

Practice Guidance for Members

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Introduction

The College of Applied Biology (henceforth ‘the College’) upholds the public interest by regulating its members to ensure their competence, independence, professional conduct, and integrity. The College administers practice requirements that are set out in the *College of Applied Biology Act*, in Rules made under the Act, and in the Code of Ethics that is a schedule to those Rules.

On occasion, the College also provides guidance documents to assist members in understanding and complying with the mandatory Rules. Unlike the Rules, guidance documents do not set out rigorous, enforceable parameters; rather, they set general expectations for the practice of applied biology.

This document has been developed to provide guidance to members on conducting their practices in a professional manner. The guidance applies to members whenever they practice applied biology, not just when they are paid for their work but also, for example, when they volunteer to provide advice or recommendations or when they write an article for a newspaper, and even if they do not identify themselves as members of the College.

A. Competence

As specified in the first two principles of the Code of Ethics, members must provide objective, science-based opinion, advice, and reports in applied biology; they must undertake assignments and offer opinions only in areas in which they are competent through training and experience. Considerable guidance is offered in the Code of Ethics on actions that must be taken in meeting these ethical precepts. Additional guidance and explanation is provided here.

Competence is demonstrated when members apply their knowledge, skills, abilities, judgement, and other qualities to perform services to an acceptable standard. In this case, the standard is set by trained professionals acting in similar situations¹.

Being competent does not require perfection, but it does involve an adequate and current knowledge of the practices and procedures by which biological principles can be applied effectively. While members cannot be conversant with every new

¹ See Code of Ethics Principle 2, bullet 1. Also note the linkage to establishing due diligence in court (p. 10 of this document).

development, they should strive to be up-to-date in professional knowledge and recognize its relationship to practice. A commitment to ongoing professional learning is integral to effective practice, which should be refined through ongoing inquiry, dialogue, and reflection.

Members are also expected to be familiar with relevant federal, provincial, and municipal legislation. Since governments periodically revise the laws and regulations that influence the practice of applied biology, members must keep abreast of new legislation that may impact their practices, monitor changes in those requirements, and adjust their practices to ensure compliance with the changes.

Members must ensure they have the ability to perform competently when undertaking an activity, or must be able to become competent without incurring delays or expenses that clients or employers would find unacceptable. In some cases this may require identifying mentors or senior professionals to oversee members' work.

Note, though, that simply having the ability to practice in a competent manner - having the requisite knowledge, skills, and other qualities - is not sufficient; members must also apply these qualities to their work at all times. For example, members must strive to ensure that their work is always scientifically and technically sound. When errors or omissions occur, members should take responsibility and report the errors or omissions to their employers or clients immediately. The members should then take appropriate actions to correct such errors as soon as practical.

When members take on projects or activities that require the involvement of other specialists or experts, the members must obtain those services or advise employers to obtain them; or else fully disclose the area of uncertain competence and any attendant risks to all parties involved. Furthermore, where the scope of members' work or opinions is limited or qualified, members should clearly state those limits or qualifications so that they do not appear to be stepping beyond their areas of competence.

Under the College's Rule 13 concerning use of the professional seal and signature, members are expected to sign and seal plans, reports, and certain other documents when those documents were prepared by the member or prepared under the member's supervision². Members must recognize, however, that even if they fail to sign or seal a document, their work is still held to the same expected level of competence.

When documents are prepared under members' supervision it is important for members to satisfy themselves that those preparing the documents are also

² Members may also sign and seal a document prepared by another person if they are satisfied that the work detailed in the document has been carried out to a standard acceptable of a College Member, providing that they certify the document as specified in Rule 13.3.1 or 13.3.2.

competent to conduct the required work. The members should review subordinates' education, training, experience, history of professional development and continuing education, and previous work record to determine if their overall set of knowledge, skills, and abilities are up to the standard required for the task at hand. If subordinates are found to be lacking in any important respects, the members should ensure that the subordinates upgrade their qualifications before beginning the work, step in personally to fill the gaps, or obtain the services of another professional.

To meet the expected standards for competence throughout their careers, members must undertake activities to promote their continuing professional development. Examples of ways to address this requirement include participating in conferences, workshops, and webinars; keeping current on readings in academic, professional, and trade publications; staying up-to-date on legislation pertinent to their area of practice; consulting with appropriately qualified specialists or experts for matters on which the member is not fully competent; participating in discussion groups, technical committees, and professional committees; developing relationships with mentors, colleagues, and peers with whom to engage in regular communication; and sharing knowledge and expertise with others.

B. Respectful Regard

As noted in Sections 8 and 9 of the Code of Ethics, members must avoid intentionally injuring the reputations of others. This includes showing respectful regard not just for the practices and opinions of other professionals, but for all individuals with whom members interact. Members will usually achieve this goal if they apply respect, tact, sensitivity, and restraint in expressing an opinion that reflects on the ability or integrity of another person.

Having respectful regard for the reputations of others, however, does not require agreement with or acceptance of their opinions, conduct, or work. For example, members for various reasons may find themselves in disagreement over interpretations of data and facts or over the thoroughness and diligence with which a study has been conducted. Regardless of how strongly opinions or positions are held, professional disagreements should remain focussed on facts, processes, and actions rather than on the motivation, values, or other personal characteristics of the parties involved. Members should be receptive to suggestions and constructive criticisms from others and not be unduly defensive.

One-to-one communication regarding criticisms and differing opinions or interpretations is an important part of respectful regard. As noted in Principle 9 of the Code of Ethics, where one member has serious concerns about the practice or conduct of another member, the member with concerns is expected, whenever possible, to raise those concerns privately with the other member before any conflict or disagreement between them is made public, and prior to registering a complaint with the College. This is an important step in ensuring that both parties

fully understand the facts of the situation and the considerations that have led them to their respective positions and actions.

Members will also find it helpful to extend this principle to disagreements with non-members of the College, including other professionals. Private discussions offer opportunities to provide constructive criticism or new information which may help to resolve the disagreement. This also allows members to inform the other persons of the members' intentions to take further action, including public statements or other measures such as informing an appropriate person, agency, client, or another professional's regulatory body.

Consideration of respectful regard should also be a priority when one member is requested or employed to evaluate the work of another member. In such cases, the evaluation should not begin until the member who is being evaluated has, where practicable, been informed of the evaluation. An exception to this guidance can be made if the evaluation is a routine one or has been anticipated. Also, members should feel free to provide, when requested, frank but private appraisals of other members being considered for employment.

Finally, members can promote respectful regard generally in the profession by working collaboratively with colleagues and other regulated professionals, acknowledging contributions of others in reports and communications, and maintaining a professional approach in all communications.

C. Independence

Members are expected to demonstrate independence of thought and action, ensuring that professional obligations override other obligations, as outlined in Principles 1 and 4 of the Code of Ethics. They must conduct professional engagements and provide services grounded in knowledge and objective professional judgement, free of conflict of interest or bias.

To maintain independence, members and their professional associates should be free of any influence, interest, or relationship in respect of clients' or employers' affairs which impair professional judgement or objectivity. If a conflict of interest does develop, members should fully disclose the circumstances to the affected employers or clients.

To assist in staying alert to potential conflicts of interest, members may find it helpful to review the criteria for both actual and perceived conflicts of interest, such as those contained in the federal *Conflict of Interest Act*³ and elsewhere⁴. Members may also wish to formulate and periodically review a conflict of interest policy for themselves and their employees.

³ See <http://laws-lois.justice.gc.ca/eng/acts/C-36.65/>

⁴ For example, see http://bccla.org/our_work/conflict-of-interest-and-public-sector-interests/

Members should strive to avoid circumstances that would lead a reasonable and informed third party to conclude that the member's objectivity or professionalism has been compromised. For example, members must not impose conditions on other members or regulated professionals that compromise the others' independence, judgment, or integrity. Conversely, members must be alert to and resist pressures exerted on them by employers or others to change their advice or opinions based on economic factors or selective reading of scientific information. Members should also be sure to remain independent of special interest groups even if they are members of such groups, recognizing that holding office with or publicly advocating for such a group may impair the members' perceived or actual independence.

Throughout all aspects of their professional practices, members are expected to exercise objectivity and professional skepticism. Objectivity does not require members to remain neutral on issues, but members should be careful to undertake any advocacy on behalf of clients or employers with prudent judgment, including disclosure of the client or employer relationship. Although members must not disregard laws, standards, resource objectives, or policies with which they disagree, they may feel free to question them and advocate for appropriate changes.

D. Integrity

Personal integrity - an uncompromising adherence to a code of...moral values"⁵ - is central to professionalism and is a cornerstone of the Code of Ethics. Members of the College demonstrate integrity when they uphold high ethical standards through inclusivity, honesty, openness, transparency, and fairness. Members are expected to establish, maintain, and observe high standards of honourable conduct so that their integrity is unquestionable. To achieve these goals, members must attend to a number of considerations, some of which link to other topics in this document; especially respectful regard, independence, business ethics, and due diligence.

In Section 2 (a) of the *College of Applied Biology Act*, the provincial government sets out what may be the most important of these considerations: that the purpose of the College is, in part, to "...uphold and protect the public interest by (i) preserving and protecting the scientific methods and principles that are the foundation of the applied biological sciences, and (ii) upholding the principles of stewardship of aquatic and terrestrial ecosystems and biological resources...". The actions of members must always be consistent with these aims. In the Principles of Stewardship⁶, the College provides additional guidance for members on how they should conduct their practices to ensure they meet the College's stewardship mandate.

⁵ Webster's Third New International Dictionary. 1981. Merriam-Webster Inc., Springfield, Massachusetts.

⁶ See <https://www.cab-bc.org/files/Principles%20of%20Stewardship.pdf>

Members acting with integrity ensure that their practices and conduct meet federal, provincial, and municipal legislative requirements as well as the College's Rules.

Members who provide opinion evidence in legal or quasi-legal proceedings do so to assist decision-makers with technical aspects of biology. In such circumstances, members should not act as advocates or take adversarial positions. Members are entitled to hold personal and political views, but such views should be kept separate from professional opinions.

Members should clearly distinguish between facts, assumptions, and opinions when they present information and advice. This applies to written reports, discussions with clients and colleagues, published articles and other works, and statements to media and in public forums. Similarly, members should not make criticisms, arguments, or statements on public policy that are paid for by private interests unless they indicate on whose behalf such statements are made.

Finally, members should balance the expectations of the public, professional colleagues, and clients or employers, acting with fairness and justice to all parties. When clients or employers make decisions contrary to members' recommendations and those decisions are likely to have serious and adverse impacts, members should inform the clients or employers of the consequences of such decisions.

E. Due Diligence

Members are expected to be diligent in all work, conducting their practices with careful attention and acting with prudence and reason in all matters. The minimum standard that members are expected to achieve - "due diligence" - is defined in Principle 3 of the Code of Ethics. Other items in the Code of Ethics, particularly in Principles 1 and 3, further clarify the level of diligence expected in professional practice. For example, as noted in Section 1, members must "...ensure that facts and opinions used to support advice, conclusions and recommendations are accurate and are represented accurately" and "...identify limitations of data, concepts, conclusions, understanding, and recommendations in all reporting".

Members should also be aware of another important criterion for due diligence that has been defined by common law. In the skilled professions such as medicine, engineering, and applied biology, it is generally accepted that one has been duly diligent if one has acted in accordance with what is accepted by a responsible body of professionals skilled in that profession⁷. For College members involved in

For example, Black's Law Dictionary defines due diligence as "Such a measure of prudence, activity, or assiduity, as is properly to be expected from, and ordinarily exercised by, a reasonable and prudent [person] under the particular circumstances; not measured by any absolute standard, but depending on the relative facts of the specific case." [Black, H.A. 1968. Black's law dictionary: definitions of the terms and phrases of American and English jurisprudence, ancient and modern. Revised 4th edition. West Publishing Co., St. Paul, MN.]

a legal action, this means the courts could be expected to consider them to have undertaken and demonstrated due diligence in the situation in question if they acted in accordance with the Code of Ethics, if they were able to demonstrate that all reasonable precautions were taken, and if their professional practice met or exceeded the norm established by other College members. Members should therefore strive to conduct their work with a rigour equal to or greater than that applied by other members who have successfully conducted similar work in the past.

Given the variable scope and nature of member's practices and assignments, it is not possible to provide detailed guidance on achieving due diligence in all situations. To be able to achieve and demonstrate the required rigour, however, members need to be well-organized, thorough, and deliberate. Some important issues that all members should consider are highlighted in the following material.

One of the most important aspects of being well-organized is maintaining clear and complete records. Members should maintain their own careful records of their work, unless responsibility for record-keeping and data management is assumed by their employers and the members are confident that the employer's system is reliable and protected against loss (i.e., backed-up regularly). Members should establish a records policy that governs how they and their employees will create, collect, retain, securely store, back up, and dispose of project data as well as organization and transaction records. As part of the policy, all electronic and documentary records and supporting documents pertaining to work conducted should be retained for a period of at least six years after the last business year to which those records and documents pertain.

As part of routine record-keeping, members should record notes of meetings and telephone calls to document decisions made, direction and advice received or imparted, and any other key information that was considered. When discussions involve significant decisions or risks, members should summarize the key points in writing and provide the summary to other participants for their information or review.

To help ensure thoroughness and consistency in their work, members will benefit from using standardized tools and other methods, such as published methodologies and techniques, quality management processes, checklists, and standard operating procedures. For example, field and laboratory data should be collected using proven or approved methods whenever such methods are feasible and suited to the project's objectives. Where modified or innovative methods are applied, members should be careful to document clearly the rationale for the selection of those methods.

Whenever they provide advice, conclusions and recommendations, members should ensure they specify the species, geographic and ecological boundaries, time period, and other conditions to which the findings apply. They should also describe any caveats or assumptions that influence the applicability of data, facts, and quoted opinions.

As stated in Principle 3 of the Code of Ethics, members “...must make certain that...all applicable legal requirements are met...”. In the course of each project or assignment they undertake, members should also check to confirm that they meet all the conditions and obligations of their employment contracts. If it becomes apparent that certain conditions or obligations are unlikely to be met, the employer or contracting body should be informed as soon as possible and revisions to the contract should be negotiated or other provisions should be made by the member to ensure the contract commitments are fulfilled.

Members should give special attention to ensuring that they practice due diligence in upholding the principles of stewardship of aquatic and terrestrial ecosystems and biological resources (one of the purposes of the College, as noted above under *Integrity*). For example, when their expertise allows, members should explicitly identify the nature and magnitude of any significant risks to stewardship of resources that are posed by projects on which they are employed. Members should also notify their clients or employers of risks the clients or employers may face (for example, contravention of a provision of the *Wildlife Act* or *Species at Risk Act*) as a consequence of activities that affect ecosystems and biological resources. Where they have the appropriate expertise, members should recommend mitigation or other measures that would address these risks.

Finally, because due diligence is in part determined by comparison to the practices of one’s peers, it is important that members familiarize themselves with the practices and products of other members conducting work similar to their own. Whenever they are in doubt about the appropriate course of action in a particular set of circumstances, members should consider seeking the advice of experienced colleagues or experts. Members who do not have easy access to such advice, such as those who usually act as independent practitioners, may find it helpful to establish a peer group of other experienced members who are willing to share advice and opinions when asked.

F. Business Ethics

Business ethics are addressed by a number of items in Principle 4 of the Code of Ethics. For example, that principle requires that members exercise fairness in business practices and consider employer/client materials confidential. Broader guidance on business ethics is provided here.

In general, members demonstrate good business ethics if they conduct business practices openly, fairly, honestly, and legally; respecting the interests and confidentiality of clients, employers, and employees in all aspects of business transactions.

Members should strive to provide services in a truthful and accurate manner, without exaggeration, including using appropriate restraint in marketing communications; fully documenting work performed; fully disclosing to clients and employers all financial dealings related to them, such as expenses incurred and billed or interest earned on funds held in trust; and managing finances and assets

in a responsible and accountable way. Members must provide a professional standard of service to all clients and employers, including managing and maintaining data, correspondence, files, and other materials as noted under *Project Management* below.

Members have a general obligation of loyalty to clients or employers, meaning they must have a high regard for clients' or employers' business interests. Consistent with this obligation, members should provide clients and employers with high quality services that meet their requirements. They therefore should exercise care and communicate clearly in accepting and interpreting assignments and in setting expected outcomes. Members also are obligated to consider the best interests of any workers they may employ.

Members should make every effort to provide timely service to clients or employers. If members can reasonably foresee delays in providing advice or services, the clients or employers should promptly be so informed. If a project or task is likely to be unsuccessful or to fail to meet the best interests of an employer, client, or the public, the employer or client should be informed in a timely manner.

As noted above under *Independence*, members are required to avoid conflicts of interest, such as acting simultaneously for two or more clients who have competing or conflicting interests. Nevertheless, with the informed consent of an existing client a member may take on an assignment for another client who potentially could, in the future, have competing or conflicting interests with the original client. This may lead to dangerous ethical ground, and the member should be especially careful to make his or her business relations clear to both parties. If a conflict of interest does arise, the member should cease acting for either of the competing parties unless both explicitly agree that it is acceptable for the member to continue to work for one of them.

Members may find it helpful to formulate and periodically review a confidentiality policy covering their practices and their employees. All information received from a client or employer, including data gathered in the course of work, should be considered confidential unless it is in the public domain. Such information is the exclusive property of the owner and is loaned to the member only to facilitate work. Members should not use confidential information for personal gain or to the disadvantage of clients, employers, or employees and should not, without the permission of the client or employer, divulge confidential information to another client or subsequent employer. Nevertheless, if a member is alleged to have engaged in professional misconduct or conduct unbecoming of a professional, that member may disclose confidential information to defend against such allegations before a regulatory body or in a disciplinary proceeding. The information in question may only be disclosed to the extent required for such defence.

Finally, members should establish and communicate fair, effective, and timely procedures to handle business practice complaints from clients, potential clients, employees, and the public.

G. Project Management

Several topics that relate to the management of applied biology projects are covered in Principles 2 through 5 of the Code of Ethics. Good project management is such an important part of members' practices that considerable additional guidance is included here.

Members should manage projects so as to ensure the highest likelihood of successfully achieving project goals and objectives. They therefore should attend carefully to the expectations and requirements set by their employers or clients, while also fulfilling their professional obligations to the College.

The well-being of members' employees and sub-contractors, including their health and safety, should also be a high priority in all projects. All employees and sub-contractors should be made aware of safety protocols required by law, the employer, or the client. More generally, members should ensure that any risks to human health and safety are identified, and should implement risk management plans either to prevent identified risks from occurring or to mitigate them if they do occur. This obligation includes taking appropriate action or notifying proper authorities of any instance where members believe that safety may be compromised, even if such action conflicts with obligations not to disclose confidential information of a client or employer. The duty regarding safety should take precedence over other obligations.

In many cases, members will lead project teams, and they may sometimes take on the role of the co-ordinating professional for a multi-disciplinary team. As a co-ordinating professional, the member is expected to take professional responsibility for overseeing the whole project, including all co-ordinating work done under the member's direct supervision. Where the assistance of other professions or specialists is required, it is the member's responsibility as the co-ordinating professional to make arrangements to bring that expertise onto the team.

Not all projects require equal levels of management rigour, and members are expected to adjust their management practices based on each project's complexity and risks. For example, project management should be especially rigorous and carefully organized in cases such as multi-year field studies conducted by a team of specialists, resource development projects in which the level of risk to resources and ecosystems is high, or projects in which the level of financial and other business risks for clients or the member is high. Less complex or risky projects require only a commensurate level of attention to project management detail.

For complex or long-term projects, members may find it useful to identify a quality-control manager or team; and to set up a steering committee or project management team which will meet regularly during the course of the project to provide guidance and resolve difficulties that may arise.

Good communication is a key to successful projects, so members acting as project leaders should ensure they maintain dialogue and information flow with their clients or employers and with employees and co-operators throughout each project they undertake. The members should: (1) ensure they clearly understand the requirements and expectations of the clients or employers, including the time and resources available for conducting the work; (2) confirm any procedures they are required to follow, including health and safety protocols; (3) regularly inform the client or employer of progress toward project objectives, and of any problems that need to be resolved; (4) ensure expenditure and other budgeting updates are provided as required; and (5) report out on project completion, conclusions, follow-up activities, and any improvements that could be made in future projects.

Members should ensure that they and all employees are, and continue to be, properly trained to do the work required of them. This may include training in scientific and technical skills, quality assurance and quality control procedures, and topics relevant to safe practices in the workplace and in the field, such as worker safety, wilderness survival, and first aid.

Members should establish or draw on administrative resources and systems to provide financial, payroll, and records management services for each project. They should also assemble or acquire the approvals and permits, funds, facilities, and equipment necessary to make the project a success, arrange necessary transportation, and arrange for insurance to protect against liability claims.

Members should document the details of each planned project in writing, to ensure that the approach being taken is understood by the client or employer as well as by the project staff and other participants. The project plan should include some or all of these components, depending on the project's complexity:

- the goals and objectives of the project;
- the scope in time and space (location and/or boundaries);
- a description of the question, issue, or proposed development leading to the project (the problem analysis);
- a summary of relevant scientific and technical references, including references for the methods to be employed;
- a description of the methods to be used to gather, document, store, and analyze data and other information, including any statistical techniques required;
- a schedule of activities, staff or participant responsibilities, planned expenditures, and timelines; and
- a listing of the reports and other communications materials to be produced.

Members should monitor progress during the project's implementation to ensure that methods and protocols are applied as specified in the project plan or are modified as necessary to adapt to contingencies that occur during the project. They should also ensure that they and their employees comply with quality assurance and quality control protocols for procedures and data management. As part of these protocols, members should ensure that paper, photographic and electronic records of the project are maintained and retained, including secure storage and off-site back-up of datasets and other unique records.

When completing projects, members should review the project's accomplishments against its original goals and objectives to ensure all obligations and expectations have been met to the fullest extent possible. They should also document the project's activities, accomplishments, and findings in reports and other formats suitable for the client or supervisor and any other target audiences. Work products should include discussion of the rationale for any recommendations so that others could, if necessary, implement the recommendations to meet the corresponding objectives and commitments. All data, final reports, and other records should be appropriately filed and archived, and all financial and administrative obligations to the employer or client as well as to the member's employees or sub-contractors should be fulfilled.

Members who frequently lead or co-ordinate projects may find it useful to establish standard formats or protocols for project plans, records management systems and reports, and a standard procedure for retention and disposal of project records.

To improve all their skills applicable to project management, members are encouraged to investigate relevant educational and certification programs such as those offered by the Project Management Institute⁸, universities, and other academic institutions.

⁸ See <http://www.pmi.org/>