



Professional Report Submission Guidelines – RPBio

Introduction

The professional report should reveal a reflective and integrative process that blends education and experience and indicates the applicant's capacity for professional judgment. The document should also demonstrate the applicant's communication skills and ability to prepare a cohesive, well-edited, referenced and professional document. Specifically, the professional report(s) should demonstrate the applicant's ability to:

- ✓ summarize the current state of knowledge in the area of study;
- ✓ clearly state the objectives of the study and frame appropriate questions and/or hypotheses for testing;
- ✓ develop an appropriate sampling design, including statistical or analytical methods, for addressing the study objectives;
- ✓ provide conclusions relevant to the study objectives; and
- ✓ identify knowledge gaps and uncertainties, and formulate a professional opinion leading to a defensible set of recommendations.

Choosing Reports for Submission

The professional report(s) must be in the realm of applied biology. The *College of Applied Biology Act* defines applied biology as:

"applied biological science" means a biological science, including botany, zoology, ecology, biochemistry and microbiology, if the biological science is applied to the management, use, conservation, protection, restoration, or enhancement of:

(a) aquatic or terrestrial ecosystems; or,

(b) biological resources within these ecosystems.

"applied biology" means the application of the applied biological sciences, including collecting or analyzing inventories or other data or carrying out of research or assessments, to design, evaluate, advise on, direct or otherwise provide professional or technical support to projects, works, undertakings or field practices on public or private lands, but does not include:

(a) pure scientific research; or, (b) teaching.

Reports whose primary subject area are in water, soil or air are acceptable however the conclusions and recommendations must have a clearly defined inference to the functioning of biological systems.

Required criteria

In combination, the submitted reports in applied biology must demonstrate five criteria:

1. Design a project
2. Implement a study design
3. Analyze data using inferential or descriptive statistical methods
4. Draw conclusions
5. Make management recommendations

Examples of acceptable reports may include published journal articles, consultant's reports and graduate theses. An applicant can submit up to three reports to meet these requirements. All reports are returned to the applicant subsequent to evaluation.

1. Design a Project

The applicant must demonstrate their abilities to design a project based on project goals and objectives. To meet this requirement, an applicant must be involved in the project design and demonstrate an ability to move beyond following a technical standard.

2. Implement a Study Design

A report or elements of a report that meet this criterion:

- ✓ Develop and apply a sampling strategy, data collection/collation, and associated analyses specific to a study area and the objectives of the project
- ✓ Data from previous studies may be used, but those data must be selected and applied to the specific study area or objectives and choice of those data must be based on appropriate criteria explained in the methods
- ✓ Standardized data collection methods (e.g. RISC standards) may be used, however, the overall study and sampling design must be unique to the project and require an element of study design

A report or elements of a report that do not meet this criterion:

- ✓ Reconnaissance-level site inspections where presence-absence of selected species are recorded
- ✓ Applying published inventory methods without adaptation or explanation of application for specific site or study objectives
- ✓ Relying only on desktop information unless used in a meta-analysis or computer modeling
- ✓ Applying a sampling design implemented before the applicant was involved in the study
- ✓ Prescriptive reports with few elements of study design (e.g. RAR assessments)

3. Analyze Data Using Inferential or Descriptive Statistical Methods

A report or elements of a report that meet this criterion:

- ✓ Inferential statistics (e.g. *t*-test, linear regression, correlational analysis)

- ✓ Descriptive statistics (i.e. measures of central tendency and variance)
- ✓ Qualitative statistics based on a defined and repeatable method (e.g. habitat ranking based on measured or inferred site parameters)

In all cases, statistics must be related directly to a specific project objective. A report or elements of a report that do not meet this criterion:

- ✓ Presence-absence observations for a list of selected species
- ✓ Discussion of results without clear representation of statistical findings (e.g. test statistics, tables, graphs)
- ✓ Tables of chemical analysis referenced from a contracted laboratory with comparisons to guidelines/criteria

4. Draw Conclusions

A report or elements of a report that meet this criterion:

- ✓ Conclusions based on the results of the data analysis that are related directly to the objectives stated in the report

5. Make Management Recommendations

A report or elements of a report that meet this criterion:

- ✓ Recommendations that identify knowledge gaps or suggest more appropriate techniques for addressing the study objectives
- ✓ Recommendations that identify opportunities for mitigation or approaches to minimize threats to biological resources

A report or elements of a report that do not meet this criterion:

- ✓ Recommendations based on standard government policy (i.e. standard DFO regulations)

While legal regulations must be met, all projects have their unique characteristics and these must be evident in the recommendations.

General Guidance

The onus is on the applicant to demonstrate to the Credentials Committee that they have met the professional report requirements. The College provides a standardized form for identifying where the five criteria are demonstrated in each report.

Please refer to the following guidance when submitting reports:

- ✓ Only electronic reports submitted through the College website will be accepted.
- ✓ Extremely lengthy reports must be reduced in file size and length prior to submitting.
- ✓ If an applicant is only responsible for one section, then that portion of the report only needs to be submitted along with the title page.
- ✓ Applicants can submit a maximum of three reports to meet the criteria.
- ✓ An MSc or PhD thesis in applied biology or peer-reviewed publications resulting from the thesis can be submitted to meet the criteria.

- ✓ Reports prepared to obtain regulatory permits (e.g. some screening-level environmental assessments) may not meet all of the report criteria.
- ✓ Prescriptive reports (e.g. RAR assessments, some environmental inventories, water quality reports) may not meet all of the report criteria.
- ✓ Reports based on literature analyses or policy reviews may not meet all of the report criteria.
- ✓ Soil and water measurements do not constitute applied biology. Such data may meet the report requirements if they are clearly related to biological parameters.