs, policies, programs, or activities of the Society at any General Meeting, shall file a request with the Board for approval twenty-one days prior to the General Meeting setting forth the reasons for such action. Any member wishing to make an announcement at any General Meeting shall file a written request with the Chairperson for approval prior to the commencement of the meeting detailing the announcement.

4.7 *Correspondence*

Written correspondence to the Board must be mailed directly to the Society's official postal address.

4.8 *Parliamentary Procedure*

Robert's Rules of Order 1971 or later edition shall prevail at all meetings insofar as they are not inconsistent with the provisions of the Act or these Bylaws.

V. BOARD OF DIRECTORS

5.1 *General*

The Board shall consist of a minimum of six and a maximum of twelve Officers and Directors. The minimum and maximum number of Officers and Directors may be changed from time to time by an affirmative vote of three-quarters of the Voting Members present at any properly Constituted Annual General Meeting or Special Meeting.

5.2 *Duties*

Each Officer and Director shall be an officer of the Society in accordance with Article VI. The Board shall, subject to the Bylaws or direction given it by an affirmative vote of three-quarters of the Voting Members present at any properly Constituted Annual General Meeting or Special Meeting, assume the general management of all affairs, policies, programs, and activities of the Society and maintain the Society's bank account. The Board shall provide regular and timely reports at General Meetings of the Society respecting the affairs, policies, programs, and activities of the Society.

5.3 *Board Meeting*

Meetings of the Board shall be held as often as may be required, but at least

five times per year, and shall be called by the President. Special Board Meetings may be called on the instructions of any three Officers or Directors, provided they request the President to call such a meeting, and state the business to be brought before the Board. Board Meetings are open to all Members provided reasonable advance notice is given to the President. Only Officers and Directors may vote. The Board has the right to ask any guest at a Board Meeting to leave the table during confidential discussions.

5.4 Notice

Notice of Board Meetings shall be given to Board Members verbally, in writing, or by electronic mail by the President at least three days in advance. The President shall notify Board Members of changes in meeting dates, time, or place verbally, in writing, or by electronic mail as soon as possible prior to the meeting.

5.5 Quorum

A Majority of Officers and Directors on the Board shall constitute a quorum to transact business.

5.6 Voting

Each Officer and Director has one vote. If there is a tie, the motion is defeated.

5.7 Nomination and Election of Officers and Directors

Nominations for Officers and Directors, and the offices associated with each such office, shall be made by the Past-President or by a Nominating Committee composed of a Chairperson, appointed by the Board at a properly Constituted Board Meeting, and at least one Member selected by such Chairperson with the advice and consent of the Board. The Past-President or Nominating Committee shall present a slate of nominees to the floor at the Annual General Meeting after which one final call for nominations shall be made. A professional palaeontologist may be nominated for the office of President only if an amateur palaeontologist is not nominated. All seconded nominations shall be voted upon with those nominated by the Past-President or Nominating Committee. Voting shall be done in accordance with Article 2.2. A motion to ratify the election results must be approved by the Voting Members in attendance at the Annual General Meeting to ratify the election process.

5.8 Eligibility

No Member shall be eligible to hold the office of an Officer or Director unless they have been a Member in good standing for at least one year, or by an affirmative vote of the Board at a properly Constituted Board Meeting. Members who earn a living from the sale, trade, or barter of palaeontological resources shall not be eligible to hold the office of an Officer or Director.

5.9 Term Commencement

Term commencement of elected Officers and Directors shall be September 1 of the calendar year.

5.10 Vacancies

Any vacancy occurring during the term shall be filled by the Board at a properly Constituted Board Meeting. The successor shall serve the remainder of the term of the vacant position.

5.11 Conflict of Interest

Where an Officer or Director, either on their behalf or while acting for, by, with, or through another, has any financial or personal interest, direct or indirect, in any matter, or otherwise has a conflict of interest, they:

- a) Shall disclose their interest fully at a properly Constituted Board Meeting; and,
- b) Shall disclose their interest and the general nature thereof prior to any consideration of the matter being discussed; and,
- c) Shall not take part in the discussion of or vote on any question in respect of the matter; and,
- d) Shall not in any way whether before, after, or during the Board Meeting influence the voting on any such question.

The financial or personal interest, direct or indirect, of an immediate family member (parent, spouse, son, daughter, brother, or sister) shall, if known to the Officer or Director, shall also be deemed to be the financial or personal interest of the Officer or Director.

5.12 Removal

Any member of the Board may be removed from office by:

- a) The Society at a properly Constituted Annual General Meeting or Special Meeting for any reasonable Cause upon an affirmative vote of three-quarters of the Voting Members present; or,
- b) The affirmative vote of all Members of the Board present at a properly Constituted Board Meeting for any reasonable Cause. In this instance, the Officer or Director in question has the right to appeal the decision made by the Board at the next properly Constituted General Meeting at which time they may be re-instated by an affirmative vote of three-quarters of the Voting Members present.

5.13 Resignation

Any Officer or Director wishing to resign their position may do so upon notice in writing to the Board. The resignation takes effect immediately.

VI. OFFICERS AND DIRECTORS

6.1 General

The Officers and Directors of the Society shall provide regular and timely

reports to the Board respecting the affairs, policies, programs, and activities of the Society.

6.2 Positions

Under the provisions of Articles 5.7 and 5.8, the Society shall elect the following Officers: President, Vice-President, Secretary, and Treasurer; and the following Directors: Membership Director, Editor, Program Co-ordinator, Field Trip Co-ordinator, and (if created by the Society as described in Article 6.13) Director at Large. The position of Past-President is automatically filled by the exiting President of the Board. Directorships other than the ones listed above may be added or removed from time to time in accordance with Articles 5.1 and 6.13 by an affirmative vote of three-quarters of the Voting Members present at any properly Constituted Annual General Meeting or Special Meeting.

6.3 Term

Officers shall be elected for a term of one year. Directors shall be elected for a term of two years. The term of the Past-President ends when a new President is elected. There shall be no restriction on the number of terms an Officer or Director may serve.

6.4 President

The President shall chair all Board and General Meetings of the Society. The President shall be an ex-officio member of all Committees of the Society. The President shall act as the spokesperson for the Society. The President shall approve all records of the Society. The President shall also perform all duties assigned to this office by the Board. In the absence of the President, the Vice-President shall preside in their place. In the absence of both the President and Vice-President, a Chairperson may be elected to preside by a Majority show of hands of the Voting Members present at any General Meeting.

6.5 Vice-President

In the absence of the President, the Vice-President shall chair all Board and General Meetings of the Society and perform all duties of President. The Vice-President shall also perform all duties assigned to this office by the Board.

6.6 Secretary

The Secretary shall keep the minutes of all Board Meetings, General Meetings, Special Meetings, and the Annual General Meeting of the Society. The Secretary shall make sure all notices of such meetings are sent. The Secretary shall have custody of the Official Seal of the Society. The Secretary is the only Officer who has permission to use the Official Seal of the Society. In the absence of the Secretary, the Board shall appoint an Officer or Director to perform such duties. The Secretary shall have charge of all correspondence, records, and the Official Seal of the Society. The Secretary shall also perform all duties assigned to this office by the Board.

6.7 Treasurer

The Treasurer shall receive all monies paid to the Society and shall be responsible for the deposit of same in a financial institution as directed by the Board. The Treasurer shall present a detailed account of receipts and disbursements to the Board whenever requested. The Treasurer shall prepare for submission to the Annual General Meeting a statement of the Society's financial position detailing the Revenues, Expenses, and Inventory of the Society; and submit an audited copy of same to the Secretary for the records of the Society. The Treasurer shall file the annual return, changes in the Officers and Directors of the Society, amendments to the Bylaws and other incorporating documents with the Corporate Registry of Alberta as required by the Bylaws, the Act, or any other applicable statute. The Treasurer shall also perform all duties assigned to this office by the Board.

6.8 Past-President

The Past-President shall be responsible for the nomination of Officers and Directors at the Annual General Meeting. The Past-President shall also perform all duties assigned to this office by the Board.

6.9 Membership Director

The Membership Director shall maintain the Register of Members, and collect the annual fees or assessments levied by the Society. All such monies shall be promptly turned over to the Treasurer for deposit. The Membership Director shall also perform all duties assigned to this office by the Board.

6.10 Editor

The Editor shall be responsible for the publication and distribution of the Society newsletter. The Editor shall also perform all duties assigned to this office by the Board.

6.11 Program Co-ordinator

The Program Co-ordinator shall be responsible for arrangement and announcement of presentations at General Meetings. The Program Co-ordinator shall also perform all duties assigned to this office by the Board.

6.12 Field Trip Co-ordinator

The Field Trip Co-ordinator shall be responsible for arrangement and announcement of field trips. The Field Trip Co-ordinator shall also perform all duties assigned to this office by the Board.

6.13 Director at Large

Any additional Directorship created by the Society shall be called the Director at Large. The Director at Large shall perform all duties assigned to this office by the Board.

VII. COMMITTEES

7.1 General

Committees composed of a minimum of a Committee Chairperson and a maximum of any number of Members as determined by the Board, may be formed or dissolved by the Board at a properly Constituted Board Meeting to fulfill such duties as the Board may assign from time to time.

7.2 Duties

Each Committee shall, subject to the Bylaws or direction given it by the Board, assume the general management of all affairs, policies, programs, and activities assigned by the Board. The Committee Chairperson shall provide reports as directed by the Board respecting the affairs, policies, programs, and activities of the Committee.

7.3 Committee Meeting

Meetings of the Committee shall be held as often as may be required, and shall be called by the Committee Chairperson. Meetings are open to Committee Members, the President of the Board, and any guest the Committee Chairperson invites. Only Committee Members may vote.

7.4 Notice

Notice of Committee Meetings shall be given to Committee Members and the President of the Board verbally, in writing or by electronic mail by the Committee Chairperson at least three days in advance. The Committee Chairperson shall notify Committee Members and the President of the Board of changes in meeting dates, time, or place verbally, in writing, or by electronic mail as soon as possible prior to the meeting.

7.5 Quorum

A Majority of all Committee Members shall constitute a quorum to transact business unless the Committee comprises the Committee Chairperson in which case the Chairperson shall transact business.

7.6 Voting

Each Committee Member has one vote. If there is a tie, the motion is defeated.

7.7 Selection of Committee Members

The Committee Chairperson may select Members to serve on the Committee with the advice and consent of the Board.

7.8 Eligibility

No Member shall be eligible to serve on a Committee unless they have been a Member in good standing for at least one year, or by an affirmative vote of the Board at a properly Constituted Board Meeting.

7.9 Term

The term of a Committee may be limited or unlimited as determined by the

Board at a properly Constituted Board Meeting.

7.10 Vacancies

The Committee Chairperson may select Members to fill vacancies on the Committee with the advice and consent of the Board.

7.11 Conflict of Interest

Where a Committee Member, either on their behalf or while acting for, by, with, or through another, has any financial or personal interest, direct or indirect, in any matter, or otherwise has a conflict of interest, they:

- a) Shall disclose their interest fully at a properly Constituted Committee meeting; and,
- b) Shall disclose their interest and the general nature thereof prior to any consideration of the matter being discussed; and,
- c) Shall not take part in the discussion of or vote on any question in respect of the matter; and,
- d) Shall not in any way whether before, after, or during the Committee meeting influence the voting on any such question.

The financial or personal interest, direct or indirect, of an immediate family member (parent, spouse, son, daughter, brother, or sister) shall, if known to the Committee Member, shall also be deemed to be the financial or personal interest of the Committee Member.

7.12 Removal

Any Member serving on a Committee may be removed from service by:

- a) The Society at any properly Constituted Annual General Meeting or Special Meeting for any reasonable Cause upon an affirmative vote of three-quarters of the Voting Members present;
- b) The affirmative vote of all Members of the Board present at a properly Constituted Board Meeting for any reasonable Cause. In this instance, the Member in question has the right to appeal the decision made by the Board at the next properly Constituted General Meeting at which time they may be re-instated by an affirmative vote of three-quarters of the Voting Members present; or,
- c) The affirmative vote of all Committee Members present at a properly Constituted Committee meeting for any reasonable Cause. In this instance, the Member in question has the right to appeal the decision made by the Committee at the next properly Constituted Board Meeting at which time they may be re-instated by an affirmative vote of three-quarters of the Voting Members present.

7.13 Resignation

Any Committee Member wishing to resign their position may do so upon notice in writing to the Committee Chairperson. A Committee Chairperson wishing to resign their position may do so upon notice in writing to the Board. The resignation takes effect immediately.

VIII. FINANCE AND OTHER MANAGEMENT MATTERS

8.1 Remuneration

No Member of the Society shall receive any remuneration for their services as a Member, Officer, or Director. Reasonable expenses incurred while carrying out duties of the Society may be approved for reimbursement by the Board at a properly Constituted Board Meeting.

8.2 Spending

Extraordinary expenditures in the amount of \$100.00 or more must be prior approved by the Voting Members at a properly Constituted General Meeting. Extraordinary expenditures are expenditures for items other than normal operating expenses, budgeted projects, and items supported by designated grants or donations.

8.3 Borrowing

The Society shall not borrow money under any circumstances.

8.4 Contracts

Contracts of a financial nature shall be signed by the President and Treasurer, or in the absence of one, by the Vice-President in their place. Contracts of a non-financial nature shall be signed by the President and Secretary, or in the absence of one, by the Vice-President in their place.

8.5 Bank Account

Under the direction of the Treasurer, the Society shall open and maintain a bank account to receive fees and other revenue from which expenses of the Society shall be paid. Disbursements shall be made by cheque and shall require the signature of any two Officers or Directors with signing authority as approved by the Board and registered with the financial institution. Only Officers and Directors of the Board may be approved for signing authority.

8.6 Audit

The financial accounts and records of the Society shall be audited annually by either a qualified accountant or independently by two Members appointed by the Board at a properly Constituted Board Meeting. A complete and proper audited statement of the standing of the books for the previous year shall be submitted by the Treasurer at the Annual General Meeting of the Society.

8.7 Fiscal Year

The fiscal year of the Society shall end December 31 of each calendar year.

8.8 Books and Records

The books and records of the Society may be inspected by any Member at the Annual General Meeting or at any time upon giving reasonable notice to the Officer or Director having charge of same. Each Member of the Board shall at all times have access to such books and records.

8.9 Protection and Indemnity of Officers, Directors, and Committee Chairpersons

The Society shall indemnify and save harmless, to the extent permitted by law, all Officers, Directors, and Committee Chairpersons; former Officers, Directors, and Committee Chairpersons; their heirs, executors, administrators, successors and assigns, of and from all costs, charges, losses, expenses, claims, judgments or settlement sums whatsoever arising out of or in any way incidental to the Officer, Director, or Committee Chairperson holding or having held office as an Officer, Director, or Committee Chairperson and any and all acts or omissions while acting or purporting to act in that capacity, including but not limited to those reasonably incurred with respect to any civil, criminal, or administrative action or proceeding, EXCEPT WHERE the Officer, Director, or Committee Chairperson has failed to act honestly and in good faith with a view to the best interests of the Society or, in the case of a criminal or administrative action or proceeding that is enforced by a monetary penalty, the Officer, Director, or Committee Chairperson did not have reasonable grounds for believing that their conduct was lawful.

8.10 Cause

There are several instances which shall constitute proper Cause for disciplinary action; these shall include but not necessarily be limited to:

- a) Dishonesty (the use of lies or deceit, or the tendency to be deceitful); or,
- b) Excessive tardiness (being late for meetings where attendance is mandatory beyond what is considered acceptable, proper, usual, or necessary); or,
- c) Excessive absence without reason (being absent at meetings without reason where attendance is mandatory beyond what is considered acceptable, proper, usual, or necessary); or,
- d) Fraud (deliberate deception); or,
- e) Gross negligence (very obvious or unmitigated acts of causing injury or harm to another person and/or property as a result of doing something or failing to provide a proper or reasonable level of care); or,
- f) Illegal activity (taking part in or doing something that is against the law); or,
- g) Incompetence (lacking the skills, qualities, or ability to do something properly); or,

- h) Insubordination (being disobedient or rebellious by refusing to obey orders or submit to authority); or,
- i) Wilful contravention (deliberately breaking rules or laws, or deliberately opposing a formal statement or decision); or,
- j) Wilful damage to property (deliberate physical harm or injury making something less useful, valuable, or able to function); or,
- k) Human Rights violations (the rights considered by most societies to belong automatically to everyone, for example, the rights to freedom, justice, and equality).

8.11 Expulsion

Upon termination of a Membership as described in Articles 2.4b or 2.4c, or Affiliation as described in Articles 3.7b or 3.7c, the Member(s), Institution, or Affiliated Society shall be notified in writing by the Board of Directors indicating the grounds for expulsion. This letter shall be signed by the President of the Society, stamped with the Official Seal of the Society, and be sent by registered mail within 30 days of the approved motion to terminate said membership.

IX. AMENDING THE BYLAWS

9.1 Amending the Bylaws by Special Resolution

Amendments to these Bylaws may only be made by a Special Resolution, being the affirmative vote of three-quarters of the Voting Members present at any properly Constituted General Meeting, Annual General Meeting, or Special Meeting. There must be twenty-one days notice of the General Meeting, Annual General Meeting, or Special Meeting detailing the proposed resolution to modify the Bylaws. The amended Bylaws shall take effect after approval of the Special Resolution and acceptance for filing by the Corporate Registry of Alberta.

X. TERMINATION OF THE SOCIETY

10.1 Terminating the Society by Special Resolution

Should it become necessary to terminate the Society, termination shall require the affirmative vote of three-quarters of the Voting Members present at any properly Constituted General Meeting, Annual General Meeting, or Special Meeting. There must be twenty-one days notice of the General Meeting, Annual General Meeting, or Special Meeting detailing the proposed resolution to terminate the Society. At the date of termination, any property or funds remaining after payment of all debts shall be donated to a registered and incorporated charitable organization. The Society shall select such organization by Special Resolution at the General Meeting, Annual General Meeting, or Special Meeting. Under no circumstances shall any asset owned by the Society

be distributed to any Member of the Society. If the Society is terminated, the Board shall file the necessary documents with the Corporate Registry of Alberta as required by the Bylaws, the Societies Act, or any other applicable statute.

Code of Conduct

Policy

All Members shall at all times conduct themselves in a professional manner and in accordance with the Society Code of Conduct as outlined below.

Purpose

This policy has been created to ensure all Members adhere to common standards of personal conduct and commit to clear performance expectations in carrying out the business of the Society.

Application

This policy applies to all Members of the Society, its Officers, Directors, and all Members of standing or independent Committees. The Chairperson of the Board shall ensure all Officers, Directors, and Committee Chairpersons are aware of their responsibilities as defined in the Code of Conduct. Repeated and/or incorrigible Breach of the Code of Conduct may be Cause for:

- Membership termination as permitted in Article 2.4 of the Bylaws; or,
- Removal of a Member from service on a Committee as permitted in Article 7.12 of the Bylaws; or
- A recommendation to the General Membership for removal of a Member from Office as permitted in Article 5.12 of the Bylaws.

Responsibility

Board Chairperson

- Ensures the Code of Conduct is reviewed annually at the first meeting of the Board, or as soon as practical after the election of the Board, or as soon as practical after the appointment of any Member to the Board.
- Advise Board Members if their conduct appears to be in breach of the Code of Conduct, and if necessary, assists Board Members to achieve compliance.
- Advises the General Membership if any Board Member is repeatedly and/or incorrigibly in breach of the Code of Conduct.
- Assists Committee Chairpersons to ensure Committee Members comply with the Code of Conduct.

Committee Chairperson

- Ensure the Code of Conduct is reviewed at the first meeting of any newly formed Committee, or as soon as practical after the appointment of any new Member to the Committee.
- Advise Committee Members if their conduct appears to be in breach of the Code of Conduct, and if necessary, assist Committee Members to achieve compliance.
- Advise the Chairperson of the Board of Directors if any Committee Member is repeatedly and/or incorrigibly in breach of the Code of Conduct.

Member

- Ensure the Code of Conduct is reviewed as soon as practical after acceptance as a Member into the Society.
- Advise the Chairperson of the Board of Directors if any Member is repeatedly and/or incorrigibly in breach of the Code of Conduct.

Code of Conduct—Members

Members shall at all times be governed by the Bylaws and policies adopted by the Society for the governance and management of its affairs. Members shall ensure none of their actions or decisions conflict with the Code of Ethics as indicated in the *Alberta Palaeontological Society Information Handbook for Members*.

General Standards of Personal Conduct for Members

Members shall:

- Respect the rights, dignity, and worth of all other persons;
- Conduct themselves openly, professionally, lawfully, and in good faith in the best interests of the Society;
- Behave with appropriate decorum;
- Be fair, equitable, considerate, and honest in all dealings with others;
- Respect the confidentiality appropriate to issues of a sensitive nature;
- Respect the decisions of the majority and resign if unable to do so;
- Commit the time to attend the Annual General Meeting and Special Meetings and to be diligent in their preparation for and participation in discussions.

Code of Conduct—Board of Directors and Committees

Board and Committee Members shall at all times be governed by the Bylaws and policies adopted by the Society for the governance and management of

its affairs. Members of the Board and of Committees shall ensure none of their actions or decisions conflict with the Code of Ethics as indicated in the *Alberta Palaeontological Society Information Handbook for Members*.

General Standards of Personal Conduct for Board and Committee Members

In addition to observing the Code of Conduct as defined for Members, Members of the Board and Committees shall:

- Regardless of how they become a Board or Committee Member, be responsible first and foremost to the welfare of the Society and must function primarily as a Member of the Board, not as a Member of any particular constituency;
- Exercise due diligence in upholding their fiduciary responsibility to the Society;
- Ensure all Members are given sufficient opportunity to express opinions, and all opinions are given due consideration and weight.

General Duties and Responsibilities of the Board of Directors

The Board of Directors shall:

- Establish the strategic purpose and values of the Society.
- Exercise financial oversight and fiduciary responsibility for the Society on behalf of its Members.
- Exercise risk management oversight on behalf of the Society.
- Establish formal and informal reporting requirements between the Board and any:
 - Committees;
 - Chairperson of the Board;
 - Operational or management Committees (through the Chairperson of the Board);
 - Government Bodies.
- Establish, approve, and review policies, particularly those related to governance of the Society or its Members.
- Avoid real or perceived conflicts of interest. Where a potential conflict of interest exists, a Member of the Board is expected to declare the conflict and act in accordance with established policies for resolution or avoidance of the conflict.
- Ensure “best practices” in Board procedures.
- Respect the authority of the Chairperson, and exercise only such authority as is granted individually or collectively by Board governance policies.

- Ensure only the Chairperson of the Board speaks publicly on behalf of the Society unless another spokesperson has been specifically authorized by the Board.

General Duties and Responsibilities of Committee Members

- Committee Members and persons serving on operational or other Committees of the Society shall:
- Review and be guided by the terms for the Committee as established by the Board.
- Develop, in conjunction with the Board an annual program of work for the Committee, including performance outcomes and timelines.
- Respect the authority of the Chairperson of the Committee, and communicate to the Board through the Chairperson or through such lines of communication as may be established by the Board.
- Avoid and declare potential conflicts of interest, according to Board policies and procedures.
- Prepare for and participate fully in all discussions and decisions of the Committee.
- Ensure decisions that create budgetary implications or expose the Society to potential risk are flagged for specific attention by the Board.
- Ensure budgetary constraints are known and respected.

LEGISLATION PERTAINING TO FOSSIL COLLECTING IN ALBERTA

GENERAL

The APS executive reminds collectors of our responsibility to adhere to the laws of Alberta. Collecting regulations in all other provinces and territories of Canada are summarized in a document available online from the Government of British Columbia, at www2.gov.bc.ca/assets/gov/business/land-water-use/crown-land/fossil-management/fossil_management_framework.pdf

The collecting of fossils in Alberta is regulated under the *Alberta Historical Resources Act*. A copy of the Act may be found in the APS library. Copies of the Act are also available to anyone from the Queen's Printer Bookstore, for a few dollars, or viewed online at www.qp.alberta.ca (do a catalogue search by title: Historical Resources Act). The Queen's Printer Bookstore is located in Edmonton: main floor, Park Plaza, 10611 98 Avenue (780) 427-4952. The Historical Resources Act includes several sub-regu-

lations. The most important sub-regulations to APS members and ones that concern fossils are:

Alberta Regulation 254/2002—Archaeological and Palaeontological Research Permit Regulation.

Alberta Regulation 101/1998—Dispositions (Ministerial) Regulation.

Alberta Regulation 152/2004— Ammonite Shell Regulation.

Regulations are kept in the APS library or are available from the Queen's Printer, or viewed online: www.qp.alberta.ca (search by regulation number).

The following notes are mainly from the brochure *Finding Fossils*, a publication of the Royal Tyrrell Museum and the Alberta Government, but currently out of print. A copy of the brochure may be found in the APS library, and similar information can be read at the Tyrrell Museum's website: www.tyrrellmuseum.com/research/fossils_law.htm

DEFINITIONS

Surface collecting—gathering isolated fossils which are clearly on the surface of the ground.

Excavating—digging, prying or somehow extracting a fossil buried or embedded in the ground or rock face.

KEEPING FOSSILS

Surface collecting is permitted on Crown land, and on private land with the landowner's permission. You may keep surface finds as a custodian, but **ownership resides with the province of Alberta, making it illegal to sell or take such fossils out of the province** without an approved Disposition Certificate. **Excavating fossils requires a permit.** Collecting **ammonites*** of any kind—even surface collecting—is illegal without a permit. Permits are granted only to academics with post-graduate degrees. Application forms are processed through Resource Management at the Royal Tyrrell Museum of Palaeontology. Procedures outlined in the Historical Resources Act must also be followed before any part of the collection can be retained. All applications are reviewed by the Tyrrell Museum's Resource Management Program. **It is illegal to remove fossils from provincial and federal parks or designated protected areas in Alberta.** Precise boundaries of Alberta parks and protected areas may be found on the Land Reference Manual web page: <http://albertaparks.ca/albertaparksca/library/land-reference-manual.aspx>

* Ammonites are treated differently from other fossils under Alberta law, which requires collectors to hold an academic permit or a commercial mining agreement. See *APS Bulletin*, June 2014, p. 7.

OWNING FOSSILS

Fossils found, collected or acquired after July 5, 1978

All fossils collected in Alberta since July 5, 1978, and all fossils still in or on the ground, are owned by the province.

Fossils covered by a Control List (Refer to Disposition Regulation)

In accordance with the Disposition Regulation, Schedule 1, the Control List includes ammonite shell, oyster shell, petrified wood and fossil leaf impressions. The province may transfer ownership of fossils identified by a Control List to private parties. This list allows for responsible trade of certain fossils that are abundant within the province and thus have limited research and display value.

A person wishing to trade, lease or sell fossils—in essence transfer to themselves custodianship from the province—may do so only by following the steps outlined in the Disposition Regulation.

For more information, contact the Royal Tyrrell Museum, (403) 823-7707, or contact their head of Resource Management, dan.spivak@gov.ab.ca

WHAT TO DO WHEN YOU FIND A SCIENTIFICALLY VALUABLE SPECIMEN

Identifying a valuable specimen is not always easy. Even the professionals can't always recognize what is important. Remember that the science of palaeontology is continuously evolving. Some specimens have not been recognized for their importance until years later, after other discoveries were made.

Some basic rules to identify what is **scientifically important** and should be left alone:

- Skull or pieces of skull anatomy.
- Bone bed (a concentrated accumulation of bones, teeth, etc.)
- Articulated whole specimen or articulated parts of a specimen such as a limb.
- Fossils in formations that normally don't contain fossils or in which fossils are extremely rare.
- Particular fossils that, by virtue of their geographical location, are rare (for example, vertebrate fossils from the foothills of Alberta).
- Fossils that have never been found previously in a particular formation.

If none of the above criteria apply, and you can't identify the specimen, first solicit the opinion of others with you. When in doubt, don't guess—leave it alone and contact one of the institutions listed on pages 29–30. If you find something that you recognize as a valuable specimen, the same guidelines apply: **leave it alone and report it**. Don't uncover parts of it because that may destroy part of the fossil, or its geological context. Don't cover it up with dirt because that may make it impossible to find later. Mark the area, take careful note of the location and call the professionals. If the fossil

is in an area that may be frequented by the public, don't mark it in such a way that it could become a target for unscrupulous collectors or vandals. If it is threatened by erosion, it will come down to a judgment call on whether or not you should collect it. You may be able to take simple preventative measures to minimize erosion by making a small trench to divert water around the specimen if it is in danger of washing away.

Part 2

FOSSIL IDENTIFICATION

HOW TO FIND HELP WITH IDENTIFICATION

Ask an APS member.

Ask a member of the APS executive or another senior member. They may be able to answer your question directly or point you to other members in the Society specializing in certain fossils or certain localities.

Compare with the APS collection.

Arrange to see the APS collection through the APS curator. There may be a specimen in our collection that matches your fossil. The APS library has a binder containing examples of some "microvertebrate fossils" (teeth, tiny bones, fish scales, etc.)

Look it up in a book.

Refer to **Appendix A** (page 37) of this handbook for a list of popular books on palaeontology. The APS library has an extensive selection of references on vertebrate and invertebrate fossils. Other libraries that have very good selections include the Gallagher Library of Geology at the University of Calgary, The Calgary Public Library Main Branch, The Royal Tyrrell Museum of Palaeontology library, and the Geological Survey of Canada Library.

A good starter source for vertebrate identification is the Alberta Palaeontological Society book *Guide to Common Vertebrate Fossils from the Cretaceous of Alberta* which may be purchased from the Society. Contact any executive member of the Society for details, or see the Society's website, **www.albertapaleo.org**

At the University of Calgary most of the printed sources of information on palaeontology and geology are at the Gallagher Library of Geology, in the Earth Sciences building. This library usually has shorter hours of operation than the main McKimmie Library, which has information on botany and zoology. The U of C holds copies of the theses of U of C students only. Computers (**<http://library.ucalgary.ca>**) and/or staff can help you locate articles. Articles on any aspect of physiology are usually kept

at the Medical Library, Foothills Hospital (regardless of the creature being studied).

The library at the Royal Tyrrell Museum is open to the public on weekdays, 8:30 A.M. to 4:00 P.M. They request you phone them first if you plan to come. This library has doctorate and masters theses of authors who have used the museum during their research. If you are looking for a specific journal, book, or thesis, first check with the library to make sure it is not out on loan. Museum staff can borrow material for an indefinite period! The public cannot borrow from the RTMP library; university students may be allowed to—check first.

Ask a professional palaeontologist.

Professional palaeontologists may be found at the Royal Tyrrell Museum, University of Alberta, University of Calgary, Mount Royal University, and the Geological Survey of Canada (GSC). The best way to find the right person is to contact the institution and then tell them what you want. They will usually do their best to link you up with someone or have someone return your call.

When requesting identification of specimens by a palaeontologist be aware of the following:

- 1) Each palaeontologist has their own special area of expertise and their knowledge of other areas may be limited.
- 2) Identification and classification of organisms are subject to differences of opinion and can change over time.
- 3) At the Royal Tyrrell Museum of Palaeontology the staff have the right to keep your specimen for the museum.

At the Royal Tyrrell Museum of Palaeontology (RTMP):

The Museum's website has an online fossil identification form, with which you can upload a photo of your fossil, as well as locality information: **www.tyrrellmuseum.com/research/Identify_A_Fossil.htm**. Or call the Museum: **(403) 823-7707**. You can also visit the Museum in Drumheller with your fossil, but you might not find any staff on hand to help you so it is always best to call ahead.

Following is a list of some scientists and their areas of expertise:

Dinosaurs

Darren Tanke

Dr. Don Henderson

Dr. François Therrien

Turtles and other non-dinosaurian reptiles

Dr. Don Brinkman

Palaeobotany

Dr. Dennis Braman

Mammals

Dr. Craig Scott

Amphibians

Dr. James Gardner

Fishes

Andrew Neuman

This is not a complete list, and does not mean that only these people can help you. The RTMP has many knowledgeable people on staff including technicians, graduate students, the education group and others who may be called upon to help you. Wintertime is usually better since fewer staff members are out in the field. To contact a museum scientist by email, check their personal information at www.tyrrellmuseum.com/research/our_scientists.htm

At the Geological Survey of Canada (Calgary): (403) 292-7000

The GSC holds a semi-annual “Rock ’n’ Fossil Road Show” where fossils can be brought in to be identified. Contact the GSC for dates and locations.

At the University of Calgary

Dept. of Geoscience: (403) 220-5841 geoscience.ucalgary.ca

Vertebrates

Dr. Darla Zelenitsky

Invertebrates

Dr. Charles Henderson

Microfossils, invertebrates

Dr. Marius (Dan) Georgescu

Dept. of Biological Sciences: (403) 220-5261 bio.ucalgary.ca

Vertebrates

Dr. Anthony Russell

Dr. Jessica Theodor

Dr. Alex Dutchak

Dept. of Veterinary Medicine: (403) 210-3961 vet.ucalgary.ca

Vertebrates

Dr. Jason Anderson

At Mount Royal University (Calgary; Dept. of Earth Sciences): (403) 240-6165

www.mtroyal.ca

Invertebrates

Dr. Paul Johnston

Dr. Wayne Haglund

Trace fossils

Dr. Jennifer Scott

Microfossils

Dr. Sylvie Pinard

At the University of Alberta (Edmonton)

uofa.ualberta.ca/earth-atmospheric-sciences

uofa.ualberta.ca/biological-sciences

Contact Lisa Budney, Collections and Museums Administrator, Department of Earth and Atmospheric Sciences: (780) 288-0109, Lbudney@ualberta.ca

She will assist with identification inquiries and can put you in contact with an expert in the type of fossils you are dealing with. The University of Alberta has experts in all areas of palaeontology.

RECORD KEEPING

As custodian of the fossils you collect it is important to keep a record of where each fossil was found. This should include:

1. **The geographic location**, for example:
 - Map name and reference or GPS reading (the UTM/UPS grid coordinate system is best for pinpointing fossil localities);
 - Map with site marked; and/or
 - Detailed description with sketch map, photograph, etc.
2. **The site description**, for example:
 - “on ledge half way up west facing cliff”
 - “in scree on mountain side about 20 m above trail on north side” or
 - “in east bank of river about 2 m below top.”
 - If the fossil is still in its original position, relationship to any distinctive marker bed; for example: “about 3–4 m below a 20 cm thick coal seam” or “15 cm above the top of a dark brown, resistant sandstone bed.” The more precise the measurement, the better; if nothing else, at least “eyeball” the distances.
3. **The nature of the rock in which or on which the fossil was found**, for example:
 - yellow, fine grained sandstone; clay, shale, limestone, etc.

The above information enhances the scientific value of the fossil and can assist with:

- dating the fossil;
- identifying the fossil; and
- relocating the site at a later date for future collecting or for geological or palaeontological study purposes.

Recording the date the fossil was collected is also recommended.

See the article “Locality slips keep specimens under control” by Howard Allen, *APS Bulletin*, Volume 22, Number 2, June 2007, Page 10.

GENERAL CLEANING TECHNIQUES

PHYSICAL—mechanical means of cleaning/preparing fossils.

- To break away along planes of weakness (bedding planes); usually along horizontal planes.
- To break or cut away parts of homogeneous material; usually along vertical planes, but may be random.

By means of:

1. Hand-held pressure point

- dental tools
 - needles
 - knives
2. Vibrating pick/chisel point
 - engraving tool
 3. Grinding disc
 - electric drill attachments
 4. Sandblasting
 - small, hand-held; abrasives of various hardnesses.
 5. Freezing and heating
 - water or a volatile in pore space of matrix.
 6. Vibrations
 - sonic cleaner
 7. Brushes
 - various sizes and materials

CHEMICAL

- To dissolve the calcite cement and/or matrix.
- To dissolve limonite cement and/or matrix.
- To decompose clay minerals by dissolving aluminum ions. (The smaller the matrix particle size, the greater the surface area exposed to the agent used, so the matrix reacts faster than the fossil.)

By means of:

1. Acids
 - Hydrochloric (muriatic acid)—dissolves calcium carbonate.
 - Oxalic—good for removal of iron (limonite).
 - Acetic (glacial acetic acid, pickling vinegar)—dissolves calcium carbonate.
 - Citric acid—slow, good for fragile material—dissolves calcium carbonate.
 - Lime-Away™—good for Cretaceous shales. Then soak and freeze.
2. Bases
 - Household lye (potassium hydroxide)—good for decomposing clays.
 - Saniflush™
3. Solvents
 - Varsol/kerosene—good for the removal of organic residues.
4. Water—the ultimate solvent.
 - Rainwater: may be more effective as it is slightly acidic.
5. Wetting Agents
 - Greatly improves penetrating and cleaning action of water. Often contained in detergents.
6. Weathering

- Can leave sample outside on a fine screen for several months.

Given enough TIME any fossil can be cleaned/prepared to perfection.

FURTHER READING—see these articles in the APS library:

“A chemical extraction technique for the recovery of silicified plant remains from ironstones” by Aulenback & Braman.

“Acetic acid opens new palaeo dimensions” by Joseph LeBlanc, *APS Bulletin*, Volume 12, Number 4, December 1997, Page 7.

FOSSIL PREPARATION, REPAIR AND CONSOLIDATION

The art of fossil cleaning and preparation has a long, and until recently, an uneventful history of “picking and chipping.” For hundreds of years fossil cleaning and preparation was done by mechanical means such as the slow and methodical removal of matrix material by scratching, gouging, picking, chipping and cutting. Only within the last fifty years has the development and application of electric motors and chemicals added significant new aspects to fossil cleaning and preparation.

Patience has always been the key to successful fossil preparation, regardless of the technique. To best understand why we use the preparation techniques we do, and on what materials, we must first know something of the properties of the material we are working with.

To clean and prepare fossil material we generally wish to remove sedimentary material that is encasing the fossil. So what we want to examine first are the properties of the sedimentary material that covers and coats the fossil specimens.

Sedimentary rock material consists of:

Minerals—substances that occur as:

mineral grains, generally of quartz, feldspars, rock fragments, fragments of fossils, or other mineral material.

matrix material; this is usually very fine grained mineral material that fills in and around the larger mineral grains, generally clay minerals.

cementing materials; this is a chemical precipitate that has been deposited around the mineral grains and matrix material to chemically bond the stuff together. Generally quartz (in the form of chalcedony), calcite/dolomite, or limonite are the most common cementing materials, but organic residues may also be present.

Texture—the arrangement of the mineral grains, and the presence or absence of

either matrix, or cement, or both.

porosity, the void space within a rock where matrix and/or cements would normally occur.

bedding planes (laminae), planes of deposition; perhaps planes of weakness. Planes along which mineral grains, or other materials may align themselves.

CONSOLIDATION

Consolidants are glues that penetrate the fossil and strengthen it. There are various products on the market such as Vinac™, Butvar™, Paleobond™ and others. Before using a product like this, a Material Safety Data Sheet (MSDS) should be consulted and the directions followed. Directions may be provided on the container, but not always. There may be special ventilation requirements. These products may be toxic with long-term exposures.

It is a good idea to record what consolidant is used in any given fossil preparation process for future reference.

Typical use of one product such as Vinac™ (vinyl acetate):

Vinac diluted with acetone to very runny consistency can be applied slowly using eyedroppers or hypodermic syringe to broken surface or friable bone until no more soaks in. Then let dry thoroughly and repeat if necessary. Allow to dry well before further working on the fossil. Proper ventilation is required: exposure to acetone can affect the nervous system.

REPAIR

White glue, Weldbond™, or LePage's Bondfast™, Paleobond™ or Crazy Glue™ (cyanoacrylates with accelerator). Good for permanent bonding of small pieces.

5-minute epoxy—for permanent bond of larger pieces. **WARNING:** Repeated exposure to epoxies can lead one to develop sensitization to that family of products.

Vinac diluted with acetone to thick consistency—good for temporary use while trying to fit many smaller pieces together as it can easily be reversed with acetone. Repair will probably last for a long time but is not considered permanent. The disadvantages are that it is slow to dry and tends to be messy to use.

FILLER

For filling open cracks and spaces from missing pieces, to make the specimen stronger and improve appearance. Epoxy putty (A & B epoxy putty) is the best choice. Plaster of Paris and Vinac™ in acetone (thick consistency) can also be used.

CATALOGUING FOSSIL SPECIMENS

A simple serial number is best if you plan on keeping track of your collection manually or with a computerized database or spreadsheet. Serial numbers greatly simplify database construction and searching.

SPECIMEN SERIAL NUMBER

JD-1237 (example)

↑ Accession number that is recorded sequentially.
↑ Collector's initials ("John Doe"). This makes the collection unique to this person. This is especially useful if you are combining collections for display.

INFORMATION TO RECORD

Whether you keep individual specimen sheets, labels, or collect the information in spreadsheets, the information useful to keep track of includes:

- date collected
- locality
- formation
- notes—a field for extra comments: "this bone found associated with a tooth."
- Preparation technique—e.g. any special glues that were used.
- taxonomy
- element identification—e.g. "right femur"
- age—e.g. Late Cretaceous (Campanian)

An example of a specimen data sheet used for the APS collection is shown on the following page.

NUMBERING THE FOSSIL

Make sure the fossil is clean and dry. A quick and easy way to number your fossil specimens is to print them out on a piece of paper, cut out each number, and glue it onto your specimen. An alternate method is to paint a small strip of white latex paint on your fossil. When the strip is completely dry, the specimen number can be written onto the white strip with a permanent black ink pen.

See the article "My technique for numbering specimens" by Howard Allen, *APS Bulletin*, Volume 22, Number 2, June 2007, Page 11.

Alberta Palaeontological Society
 INFORMATION HANDBOOK FOR MEMBERS

SPECIMEN SHEET
FOR THE
ALBERTA PALAEOLOGICAL SOCIETY

SPECIMEN #	DATE
GENERAL DESC.	
KINGDOM	SUPERFAMILY
PHYLUM	FAMILY
SUBPHYLUM	GENUS
CLASS	SPECIES
SUBCLASS	SUBSPECIES
ORDER	COMMON
SUBORDER	
LOCALITY: DLS <input type="checkbox"/> MGS <input type="checkbox"/> LAT.LONG <input type="checkbox"/>	LOC. #
	QUARRY #
	MAP #
LOCATION REMARKS	MAP NAME
	PERIOD
	EPOCH
ALT.	AGE
GROUP	ENVIRONMENT
FORMATION	
MEMBER	ORIENTATION & ASSOC. MAT.
HORIZON	
ROCK TYPE	
COLLECTOR	COLLECTION DATE
COLLECTION REMARKS	
DIMENSIONS	
SPECIMEN REMARKS	
ACQUISITION MODE (DONOR)	
PUBLICATIONS	
GENERAL REMARKS	

APPENDICES

A. FOSSIL BOOKS TO GET STARTED

“HOW TO” BOOKS

- Lichter, Gerhard. 1993. Fossil Collector's Handbook. Translated by Elisabeth E. Reinermann. Sterling Publ. Co., 160 pp. ISBN 0-8069-0650-3
- MacFall, Russell P. and Wollin, Jay C. 1972. Fossils for Amateurs: a Handbook for Collectors. Van Nostrand Reinhold Co. 341 pp. ISBN 0-442-25061-4

GENERAL

- Dixon, Dougal, et al. 1992. The Macmillan Illustrated Encyclopedia of Dinosaurs and Prehistoric Animals. Maxwell Macmillan Canada, 312 p. ISBN 0-02-042981-9
- Gayrard-Valy, Yvette. 1994. Fossils: Evidence of Vanished Worlds. Discoveries series, Harry N. Abrams, Inc. 191 pp. ISBN 0-8109-2824-8
- Gould, Stephen Jay, gen. ed. 1993. The Book of Life. Viking Press, 256 pp. ISBN 0-670-85375-5
- Palmer, Douglas. 1999. Atlas of the Prehistoric World. Discovery Books, 224 pp. ISBN 1-56331-829-6

IDENTIFIERS

- Arduini, Paulo and Teruzzi, Giorgio. 1986. Simon & Schuster's Guide to Fossils. Simon & Schuster, 316 pp. ISBN 0-671-63132-2
- Alberta Palaeontological Society. 2009. Guide to Common Vertebrate Fossils from the Cretaceous of Alberta. 234 pp. ISBN 978-0-9811101-0-3
- Levi-Setti, Riccardo. 1993. Trilobites. 2nd Edition. University of Chicago Press, 342 pp. ISBN 0-226-47451-8
- Mayr, Helmut. 1992. A Guide to Fossils. Princeton University Press, 256 p. ISBN 0-691-02922-9
- Thompson, Ida. 1982. The Audubon Society Field Guide to North American Fossils. Knopf Publishing, 846 p. ISBN 0-394-52412-8
- Tidwell, William D. 1975. Common Fossil Plants of Western North America. Brigham Young University Press, 197 pp. ISBN 1-56098-758-8
- Walker, Cyril and Ward, David. 1992. Fossils. Eyewitness Handbooks, Stoddart Publ. 320 pp. ISBN 0-7737-2597-0

B. FOSSIL WEBSITES

Following is a tiny sample of the vast storehouse of information on fossils and geology to be found on the internet. Use your favourite search engine to find whatever topic interests you.

www.albertapaleo.org	Alberta Palaeontological Society
paleobotany.museums.ualberta.ca	U of Alberta Palaeobotanical Collection
www.ucmp.berkeley.edu	University of California Museum of Paleontology, Berkeley
www.nhm.ac.uk	The Natural History Museum, London
www.palass.org	The Paleontological Association (UK)
www.amnh.org	American Museum of Natural History
www.nationalgeographic.com	National Geographic Society
www.enchantedlearning.com	Kids' Stuff
www.ansp.org	Academy of Natural Sciences, Philadelphia
www.museumoftheearth.org	Paleontological Research Institution, Ithaca, NY
www.rom.on.ca/en	Royal Ontario Museum, Toronto
www.spnhc.org	Society for the Preservation of Natural History Collections
www.fieldmuseum.org	Field Museum of Natural History, Chicago
www.mnh.si.edu	U.S. National Museum of Natural History (Smithsonian)
www.nrcan.gc.ca/earth-sciences	Geological Survey of Canada
www.tyrrellmuseum.com	Royal Tyrrell Museum of Palaeontology
exhibitions.museums.ualberta.ca/joffrebridge	Joffre Bridge Fossil Exhibition (U of Alberta)
www.ucmp.berkeley.edu/clad/clad1.html	Introduction to cladistic taxonomy
www.trilobites.info	A Guide to the Orders of Trilobites
www.westerntrilobites.com	Western Trilobites Association

C. PALAEOLOGICAL JOURNALS

The following list is by no means complete. Open-access journals are available for free viewing online. Paywalled journals require a fee to read or purchase articles online; for free access, visit a library (see section D, below). Journals may be indexed annually, and cumulative printed or online indexes may be available. Search the web or ask a librarian for assistance. A more thorough list of palaeontological journals with links is available at http://cactus.dixie.edu/jharris/Journal_Links.html

Open-access Journals

*Palaeontology**
*Canadian Journal of Earth Sciences**
Acta Palaeontologica Polonica
PLoS ONE
Palaeontologia Electronica
US Geological Survey publications
American Museum of Natural History publications
University of Michigan Museum of Paleontology publications
Biodiversity Heritage Library (free online archive of many old journals and publications)

Paywalled Journals

Journal of Paleontology
Journal of Vertebrate Paleontology
Cretaceous Research
Palaeogeography, Palaeoclimatology, Palaeoecology
Palaios
Paleobiology
Science
Nature
Lethaia
Palaeontographica
Ichnos
Journal of Paleontological Techniques

* Recent issues are paywalled. Older issues are open-access.

D. ONLINE LIBRARY CATALOGUES

Calgary Public Library	calgarypubliclibrary.com
Edmonton Public Library	www.epl.ca
Geological Survey of Canada	www.nrcan.gc.ca/library/167
University of Alberta	www.library.ualberta.ca
University of Calgary	library.ucalgary.ca

Some of these libraries have access to powerful digital indexes such as GeoRef and The Zoological Record Online. Ask the librarian. Be aware that most university and institutional libraries will not allow members of the public to sign out books, but you can usually use their material on site. To find other online catalogues, use a web directory or search engine to navigate to the websites of universities or other major libraries.

E. MAP RESOURCES

Printed topographic maps may be purchased at most commercial map dealers and DVD collections (eTopo™, MacTopos™, etc.) are available for purchase. Geological maps are produced by the Geological Survey of Canada (GSC). Most GSC paper maps are out-of-print, but the Survey provides almost all of their maps online, for free at geogratis.gc.ca/geogratis/search?lang=en. Alternatively, you may find the map in a library. Most large public and university libraries have accessible map collections.

The Government of Canada has two other useful websites: A magnetic declination calculator can be found at geomag.nrcan.gc.ca/calc/mdcal-eng.php. Enter the year and map coordinates of interest, and the calculator will return the magnetic declination for correcting your compass to true north. The Toporama site provides printable, colour topographic maps of the entire country at up to 1:15,000 scale. The Toporama maps are not quite as detailed as their commercial printed versions (no grid lines are shown); however, they do show all significant roads, streams and other topographical features, and cursor point coordinates and elevations. They make great preview maps if you're considering purchasing the real thing, or scouting a new location. Navigate to atlas.nrcan.gc.ca/toporama/en/index.html.

Another excellent resource for scouting locations is the free computer application Google Earth™, available at google.com/earth/. You can zoom into a map or satellite view of anywhere on Earth. Image resolution and quality varies, but you can see all streams and roads; for some areas covered by high-resolution images, you can even pick out individual trees, buildings and rock outcrops. You can add and save GPS waypoints and tracks, do virtual fly-overs and even overlay scanned geological map images onto your area of interest.

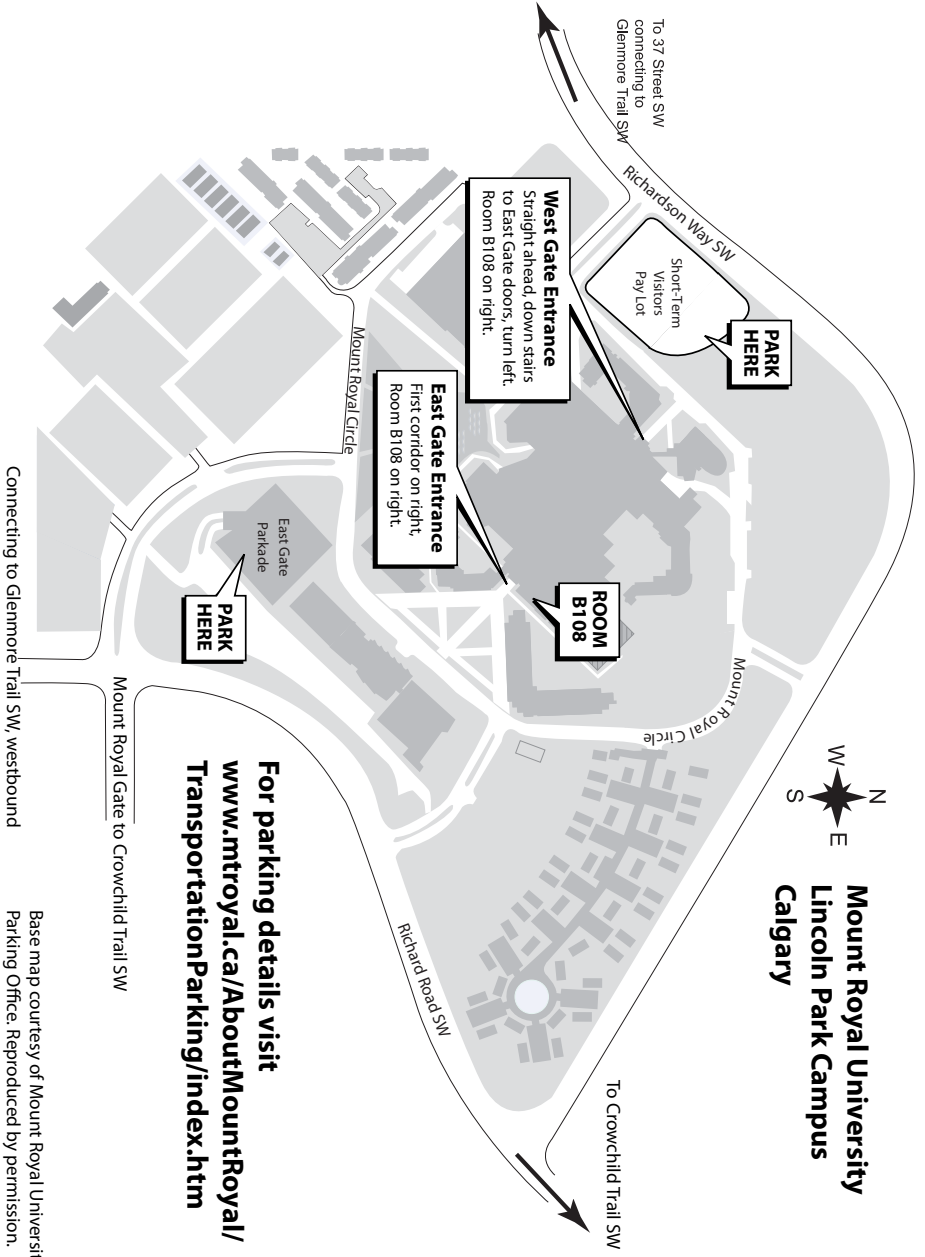
For help in understanding the UTM (Universal Transverse Mercator) grid system, the best system for pinpointing fossil localities by map and GPS, these internet resources are valuable: the US National Park Service bulletin *Using the UTM Grid System to Record Historic Sites* at www.nps.gov/nr/publications/bulletins/nrb28 and the Government of Canada's Centre for Topographic Information pages at www.nrcan.gc.ca/home. Enter "Topo 101" in the search box at the top of the home page.

ACKNOWLEDGEMENTS

The Late Roslyn Osztian first recognized a need for this handbook as a guide for new Society members. The framework is based upon her original concept and suggestions. Portions of the text concerning fossil cleaning and preparation techniques were excerpted from lecture notes provided by Dr. Wayne Haglund, Mount Royal University, to whom the Society is deeply indebted. The map of Mount Royal University was reproduced with the permission of Mount Royal University Parking Office.

Vaclav Marsovsky researched and wrote much of the text of the first edition, with help from Cindy Evans and others. Parts of the current edition were added or corrected by Howard Allen. Final composition, layout and editing was by Howard Allen.

NOTES



**Mount Royal University
Lincoln Park Campus
Calgary**

**For parking details visit
[www.mtroyal.ca/AboutMountRoyal/
TransportationParking/index.htm](http://www.mtroyal.ca/AboutMountRoyal/TransportationParking/index.htm)**

Base map courtesy of Mount Royal University
Parking Office. Reproduced by permission.