

Conservation Leadership Programme 2012 Future Conservationist Award Guidelines

The Conservation Leadership Programme (CLP) is a partnership of four international conservation organizations working to develop the capacity of future biodiversity conservation leaders by providing a range of awards, training, advice and sustained support via an active international network of practitioners.



Since 1985, the Conservation Leadership Programme has supported and encouraged thousands of individuals who are early in their conservation career and are aiming to address global conservation priorities at a local level. The CLP has been an important stepping stone for many individuals and has helped to facilitate the discovery of species new to science, the designation of new protected areas, knowledge sharing and collaboration and the creation of mechanisms for long-term conservation.

The partner organizations, BirdLife International, Conservation International, Fauna & Flora International and the Wildlife Conservation Society, believe that the Programme's success can be attributed to the fact that it goes beyond grant-giving, providing ongoing support and access to networks that help awardees gain skills and move up the conservation career ladder.

FUTURE CONSERVATIONIST AWARDS

The aim of Future Conservationist Awards is to develop leadership capacity amongst emerging conservationists to address the most pressing conservation issues of our time. The CLP is developing conservation leaders by helping groups of individuals gain practical experience managing their own priority projects. Future Conservationist Awards of up to \$15,000 each are offered on an annual basis to teams that exhibit leadership potential in biodiversity conservation and who will develop key skills through small-scale practical conservation projects. Winners of these awards become eligible for continued support through the CLP Alumni Network and have the long-term backing and advisory support from CLP staff and partner organizations as they develop in their careers.

HOW THE CLP CAN HELP

Proposal Preparation: Applicants are strongly encouraged to contact programme staff well before the application deadline (no later than November 1st) for advice or input on your proposal. Staff members can help teams determine if their project fits within the specified criteria, offer advice on methods and project activities and put teams in touch with local partner offices or other experts who can offer advice.

Award-winner Support: Winning teams can benefit from additional support once awards have been granted. The CLP can provide guidance during the planning and implementation stages and helps each team access expertise from within each of the four partner organizations and from past winners. A representative from each team will be invited to attend an international training event organized by the CLP to share ideas, develop skills and knowledge and network with other conservationists.

Post-project Support: The CLP is committed to the development of the individuals we have supported and we maintain close contact with award winners. The programme has an established alumni network that provides additional opportunities for individuals to win further awards (including Conservation Follow-up and Conservation Leadership Awards), attend training courses and conferences, continue building skills, and network with one another and experts in the field of conservation.

Web Resources: On the CLP website under the Advice section, you can find useful information about project planning and additional funding sources. The Conservation Project Manual, which can be downloaded in full, takes you through the process of planning small to medium-scale conservation projects. It is available in English, Chinese, Russian and Spanish.

CLP AWARD CRITERIA

Applications will be accepted from teams initiating projects that meet the eligibility criteria outlined below. These criteria are designed to ensure that the project builds the capacity of all team members involved, contributes to long-term sustainable conservation achievements, has clear focused research objectives and builds vital links between local communities, conservationists, NGOs, academic institutions and local governments. Applications are evaluated by CLP staff and partners, and by experts from other relevant organizations.

Are you eligible?

- ✓ CLP Awards are for **team-based** conservation projects – each team must have at least **three people**.
- ✓ At least **50%** of the team members must be from the country where the project is taking place.
- ✓ All team members must be **early-career** conservationists with no more than 5 years of paid work experience in the conservation sector. ‘Paid work experience’ does not include research for a university degree. Individuals who are well-advanced in their careers are not eligible for CLP support and should not apply.
- ✓ **No** team member can be a part- or full-time paid employee or contractor with a CLP partner organization, including BirdLife International, Conservation International, Fauna & Flora International, and the Wildlife Conservation Society, at the time of project development through implementation.
- ✓ The team leader must be a **national** of the country where the project is taking place, although we will consider co-leadership with a non-national team member with justification.
- ✓ The project must take place in a country **not** defined as a ‘High Income Economy’ by the [World Bank](#). Exceptions to this criterion include Pacific and Caribbean island nations and some Middle East countries.*
- ✓ The project must be no less than three months and no more than **one year** in length.
- ✓ The total funding request from the CLP must not exceed **\$15,000** and CLP funding must cover **at least 50%** of the total project budget.

What kinds of projects do we support?

- The project must focus on **globally important species or site/s** for biodiversity conservation that are under threat.
- **Target species should be at risk or data deficient.** We consider a species to be ‘at risk’ if it is designated as globally threatened (CR, EN, VU) by the [IUCN Red List](#) OR if there is information suggesting that urgent conservation action is needed.
- For those projects focusing on **multiple species** and/or taxonomic groups, at least one species in each taxonomic group being studied must be at risk.
- Projects that are being implemented in **priority areas** for conservation will be looked on favourably (for example, [Alliance for Zero Extinction](#) sites, [Important Bird Areas](#), [Important Plant Areas](#), Key Biodiversity Areas, [Ramsar](#) sites, [Natural World Heritage Sites](#)).
- The project must be for **new work** rather than the continuation of an ongoing, established project.
- Applicants must demonstrate that the proposed project goes **beyond academic research** being carried out for any team member’s degree.
- Projects that involve laboratory analyses must justify why this work is **critical and urgent** for conservation.

What do we look for in a proposal?

- Applicants must be able to clearly communicate their ideas **in English** on the application form. We encourage teams to seek out a native English speaker to review the proposal prior to submission.
- The proposal must be **written by the applicants** themselves. If a CLP partner organization or direct affiliate has an office in the applicant's home country, we strongly encourage the applicant to make contact for **advice and support**.
- The proposal must make clear how each team member will **develop their capacity** – for example, their knowledge, skills and experience – as conservation practitioners by implementing the project.
- The project must have **realistic objectives** with appropriate methods, activities and budget to achieve the stated objectives.
- The project **engages local stakeholders** and project outcomes will contribute to local, regional and/or national **conservation priorities**.

Please note the following conditions:

- Projects that include gene storage or captive breeding are **not** eligible for CLP support.
- CLP Team Awards do **not** cover conference attendance, tuition fees for academic programs or scholarships.
- CLP Team Awards do not cover salaries; however, the CLP will allow **reasonable stipends** for living expenses.
- Applicants may participate in only **one** CLP project at a time and in no more than three Future Conservationist Award projects in total, serving as team leader for no more than one Future Conservationist project.

***Countries NOT eligible for CLP support:**

High-Income Economies	Gibraltar	Poland
Andorra	Hong Kong	Portugal
Australia	Hungary	San Marino
Austria	Iceland	Singapore
Belgium	Ireland	Slovak Republic
Brunei	Isle of Man	Slovenia
Canada	Israel	Spain
Channel Islands	Italy	Sweden
Cyprus	Japan	Switzerland
Croatia	Korea Rep.	Taiwan
Czech Republic	Latvia	Thailand
Denmark	Liechtenstein	United Kingdom
Estonia	Luxembourg	United States
Faeroe Islands	Macao SAR, China	US Sanctions
Finland	Malta	Cuba
France	Monaco	Iran
Germany	Netherlands	Myanmar
Greece	New Zealand	North Korea
Greenland	Norway	

Judging Criteria: Your project will be evaluated in three areas: 1.) Team capacity development; 2.) Contribution to Conservation; and 3.) Project Feasibility.

Team Capacity Development:

- The application clearly demonstrates how the project will build the knowledge, skills and experience of each team member.
- The team members show a commitment to conservation and potential for leadership as good ambassadors for the work they are doing.
- The team has the support of experienced advisors.

Contribution to Conservation:

- The project relates to established conservation plans (e.g., National Biodiversity Action Plans).
- The project demonstrates long-term benefits with outcomes that contribute to ongoing local conservation priorities.
- The project offers measurable benefits to local stakeholders.
- The project will positively influence stakeholders' environmental knowledge, attitudes and behaviour.

Project Feasibility:

- The project is realistic in its aims, with the ability and experience of participants suited to the methods, objectives, budget and time frame.
- The project is cost-effective and shows good value for the money.
- The project will clearly deliver appropriate outputs – a research report, journal articles, education materials, contribution to a critical conservation need, etc.
- The project demonstrates wide collaborative support from local communities, local or national institutions, such as NGOs or academic institutions, and relevant governmental organizations.

HOW TO APPLY

All project teams are required to submit a completed application by Monday, **18th November 2011**. No late applications will be accepted and applications must be completed in **English**. The following guidelines will assist you in writing your application. The application **MUST** be filled out online. We suggest that you download the application form from the [CLP website](http://www.conservationleadershipprogramme.org) and complete the Word document offline. After completing the Word document, copy and paste the content into the online application form: <http://awards.conservationleadershipprogramme.org/>. Applications emailed to CLP will not be accepted. Awards will be announced in April 2012.

To gain insight into the kinds of projects we support, it may be helpful to view the summaries of past winning projects, which are available in the '[Project](#)' section of the CLP website. The CLP team is also available to provide advice up to two weeks prior to the deadline: clp@birdlife.org.

1. General Information

Abstract: The abstract is one of the most important parts of your application. While this is at the beginning of the application form, we suggest you write your abstract last. The abstract should be a condensed version of your proposal (no more than 200 words) highlighting the major points in a concise way to give the reader a short summary of your project. This should include a sentence on each of the following key areas: background, project purpose, objectives, methods and conclusion. To write it, we suggest you reread your proposal, and then draft the abstract without looking back at the document.

Conservation Priority:

Species: The project must focus on globally important species or sites for biodiversity conservation that are under threat. Target species should be at risk or data deficient. We consider a species to be 'at risk' if it is designated as globally threatened (CR, EN, VU) by the [IUCN Red List](#) OR if there is information suggesting that urgent conservation action is needed. For those projects focusing on **multiple species** and/or taxonomic groups, at least one species in each taxonomic group being studied must be at risk.

Site: Projects that are being implemented in **priority areas** for conservation will be looked on favourably (for example, [Alliance for Zero Extinction](#) sites, [Important Bird Areas](#), [Important Plant Areas](#), Key Biodiversity Areas, [Ramsar](#) sites, [Natural World Heritage Sites](#)).

Climate Change: The CLP encourages teams applying for grants to think about the impacts of global climate change to biodiversity at the site level where you are working. It is necessary that you demonstrate you have put thought into these questions and if necessary, contact the CLP team for further clarifications. Your responses to this question will not impact your eligibility.

2. Project Details

Background & Justification: This section should give a summary of previous research and known information on the species and or habitat, as well as summary of the threats, the need for the project, and the conservation issues that will be addressed by the project. Provide clear justification of the need for this project by referencing relevant priority-setting publications. Ideally you should describe the problems you are trying to address and the factors contributing to these problems. Summarize previous work and information. If the project is species focused, explain the benefits of the project to the broader ecosystem.

Overall Goal: Describe the higher-level objective to which the project will contribute. The overall goal will not be entirely achieved by this project. However, the project will contribute towards the achievement of this wider objective. It is an identification of the wider impact the project will have.

Project Purpose: Describe the desired conservation situation and immediate outcomes or change that will result if all the project objectives are achieved.

Project Objectives: List the objectives you will undertake to achieve the project purpose; objectives should be SMART – Specific, Measurable, Achievable, Realistic and Time-bound. Projects should focus on no more than four objectives.

For help developing a good research question and turning it into a project purpose, objectives and methods, read the **Quick Reference Guide** at the end of this document (Appendix 1).

How will you measure success of the objectives - describe your indicators of success (200 words)? Future conservationist projects are expected to address priority biodiversity conservation problems and develop knowledge and leadership capacity of team members. Describe how you will assess the success of the project in meeting the stated objectives. Include indicators to measure the outcomes/impacts of the project in delivering biodiversity benefits to species, sites and/or habitats and capacity development.

Project Activities: For each objective, detail the most important activities that will be carried out (4 to 8 activities per objective, as appropriate). Be sure to include specific fieldwork, education, awareness-raising activities and any community involvement, as well as post-fieldwork activities such as report write-up and dissemination, presentations to stakeholders, etc. Include the month in which each activity will take place and the duration (add extra rows where necessary).

Methods: Research methods and data that will be collected should be fully described. This applies not only to the assessment of populations and distribution of species and habitats, but also to local community, education and social/economic work. You should include the data analysis techniques to be used. If you

plan to collect specimens, you must clearly state the reason for collecting and provide the name of the institution where the specimens will be stored. All necessary research permits and licenses must be obtained in advance of any fieldwork. Projects must have a significant field component relative to the specific taxonomic group being studied.

Project Stakeholders: Describe the work with local stakeholders in this section. Stakeholders are people or groups that are important to a project because they are influenced by or have overlapping interests with the issues involved. They are often important to the success of long-term conservation initiatives. Local stakeholder groups may include local government, schools, local villagers, hunters, fishermen, etc. You must decide how to define your stakeholder groups and then how you will interact with them.

Outputs: Consider how the team's efforts will contribute to long-term conservation action after the project has ended. Explain if and how project data and recommendations will be linked into national priorities, reporting systems, management and specific action plans. What will be the material outputs (e.g. research report, journal articles, education materials, etc)?

Scientific References: Please clearly cite all scientific references in the following order: Author(s), (Year) Title. Journal. Volume: Issue, Pages.

3. Budget

From where else are you seeking funding? Clearly explain if the proposed project has secured funding from other donors. Include the source/donor, the amount requested, and if the funds are pending or have been granted. Also include in-kind contributions e.g. office space, vehicles. If the CLP award will not cover the majority of the total budget, explain how the project will be implemented if other funding sources do not come through.

Itemized Expenses & Budget Justification: Fill in the form, ensuring you keep in mind that the judges will be looking for cost-effectiveness and for a significant percentage of the budget to be spent directly on conservation activities. For each expense, please detail the unit cost and number. Justify costs over US\$1,000 on any single item in the Budget Justification section. Explain why the item is necessary and how it will be used. This section can also be used to clarify any of the costs in greater detail. CLP prefers that awards do not cover salaries for team members. However, the CLP allows for living stipends that could be extended beyond the fieldwork phase if necessary. Please provide justification for stipends that will go toward team members living expenses over the entire length of the project. If you are purchasing equipment, how will that equipment be used after the project concludes?

4. Project Team

You must fill out this section for each member of the team. Team members should be at an early stage in a conservation career with no more than 5 years of paid work experience in the conservation sector. Judges will use the information provided to assess how significantly projects will contribute to 'Team Capacity Development' – i.e. the skills, knowledge and experience of team members for a prospective career in the conservation sector. Interdisciplinary teams displaying a variety of skills and experience will be looked upon favourably.

Work Experience: List all employers, starting with your most recent, length of employment and job title.

Team Role: Explain each team member's responsibility within the context of the overall project. For example, team responsibilities could include: project leader, conservation education expert, first aid officer, species surveyor, etc. It should be clear that each team member has the ability and experience to accomplish the tasks for which they are responsible and contribute to the overall success of the project.

External Advisors and Collaborators: Teams should seek to develop collaborative links with local and international institutions, such as local or national NGOs, universities and/or relevant governmental organisations that can provide further expertise. If you would like advice about linking up with relevant organisations and individuals to build a more international and widely experienced team, please contact the CLP. Note: Project advisors can also serve as referees.

Partner Links: Collaboration with one of the CLP partners is strongly encouraged. If there is a CLP partner office (BirdLife International, CI, FFI, WCS) or one of their local partners in the country where your project will take place, we suggest you make contact and seek assistance in developing your proposal. If you have questions or have difficulty in making contact, contact the CLP team and we can help. Explain the level of support you have received from any of the partners in your application. If you have not made contact or there is not a CLP partner working in your country, this will not be detrimental to your application.

5. Team SWOT Analysis

The SWOT Analysis is a tool by which the team can self-assess their Strengths and Weaknesses as they relate to the project, as well as the Opportunities and Threats that the team may face. This is a brainstorming activity that should be carried out with the entire team. An explanation of this process can be found in Section 2 of the [Conservation Project Manual](#). Ensure each section of the SWOT is complete.

6. References

Please provide contact details for two people who know the team and would be willing to provide a reference for your project. These individuals should be from a national university, a local or international NGO or local government. Declare the applicants relationship with the referee. References will only be contacted if your project is shortlisted (February 2012). Project leaders must notify their referees upon notification of being shortlisted for final selection, as they will have a narrow window in which to respond. If referees are not available within this window, teams must provide an alternate. References not available in the time provided may jeopardize chances of grant award.

7. International Training Course

As part of the CLP Conservation Awards, one team member from each award winning team will be invited to attend a three-week training course which will be held in June or July 2012. The training language of instruction will be English. Please select a team representative with a good working knowledge of English and the ability to travel internationally. If the participant does not have good command of English, CLP will endeavour to provide a translator. Details provided in this section will help us to facilitate logistical arrangements. If the participant named on the application form changes before the selection of awards, please send updated information to the CLP management team (clp@birdlife.org).

Appendix 1: Writing Good Questions, Hypotheses and Methods for Conservation Projects: A Quick Reference Guide

This guide provides a set of basic tips for students and researchers to propose and plan a conservation initiative that is clear and concise. We hope that these suggestions will help applicants to effectively formulate good conservation questions, as well as clear hypotheses and predictions. The document also describes the information that must be included in the methods section of a conservation project. These recommendations will increase the probability of a project being evaluated positively by the reviewers, which will ultimately increase the likelihood of the project being funded.

Correctly Identify the Problem and Research Question

Every project starts with an observed problem(s), which guides the formulation of a question(s) to be answered. Typically, a question must start with **How, What, When, Who, Which, Why or Where**. Identifying the problem and the question to be addressed correctly is fundamental to the success of a project. This ensures that reviewers will know the applicant's thinking process. The more specific the question, the easier it will be to determine the objectives, hypotheses and predictions of the project¹.

Tip: Ask yourself "What is my Question?" If you start answering this by saying "I want to know if....", this will tell you that you have not identified your question correctly.

Examples of well-framed questions:

- "How do ecological corridors affect the population size of species X living in fragmented habitat Y?"
- "How does environmental education influence the behavior of local community Z toward species X?"
- "What benefits can an ecotourism program bring to local community Z?"
- "How are ecotourism visitors in area Y affecting the population density of species X?"

Examples of questions that are not correctly framed:

- "We want to know if population size of species X increases with the number of corridors between fragments". This is a prediction, not a question.
- "We want to know if species X is present in area Z". Lack of information is not itself a conservation question.

The question must address something that can ultimately be measured. This means that the question has to be answerable – one that can be used to propose a set of hypotheses that can be tested and a set of predictions against which one can compare the results from the study².

Tip: The questions that you propose to address in your project will be clear if they are framed in terms of specific hypotheses and predictions. We will discuss later in the document how to write good hypotheses and predictions.

Turning the Question(s) into an Overall Goal and Project Purpose

Once the question is clearly written, the overall goal and the main purpose of the study can be proposed. The overall goal refers to the reasonable and expected contribution of the study to broad conservation or social concerns. It represents the vision of the proposal and shows that the applicant thinks about the issues from a global perspective. The overall goal is based on the formal scientific or conservation context from which the study is derived and to which the project will ultimately contribute³.

¹ Hailman and Strier. 2006. Planning, Proposing, and Presenting Science Effectively.

² For more information, refer to section 3.3, problem analysis, in the CLP project Manual.

<http://www.conservationleadershipprogramme.org/UserDataWEB/ProjectManuals/ConservationProjectManual.pdf>

³ Friedland and Folt. 2009. Writing Successful Science Proposals.

The project purpose refers to the specific contribution that the project is hoping to provide, i.e. how the applicant envisions things will be “different” once the project is complete. Contrary to the overall goal, the project purpose is specific to the species, habitat and/or conservation issue which the project will address (Refer to Appendix 1, Case Study, for specific examples).

Defining Project Objectives

The project objectives are the main results of the study; a set of concise statements that provide enough detail to communicate the focus of the conservation initiative or question.

*Tip: Objectives usually start with verbs like **determine, examine, investigate, explore, improve, develop or evaluate**.*

Examples of objectives:

- **Investigate** the effect of ecological corridors in the population size of species X
- **Develop** an environmental education program to implement with the human community in the area where species X survives
- **Improve** the livelihood of the community in area Y through the creation of an ecotourism program

REMEMBER: Objectives must be SMART: Specific, Measurable, Achievable, Realistic and Time bound.⁴

Writing a Clear Hypothesis and Predictions

Carefully conceived hypotheses demonstrate that the applicant is aware of how the project fits into prior conservation initiatives and research. It also shows to the reviewer that the applicant knows what needs to be tested. A hypothesis is a tentative statement that proposes a possible explanation to the question. Thus, a useful hypothesis must be a **testable statement**⁵.

Each of the objectives must have one or a set of hypotheses to test, and each hypothesis should have a prediction, typically derived from existing knowledge reviewed in the background section. A prediction is the way the hypothesis will be accepted or rejected when compared with the collected data.

Tip: Predictions should tell you the variables that you are going to measure. Think about them in terms of the ultimate graph of the relationship that you hope to observe. If you write your predictions but you do not know what data you need to collect when you get to your methods section, it means that your predictions are not well proposed.

Examples of hypotheses and predictions:

H1: Connectivity between fragments increases the population size of species A.

Prediction: If connectivity affects the population size of species A, then the number of individuals in an area will be smaller in fragments where no corridors are developed than in fragments connected through ecological corridors.

H2: Environmental education will positively influence the behavior of local communities toward habitat destruction.

Prediction: If education influences the behavior of human communities, then areas in which education activities are implemented will have lower rates of deforestation in the near future than areas where communities do not receive education.

⁴ For more details about how to create objective trees, refer to the Conservation Leadership Programme Project Manual, Section 3.4, <http://www.conservationleadershipprogramme.org/ProjectManuals.asp>

⁵ Hailman and Strier. 2006. Planning, Proposing, and Presenting Science Effectively.

Examples of incorrect hypotheses:

- H1. Species X is found in habitat Y.
Although presence/absence data can be used, to find a species in certain area is not itself testable and will not provide a solution to the main conservation problem.
- H2. Surveys about the use/consumption of species X will be answered by the local community.
This is too general to be a hypothesis and it is also not testable. Specificity is important when writing a hypothesis. In this case, a prediction cannot be proposed because the hypothesis does not clearly state the potential variables to measure.

*Tip: A prediction is what is expected if the hypothesis is true. It is useful to state the predictions using **if/then** statements. If the hypothesis is true, then the data will show certain relationships.*

Explain the Methods That Will be Used to Test the Hypothesis

How one plans to obtain the necessary data to test the hypothesis is just as important to a reviewer as the clarity of the questions. Sound methods will strengthen the case for a successful project. The methods section should include information about the study site, the duration of the study, the unit of sampling (e.g. plot, transect, region, point count) and the number of study subjects and sampling units. It is important to be as detailed as possible about the data collection methods; it should include the number of sites, groups and communities with which the applicant is planning to work. One must also detail how differences will be identified between subjects or areas where the data will be collected.⁶

The predictions must be used to determine which data are absolutely necessary to collect in order to test the hypothesis. Established methods and protocols should also be used wherever possible. This will improve the likelihood of collecting good data sets and will facilitate the comparison between the project and other related conservation initiatives, while avoiding the necessity of detailed explanations.

Depending on the data that will be collected, a description of the type of statistical analyses that will be used to test the hypothesis in the methods section should be included. These do not need to be completely specified, but it is not sufficient to say that standardized statistical methods will be used. Find out how other studies have analyzed the type of data that will be collected and which statistical test(s) were used and reference them in the methods. This will demonstrate to the reviewers that the applicant understands the topic, has thoughtfully planned it and is aware of the type of data that needs to be obtained to ensure solid results, conclusions and recommendations.

We hope applicants find these tips and recommendations useful and that following them will help to write successful conservation or research projects. The literature below offers more detailed explanations about project writing. Please read the **case study** below for a specific example of a conservation project.

References

- Creswell JW. 2009. Research design: qualitative, quantitative, and mixed methods approach. Third edition. Sage Publications. London
- Friedland A and Folt C. 2009. Writing Successful Science Proposals. Second edition. New Haven, CT: Yale University Press.
- Hailman JP and Strier KB. 2006. Planning, Proposing, and Presenting Science Effectively. Second edition. Cambridge University Press

Further Reading

- Grantham HS, Bode M, McDonald-Madden E, Game ET, Knight AT & Possingham HP. 2010. Effective conservation planning requires learning and adaptation. *Frontiers in Ecology and Environment*. 8: 431-437.

⁶ Creswell. 2009. Research design: qualitative, quantitative, and mixed methods approach

- Mitchell ML and Jolley JM. 2009. Research Design Explained. Seventh edition. Cengage Learning edts. Belmont – CA. USA.
- Ogden TE and Golden IA. 2002. Research Proposals: A guide to Success. Third edition. New York: Academic Press.
- Salafsky N, Margoulis R, Redford K, Robinson J. 2002. Improving the Practice of Conservation: a Conceptual Framework and Research Agenda for Conservation Science. *Conservation Biology*. 16: 1469-1479 (http://www.fosonline.org/wordpress/wp-content/uploads/2010/06/SalafskyEtAl_ConsBiol_2002.pdf)
- Saunders C. 2003. The Emerging Field of Conservation Psychology. *Human Ecology Review*. 10: 137-149 (<http://www.ibcperu.org/doc/isis/5630.pdf>)

Case Study

Background information

Habitat fragmentation poses a severe threat to primate populations around the world, with some of the most unusual primate communities now surviving in highly fragmented habitats. The Atlantic Forest of Brazil, which has suffered greatly from the combined effects of agriculture, forestry and urbanization, now exists only as a complex of remnant fragments constituting a mere 12% of the original 1 million hectares of forest. The Atlantic Forest is the home of the critically endangered Northern Muriqui (*Brachyteles hypoxanthus*). Once vast populations of *B. hypoxanthus* existed in the Atlantic Forest but today only about a thousand individuals survive in small populations in isolated remaining fragments.

Competition and relative scarcity of resources in the fragments led to a rapid decline of *B. hypoxanthus*, even in relatively larger fragments, due to direct mortality. Although the pattern is not typical in other fragmented ecosystems, studies have suggested that fragments in the Atlantic Forest tend to be close to one another, with about 98% of the fragmented forest area within 350 m of another fragment. This provides a unique opportunity to interconnect isolated populations of *B. hypoxanthus*, facilitate female migration to increase gene diversity, and increase the survival probability of these populations.

Overall Goal

Create an interconnected matrix of remaining fragments of Atlantic Forest with the collaboration of landowners and local communities to facilitate the migration of young females of *B. hypoxanthus*, increase genetic variability, and allow small populations with few individuals to emigrate to areas with more resources.

Question

How do ecological corridors affect the population size of *B. hypoxanthus* living in fragmented Atlantic Forest in the area of Governador Valadares, Minas Gerais-Brazil?"

Project Purpose

Evaluate the likelihood and effects of interconnecting four populations of *B. hypoxanthus* isolated in fragments of forests through ecological corridors, in the area of Governador Valadares, Minas Gerais, Brazil.

Project Objectives

01. Evaluate the likelihood and efficiency of using native seedlings to build ecological corridors in the Atlantic Forest vs foreign/commercial species of seedlings.

02. Determine the effect of interconnectivity on the populations of *B. hypoxanthus* surviving in the fragments.

03. Develop an education program with local communities about the importance of connectivity between forest fragments through ecological corridors on the survival of the *B. hypoxanthus*.

Hypotheses

H1. Native species are more efficient to build ecological corridors in the Atlantic forest than foreign/commercial species.

Prediction 1. If native species are more efficient to build ecological corridors than foreign species, then corridors built with native species will show lower rates of mortality of the seedlings than corridors built using foreign/commercial seedlings.

H2.1: Connectivity between fragments increases the population size of *B. hypoxanthus*.

Prediction2.1: If connectivity affects the population size of *B. hypoxanthus*, then the number of individuals per area will be smaller in fragments where no corridors are developed than in fragments connected through ecological corridors.

H2.2. Connectivity between fragments increases the migration opportunities for females of *B. hypoxanthus*.

Prediction 2.2: If connectivity affects the migration opportunities for *B. hypoxanthus*, then the number of young females remaining in their natal groups will be higher in fragments where no corridors are developed than in fragments connected through ecological corridors.

H3.1. Environmental education will positively influence the behavior of local communities toward habitat destruction and fragmentation.

Prediction 3.1. If education influences the behavior of the human community in the fragmented Atlantic Forest, then areas where education is implemented will have lower rates of deforestation in the near future than areas where communities do not receive education.

H3.2. Environmental education will provide an incentive to local communities to protect the ecological corridors.

Prediction 3.2. If environmental education provides an incentive to local communities to protect the ecological corridors, the number of seedlings damaged by human activity and the rates of clearing of ecological corridors will be lower in areas in which education is implemented than in communities where environmental education is not provided.