



ZOOLOGICAL INSTITUTE
CONSERVATION BIOLOGY

u^b

^b
UNIVERSITÄT
BERN

General instructions for BSc, MSc and PhD students in Conservation Biology (CB) – University of Bern

These CB division rules are an extension of, but do in no case replace faculty and Institute rules (RSL Phil.-nat. 18 and Studienplan MSc/PhD in Ecology & Evolution, respectively, available on http://www.philnat.unibe.ch/studies/study_programs/master_s_in_ecology_and_evolution/index_eng.html).

In orange: important information

October 2018 version

A. Introduction

General comment

Preparing a BSc, MSc or PhD thesis will introduce you to scientific working. This task is completely different from what you have done so far in your time as a university student. MSc and PhD theses in particular are very demanding, but you will learn a lot and will also have fun. These general rules, to be considered as mandatory, are intended to help you to successfully develop your research project and write your thesis.

Administrative tasks

BSc students start their BSc work between the end of the fall semester and the beginning of the spring semester, in their third year. MSc students usually start at the beginning of the fall semester, but they can also start with the spring semester under some circumstances. Note that the practical in CB, organized in July-August just before the 5th semester, is compulsory for all future MSc students. PhD students can start at any time.

MSc and PhD students have to register at the central admission offices and keep registered during their entire study. It is their responsibility to ensure that the basic formalities are fulfilled. The relevant faculty and MSc/PhD internet sites have to be studied in detail for the formalities to abide by. In case of doubt, the director of the MSc studies in Ecology and Evolution and his/her office manager can provide the necessary information.

Prof. Dr Raphaël Arlettaz
Head of the division of Conservation Biology
Office: Erlachstrasse 9a
Mail: Baltzerstrasse 6
CH-3012 Bern

+41 31 631 31 61
+41 79 637 51 76
+41 31 631 45 35
raphael.arlettaz@nat.unibe.ch
www.conservation.unibe.ch



ZOOLOGICAL INSTITUTE
CONSERVATION BIOLOGY

u^b

^b
UNIVERSITÄT
BERN

Duration of study

The usual duration of a BSc study is one spring semester (7 weeks), with possible elongation till the middle of the following fall semester.

MSc study is 3 semesters, with possible prolongation for another two semesters. MSc prolongation has to be discussed in advance with Prof. Arlettaz, who can decide about the first and second extensions of the study without referring to the faculty; for the second prolongation, however, the director of MSc studies must be duly informed. Any further prolongation beyond these two additional semesters requests an authorization from the faculty, which means it must be justified with strong arguments. Once a subject has been decided with (a) co-supervisor(s) the student and his/her supervisor(s) sign a learning agreement («tracking form», see MSc internet site). This tracking form should be forwarded to the director of MSc studies within the first three weeks of the start semester (usually fall).

PhD studies usually last 3 full years (after this period, salary can no longer be guaranteed to PhD students, unless a special agreement with supervisor exists).

Working place

BSc, MSc and PhD students will be provided with a work place at the division of Conservation Biology (Erlachstrasse 9a); they have to contact the house keeper (Herr Giot) regarding main door badges and office room keys. External MSc students (e.g. BENEFRI) are not required to work in Bern, but they can if they want. Arrangements about access to rooms and computers have to be discussed with supervisor(s).

B. Organisation of BSc, MSc and PhD studies

1. Proposal preparation

A written proposal is a *sine qua non*, first step of a BSc, MSc and PhD work. The proposal must not be longer than 5 pages (BSc), 10 pages (MSc), or 25 pages (PhD), all parts included. No student will be allowed to go to the field to collect data before an agreement with Prof. Arlettaz *and* his/her intermediate supervisor(s) (e.g. postdoc) has been reached as regards a research programme. The proposal is thus essential. The preparation of the proposal should be undertaken with care. The proposal must comprise the following sections: *Informative title, Introduction*, with a synthetic bibliographical review (concise for

Prof. Dr Raphaël Arlettaz
Head of the division of Conservation Biology
Office: Erlachstrasse 9a
Mail: Baltzerstrasse 6
CH-3012 Bern

+41 31 631 31 61
+41 79 637 51 76
+41 31 631 45 35
raphael.arlettaz@nat.unibe.ch
www.conservation.unibe.ch



ZOOLOGICAL INSTITUTE
CONSERVATION BIOLOGY

u^b

^b
UNIVERSITÄT
BERN

BSc, extended for MSc and PhD), a clear formulation of research questions, *Material and methods* (for MSc and PhD, sampling and experimental designs are to be presented extensively, including statistical models to be used), *Expected results* with special emphasis on their relevance to conservation, *References*, *Working plan and schedule*, *Budget* (important for financial planning at CB level), *List of material and equipment*, possible templates and protocol sheets for data collection as *Appendices*. The layout should conform to the rules presented below for the preparation of the BSc/MSc/PhD report.

In his/her *Introduction* about the subject, the student should provide a short literature review of the current knowledge in the thematic field. This requires a literature search (basic literature may be proposed by the supervisors, then specific literature has to be searched for on the Web of Science Platform, available from all UniBE computers, including UniBE libraries. Google Scholar can be used in addition. Literature cited should stem primarily from peer-reviewed publications; citations from the grey literature (i.e. all publications from non-peer-reviewed sources) must be limited to a strict minimum. Present your research model (e.g. the species under scope) only briefly so as to show that you are familiar with the basics of its life history, but avoid presenting in length its natural history. It is more important to focus on the research question and hypotheses.

A detailed *working plan* must be presented. This is also an essential step. The programme and design must be realistic, which is often difficult to be achieved by BSc and MSc students because of their lack of research experience. For this purpose the proposal has to take into account all possible constraints that might occur (they are much more numerous than one thinks, but rarely unsolvable), in particular available time, funding and equipment. Well planned logistics is a key to successful research. Students must be pragmatic when optimizing their research effort: they most of the time are willing to collect a huge quantity of data. Refrain from collecting superfluous data that you will never analyse!

The proposal must detail the sampling design (MSc and PhD students have to describe meticulously how they intend to collect data, including time and/or spatial replications, set ups and settings, etc.). The statistical procedure that will be used afterwards for analysing the data should orient the design and not *vice et versa*! Prepare all protocol sheets (paper and/on computer) onto which you intend to enter the data. If a particular piece of equipment is needed, the student has to approach his/her supervisor(s) at once to see what can be made (borrowing or purchasing material, etc.; Olivier Roth is responsible for material storage and operating conditions). Remember that a day has 24 hours and that working more than 12-14 hours a day during long periods of time is not healthy! Consider time as your main constraint. In addition to your plan for data collection describe also in detail which statistical methods you are going to use to analyse your data (define clearly your sampling unit). This is essential as no correct

Prof. Dr Raphaël Arlettaz
Head of the division of Conservation Biology
Office: Erlachstrasse 9a
Mail: Baltzerstrasse 6
CH-3012 Bern

+41 31 631 31 61
+41 79 637 51 76
+41 31 631 45 35
raphael.arlettaz@nat.unibe.ch
www.conservation.unibe.ch



ZOOLOGICAL INSTITUTE
CONSERVATION BIOLOGY

u^b

^b
UNIVERSITÄT
BERN

planning of sampling design can be achieved unless you know how much data you need for any specific purpose.

Budget. All your expenses have to be planned meticulously from the very beginning. Do not underestimate transportation and related costs. Describe or try to estimate the distances you are going to drive during a given average work day, if you need vehicles for your work. Then specify which vehicle you are going to use (train, division car, bike, etc.). Make sure with supervisors that division vehicles are available if you intend to use them (this should be agreed upon with all other potential users within the division). Usually, the budget available for a BSc study is CHF 500-1'000.-, for a MSc study it amounts to CHF 2'000-5'000.-. PhD studies require even more money, but this is usually organized by senior scientists (postdocs and profs). Any extra costs will preferably be covered by external funding. In this case, the student must imperatively prepare a funding application (which must be checked by division head) which will be sent to various targeted foundations and other potential funding agencies. An excellent research proposal will be the key part of such an application. **During the entire period of field work, you may no longer be officially based in Bern, especially if you work in a remote place (for instance in the Alps). Your own private transportation expenditure to travel back home, for instance during the weekend, will not be reimbursed by the division as this is considered private matter.**

Prepare an exhaustive written *Material List* of all the equipment which is needed or will be borrowed from the division or from another institution, if any. This list is very important as it enables the supervisors (and Olivier Roth, our stores manager) to see which material will be taken from the division, which pieces of equipment have to be borrowed or, possibly, purchased. Put this list in your proposal as an appendix. As soon as division equipment is handed over to students the responsibility for it is automatically transferred to the borrower. Every student has to sign an equipment list, which will have to be controlled by Olivier Roth when the items are brought back. Any part of the borrowed material which is damaged, broken or lost because of misuse has to be replaced or repaired by the responsible person. **The supervisors have to be informed about all major incidents concerning division material (including vehicles, see below) especially in case of crucial or costly losses.**

In order to reach a *final agreement* about a research proposal, several iterations are usually necessary between the student and his/her direct supervisor(s). The final version of a proposal has to be delivered to Prof. Arlettaz who shall give the green light for work to start, usually within 20 days. The time needed for the preparation of a good MSc/PhD proposal varies between 4 and 8 weeks according to student's skills and project complexity. BSc students may need up to 2 weeks. Don't underestimate this (*sine qua non*) essential phase!

Prof. Dr Raphaël Arlettaz
Head of the division of Conservation Biology
Office: Erlachstrasse 9a
Mail: Baltzerstrasse 6
CH-3012 Bern

+41 31 631 31 61
+41 79 637 51 76
+41 31 631 45 35
raphael.arlettaz@nat.unibe.ch
www.conservation.unibe.ch



ZOOLOGICAL INSTITUTE
CONSERVATION BIOLOGY

u^b

^b
UNIVERSITÄT
BERN

2. Data collection (field or laboratory work)

Your proposal is now ready and you have agreed upon a final version with both your supervisor and the head of division. This means that the applied phase can start: you are going to collect data or run lab analyses. If your plan was perfectly prepared, you will face no real organisational problems, but there are always further constraints: you often depend on other factors and/or people for the completion of your work, e.g. good weather conditions, someone who has promised to help you with field work, who is expected to deliver information or data, etc. However, try to avoid relying on too many external people for the completion of your own work.

3. Vehicles (field work)

Students who have to work in the field are generally provided a division vehicle. For all details about the rules to respect when driving University cars it is compulsory to consult the «Weisungen der Universitätsleitung betreffend die Benützung von Fahrzeugen der Universität» and the additional instructions issued by the Institute of Ecology and Evolution, and the CB division. **Note in particular that every BSc and MSc student as well as all external collaborators will have to present a proof of accident liability insurance before being allowed to drive a division car.** For vehicle use, an agreement form must be signed; it is available from Olivier Roth. See further details on the CB website. Work supervisor and Prof. Arlettaz have to be immediately informed of any incident or accident with a uni vehicle.

4. Data analysis

Your field and/or laboratory tasks are now completed. You have a huge amount of samples to analyse, possibly first in the lab, then on the computer. This is another exciting part of your work, which requests as much from you as the former phases, and which should therefore not be underestimated. Students who did not study at Unibe who are willing to carry out a Msc/Phd study in CB must visit the course on statistical and experimental design (compulsory for Unibe BSc students in Biology) and the introductory R course before or while starting with proposal preparation (this also concerns BENEFRi students); this will greatly assist you during the preparative and analytical phases. Highly recommended textbooks in the field are:

- Statistics for ornithologists. Fowler & Cohen, BTO Guide 22
- Practical statistics for field biology. Fowler, Cohen & Jarvis, Wiley.

Prof. Dr Raphaël Arlettaz
Head of the division of Conservation Biology
Office: Erlachstrasse 9a
Mail: Baltzerstrasse 6
CH-3012 Bern

+41 31 631 31 61
+41 79 637 51 76
+41 31 631 45 35
raphael.arlettaz@nat.unibe.ch
www.conservation.unibe.ch



ZOOLOGICAL INSTITUTE
CONSERVATION BIOLOGY

u^b

^b
UNIVERSITÄT
BERN

- Nonparametric statistics for the behavioural sciences. Siegel & Castellan, McGraw-Hill
- Biostatistical analysis. Zar, Prentice Hall
- Choosing and using statistics: a biologist's guide. Dytham, Blackwell.

There are many statistical packages that can be used for the analyses. It is highly recommended that the program R (www.r-project.org/) is used, as it is the standard program in the division, is free and exhaustive. If you decide for any reason to use another package, we may face difficulties to assist you. In any case, the use of another software should be discussed with your supervisor(s).

5. Thesis edition

The thesis must be written in English. Although this will slow down the writing process for most students, it is an excellent linguistic and scientific exercise as most current sound science is published in that language. The structure of the thesis is actually that of a scientific paper: Title, Abstract, Keywords, Introduction, (Model presentation, if not in the Introduction), Study area (if any, and if not included in the Material and Methods), Material and Methods, Results, Discussion, Acknowledgements, References, Tables, Legend captions, Figures. This sequence order is compulsory.

The format and layout must comply with the rules and style of *Journal of Applied Ecology*. Particularly, the Reference list must be formatted exactly (and extremely precisely: for any questions related to citations, you can refer to Olivier Roth, our library manager. EndNote is the bibliographic references management tool: edit your manuscript file (*.doc) in direct connection with your EndNote file (*.enl). On need, an introduction to literature search and reference management might be given by Olivier Roth.

When you write the text avoid using too many paragraphs (they usually indicate a lack of logic and rationale) and use block texts with returns only where necessary. **Note that in a table the legend is above the table whilst in a figure the legend is below it. Tables have a strict minimum of horizontal lines and never bear vertical lines.** The overall length of a BSc thesis should not overpass 20 pages, including appendices. MSc theses must not be longer than 40 pages, appendices included. So, be as concise as possible! In particular, avoid presenting all the natural history aspects of your model species in the Introduction and put the main focus on your research questions. In general, if you respect these rules about concision, the publishing process in a scientific journal will be greatly speeded up. Avoid also describing in length methods which are common place in ecological research: just refer to the existing



ZOOLOGICAL INSTITUTE
CONSERVATION BIOLOGY

u^b

^b
UNIVERSITÄT
BERN

literature for that. Be as consistent as possible: use always the same word for a particular thing (e.g. always use «clutch size» and do not switch between «clutch size» and «number of layered eggs»). The versions given to your supervisor for editing must have a double line spacing. Use Verdana 11 or 12, or something equivalent, as a font. **Manuscripts not conforming to these rules will be returned to the student for proper layouting.** The crux for a proper writing/editing is the number of times a text has been read and corrected by you, your supervisor and any other co-author. Up to 10 such iterations between co-authors can be necessary until a thesis is deemed suitable for submission to a journal and/or delivered to the decanate. Do not underestimate this phase! A novel version of a manuscript given to the supervisor must clearly highlight the changes operated (track changes function activated in word editor), which enables to check for conformities with suggested amendments; non-accepted suggestions for change must be justified in a margin comment.

Do not forget the final statement – which has to be bound within the thesis – that the work is original, i.e. was done by you (see forms on the internet for delivery at the decanate). Without this statement, the decanate will reject your thesis.

Prof. Arlettaz needs two hardback copies of every thesis for his own archive (bound, no spiral please!), the supervising postdoc assistant another two. Please think of copies for all people who assisted you in your work as a sign of recognition for their contribution. Moreover, a PDF file of the final version has to be forwarded to Prof. Arlettaz and to the library manager, Olivier Roth. It will be incorporated into the PDF database of the division and displayed on the website.

6. Submission of final version and co-authorship

A BSc thesis is only rarely submitted for publication in a peer-reviewed journal. The final version of a MSc thesis must be submitted to a peer-reviewed journal *before* the official delivery date at the decanate. If the student fails to submit his/her manuscript to a peer-reviewed scientific journal before decanate deadline, he/she may lose the right to be automatically first author of the contribution once published. [This is because the hard task to finalize and submit the manuscript then often will be in the hand of the supervisors. This rule is to encourage MSc students to experience the whole publication process, which might be quite tricky.] If the paper is rejected, the student must resubmit a new amended version, based on the suggestions of the reviewers and in agreement with supervisor(s) and co-authors, to another journal within a few weeks or months. If the student fails to do so, the supervisor(s) may do the job at his/her place and may request first co-authorship of the paper. We thus strongly urge MSc students to do their best for managing their manuscript.

Prof. Dr Raphaël Arlettaz
Head of the division of Conservation Biology
Office: Erlachstrasse 9a
Mail: Baltzerstrasse 6
CH-3012 Bern

+41 31 631 31 61
+41 79 637 51 76
+41 31 631 45 35
raphael.arlettaz@nat.unibe.ch
www.conservation.unibe.ch



ZOOLOGICAL INSTITUTE
CONSERVATION BIOLOGY

u^b

^b
UNIVERSITÄT
BERN

A PhD thesis consists of a series of manuscripts (≥ 3 , 3 being the minimum acceptable) which are either published, in press or submitted to peer-reviewed journals. **Non-submitted manuscripts must in principle not appear as chapters in the thesis.** The thesis must start with a general Introduction which sets the framework for the study and provides a comprehensive overview of the theme. It must end with a general conclusion that draws a synthesis of the achievements and provides some outlook. Inbetween, the manuscripts will form the chapters.

7. Finances

At the same time as the fully completed draft of the first version of his/her MSc thesis is submitted to the supervisor, the student must also present a **final accounting of his expenses during the whole BSc/MSc/PhD work.** For that, it is recommended to keep copies of bills and receipts which have been forwarded to the administration. This requirement is intended to optimize planning and use of financial resources. In case of a negative account balance (deficit in the balance between planned and actual expenditure), the student may be asked to look for additional financial sources, in collaboration with supervisor(s). This is the reason why budget planning must be very well prepared from the very beginning.

8. Deadlines

Completed, finalized versions of MSc theses must reach your direct supervisor (Prof. Arlettaz or the responsible postdoc) as early as 8 weeks before the date of delivery to the faculty (in case of holidays in between, this period must be prolonged accordingly; count with two additional weeks with Xmas, one week with Easter, and three weeks in June, July and August). This is due to the iterations which might be necessary between supervisor(s) and the student to achieve a reasonable final version of the thesis. **The last version of a manuscript and the thesis delivered to the decanate must perfectly match.** The student has to plan his/her time carefully: it is not the task of the supervisor(s) to request the thesis, but the task of the student to deliver it in due time. Shorter response time from the side of Prof. Arlettaz are often possible, but you have to count with the eight (+ n weeks according to vacation time) weeks rule above. In addition, it is the task of the responsible supervisor (i.e. post-doc) of a MSc thesis to send a draft of the evaluation form to Prof. Arlettaz who will edit it. The edited title and abstract of the evaluation form has to be retro-fitted into the thesis delivered to the faculty. This procedure is necessary to guarantee for total compliance.

Prof. Dr Raphaël Arlettaz
Head of the division of Conservation Biology
Office: Erlachstrasse 9a
Mail: Baltzerstrasse 6
CH-3012 Bern

+41 31 631 31 61
+41 79 637 51 76
+41 31 631 45 35
raphael.arlettaz@nat.unibe.ch
www.conservation.unibe.ch



ZOOLOGICAL INSTITUTE
CONSERVATION BIOLOGY

u^b

^b
UNIVERSITÄT
BERN

As PhD students work on different manuscripts (≥ 3), a time schedule will be organized at least 12 months before the planned completion of the thesis (delivery at the decanate). The deadline for delivering the final thesis version to the faculty must be agreed upon with Prof. Arlettaz or any collaborator of the division who can officially supervise a thesis and must respect the schedule established at the very beginning, which is liable. **Faculty rules are compulsory, study them in detail please!** 12 months before delivery of the thesis to the decanate is also the time when examiners (external reviewers: Koreferent; defense examiners) must be selected and their names suggested to the decanate for appraisal and authorization (see faculty website). Faculty rules regarding deadline for delivering thesis to the decanate and to the examiners are binding (see rules for PhD students on the internet site of the faculty). It is essential that all deadlines are respected by students.

9. MSc and PhD exams

A MSc exam is an oral presentation of research results which is scheduled in the framework of the Conservation Biology seminar on We, 10h30 during semester time. The organization does not request any collaboration with the decanate.

PhD students actually are responsible for scheduling the date of exam with the decanate, after consulting with examiners (external reviewers and defense examiners) and supervisor(s). The PhD exam is an oral presentation of 45 minutes in presence of local and external examiners. The exam has to be scheduled on Tuesdays in the late morning during semester time. Optimally, a mini-symposium with contributed lectures by examiners should be organized on the same exam day, with one of the external examiners being asked to give a talk in the framework of the Lecture series in Ecology and Evolution (Tu, 16h15). The student and the supervisor must book the corresponding time slot with the secretary of the Institute, and this must be done well in advance. The student prepares an announcement for the mini-symposium (R. Arlettaz can provide a template) that must be checked by the supervisor(s) and R. Arlettaz.

10. Literature database

BSc/MSc/PhD students are responsible for entering their references into the division Endnote database, where the thesis literature will become an integrated part of the division database. Also, copies of the reprints and articles consulted should be deposited in the division collection as PDF files. For any questions concerning the detailed proceeding please contact Olivier Roth who is responsible for literature management.

Prof. Dr Raphaël Arlettaz
Head of the division of Conservation Biology
Office: Erlachstrasse 9a
Mail: Baltzerstrasse 6
CH-3012 Bern

+41 31 631 31 61
+41 79 637 51 76
+41 31 631 45 35
raphael.arlettaz@nat.unibe.ch
www.conservation.unibe.ch



ZOOLOGICAL INSTITUTE
CONSERVATION BIOLOGY

u^b

^b
UNIVERSITÄT
BERN

11. Return of equipment

Once returned, the equipment used for the field or laboratory work has to be cleaned, and repaired if necessary (generators and vehicles have to be serviced). Our material/equipment supervisor, Olivier Roth, will make a formal check of all pieces of equipment and ensure that no piece is missing and that everything is in perfect state. A signed (student and supervisor) copy of the initial check list will be given to the head of the division, assessing that everything was returned in good state.

At the end of the field season, usually in October-November, the Sion flat («Sarajewo tower») rented by the Division of Conservation Biology needs to be cleaned completely. The cleaning has to be organised by the students that have used the flat during the field season, this under the supervision of the concerned postdocs. The caution of the key to the flat (CHF 100.–) will only be reimbursed if everything is in good order and the key brought back. Information about conditions for using the flat are provided in the flat itself: thanks to respect these basic rules.

12. Samples storing

The whole material collected during the study (samples collected in the field, data spreadsheets, computer files, etc.) have to be archived; in particular, all important computer files (databases, statistical output, graphics, text) necessary for preparing a publication or re-analysing the data have to be given to Olivier Roth as well as to the supervisor; during analysis and at the end of the study the elaborated data must be stored on different media, in addition to the own hard disk, in general on our internal server. All folders/files have to be explicitly labelled and a «Read me» file should be provided with instructions about the archive. Paper reprints stay in the property of the division unless the student worked on a research theme proposed by themselves or supervised by an external person.

We wish you a lot pleasure with your work!

Raphaël Arlettaz and Olivier Roth, 24 October 2018

Prof. Dr Raphaël Arlettaz
Head of the division of Conservation Biology
Office: Erlachstrasse 9a
Mail: Baltzerstrasse 6
CH-3012 Bern

+41 31 631 31 61
+41 79 637 51 76
+41 31 631 45 35
raphael.arlettaz@nat.unibe.ch
www.conservation.unibe.ch



ZOOLOGICAL INSTITUTE
CONSERVATION BIOLOGY

u^b

^b
UNIVERSITÄT
BERN

Addendum: about thesis editing

The thesis has to be structured like a scientific manuscript, or a series of scientific manuscripts, following the instructions for authors assessed by the *Journal of Applied Ecology*:

<https://besjournals.onlinelibrary.wiley.com/hub/journal/13652664/about/author-guidelines>

- Cover page of thesis: see faculty rules
- Title page: title of the article, names and institutional addresses of the authors
- Summary (350 words maximum) with key words
- Introduction: general introduction about the conceptual framework, quoting the most relevant literature from peer-reviewed journals (citations from the grey literature must be as reduced as possible). Cite articles properly (e.g. Bollmann et al. 2004; Christe & Pinion 2003a).
- Material & methods: a comprehensive presentation of field protocols and sampling design and of all the analytical techniques applied in the lab. Cite methodological papers if available.
- Results: present them comprehensively but synthetically. Stick to the core information. Main results are often better shown in the form of graphs and tables, which are referred to in the mainstream text (e.g. Fig. 1, Table 4), than in long narrative descriptions. Tables and figures are to be put at the end of the report, after the references, and must be properly formatted. Follow these instructions (extract) for authors provided by J. Appl. Ecol.:
- Figures, including photographs, should be referred to in the article text as Fig. 1, Figs 2–4. References to tables should not be abbreviated i.e. Table 1. All lettering and symbols must be clear and easy to read. Legends should provide enough details for the figure or table to be understood without reference to the main text. Information (e.g. keys) appearing in the figure should not be duplicated in the legend. Figures and Tables should be presented in the manuscript file with their legends and may be either embedded in a relevant position in the main text or placed at the end of the document.
- **In a table the legend is always above the table. In a figure it appears below. But put the tables first and the figures second, after the references. Each table must appear on a separate page (legend above). After the tables, you put the figure legends in a row, and then each figure on a separate page.** Describe the results of the statistical tests appropriately, mentioning the test used, the number of degrees of freedom, the probability of rejection of (e.g. t-test, $df = 34$, $p < 0.001$). No or only very few citations must appear in this section as

Prof. Dr Raphaël Arlettaz
Head of the division of Conservation Biology
Office: Erlachstrasse 9a
Mail: Baltzerstrasse 6
CH–3012 Bern

+41 31 631 31 61
+41 79 637 51 76
+41 31 631 45 35
raphael.arlettaz@nat.unibe.ch
www.conservation.unibe.ch



ZOOLOGICAL INSTITUTE
CONSERVATION BIOLOGY

u^b

^b
UNIVERSITÄT
BERN

this is your original work. Supplementary, not essential material is to be placed at the end of your report as a series of appendices rather than in the Results!

- Discussion: start with a general summary of your main findings, one to three sentences, not more. Compare the various methods applied, their advantages and drawbacks; be critical about the results and criticize the sampling design: at the light of the results what would you suggest to improve the sampling design *a posteriori*? Remain realistic, however: think about the logistic constraints (time available, labour force, equipment, etc.). Present then the main findings, discussing first general patterns uncovered with the various methods and, second, the divergences between them, if any. What may explain discrepancies? Compare your results thoroughly with those of other studies and discuss them in details. Finally, show the relevance of your results for conservation. Describe which kind of research would be necessary in the future for obtaining precise guidelines for biodiversity management. Finish with some generalities, expanding to other species and systems. Throughout the discussion, cite other authors appropriately, and focus on the peer-reviewed literature.
- Acknowledgements: thank all people who helped you significantly.
- References: list all articles cited in the text, following the formatting guidelines proposed by Journal of Applied Ecology:
 - Begon, M., Harper, J.L. & Townsend, C.R. (1996) Ecology: Individuals, Populations and Communities, 3rd edn. Blackwell Science, Oxford.
 - Tuytens, F.A.M. (1999) The consequences of social perturbation caused by badger removal for the control of bovine tuberculosis in cattle: a study of behaviour, population dynamics and epidemiology. PhD thesis, University of Oxford.
 - McArthur, W.M. (1993) History of landscape development. Reintegrating Fragmented Landscapes (eds R.J. Hobbs & D.A.Saunders), pp. 10-22. Springer Verlag, Berlin.
 - Hill, M.O., Roy, D.B., Mountford, J.O. & Bunce, R.G.H. (2000) Extending Ellenberg's indicator values to a new area: an algorithmic approach. Journal of Applied Ecology, 37, 3-15.
- Appendices: place all supplementary material which may be useful as information for the readership, also as an archive. At submission, restrict the number of appendices to a strict minimum.

Prof. Dr Raphaël Arlettaz
Head of the division of Conservation Biology
Office: Erlachstrasse 9a
Mail: Baltzerstrasse 6
CH-3012 Bern

+41 31 631 31 61
+41 79 637 51 76
+41 31 631 45 35
raphael.arlettaz@nat.unibe.ch
www.conservation.unibe.ch