



# Biodiversity Conservation at the Landscape Scale

A Program of the Wildlife Conservation Society  
Supported by the USAID/Global Conservation Program

**Coordination Unit, New York, USA**  
**Semi-Annual Report**  
**October 2001 – March 2002**

## I. Summary of Activity Status and Progress

### a. Introduction/Summary

The Biodiversity Conservation at the Landscape Scale (BCLS) Program is designed to develop and test an integrative, landscape-level approach to biological conservation across multiple sites. Accordingly, the program encompasses a diverse array of land-use categories and resource-use issues, in addition to a variety of approaches to site-based management. In order to facilitate work among these sites and capture the synergistic benefits from diverse experiences, a New York-based Coordination Unit is charged with managing the BCLS Program. This unit guides the three field sites as the landscape approach to conservation is developed and tested, assists in the design and development of sound monitoring programs at these sites, promotes cross-site learning, and ensures communication among the sites, WCS staff (central and field), USAID (GCP and country missions), and the larger conservation community. In addition, the Coordination Unit assesses and promotes opportunities for application of the Landscape Approach to new sites, with complementary funding from USAID and/or other sources.

In the first half of FY 2002, the Coordination Unit accomplished many of its planned programmatic, technical, and administrative goals. During this reporting period, in collaboration with our field staff, we further developed our landscape approach to conservation (including refining conceptual models for each core site, and progress with an overall monitoring strategy as well as monitoring plans for each core site). We produced additional communications materials (Bulletins, powerpoint presentations and papers) for use within WCS, for distribution in the field, and for external audiences. We have also developed the concept of landscape species as a tool for site-based conservation to the degree that it is now being adopted, in part or in whole, by other WCS field projects as the basis for their work.

### b. Highlights

- “Ecologically Functioning Populations as Conservation Targets” workshop held in November 2001 to address the issue of setting target levels for the conservation of landscape species populations and habitats

- Site visit to Yasuní, Ecuador by the socio-economic monitoring specialist to assist with project strategies and priority setting
- Proceedings from the Second Annual Living Landscapes Program Meeting, July 2001 written and distributed via Living Landscapes Program “Resource CDs”
- Bulletin 1 (“An Innovative Concept for 21<sup>st</sup> Century Conservation”) and Bulletin 2 (“The Landscape Species Approach – A Tool for Site-based Conservation”) printed and distributed in French and Spanish language versions
- Bulletin 3 (“The Role of Landscape Species in Site-based Conservation”) and Bulletin 4 (“Selecting Landscape Species”) written
- Presentations on the Landscape Species Approach given by BCLS staff at a variety of venues, including the Moore Foundation, the Packard Foundation, the Northern Forest Alliance and at a panel forum at World Wildlife Fund with other USAID/GCP partners
- Landscape Species Approach launched in WCS North America sites through workshops with stakeholders in the Greater Yellowstone Area (December 2001) and the Adirondacks (February 2002)
- Threats assessments, conceptual models and monitoring frameworks for each core BCLS site further developed and integrated into planning of site conservation actions
- Design and development of software to facilitate landscape species selection process initiated
- Further dissemination of the utility of the Landscape Species Approach within WCS as expressed by interest in the approach by WCS North America program, WCS Marine program, WCS Bolivia program and continued use by WCS Cambodia program
- Concept paper on “Reconciling investments in threats abatement and monitoring” sent to USAID/GCP partners as topic for upcoming GCP III workshop
- Submission of Landscape Species Selection Criteria manuscript to *Biological Conservation*
- Symposium, presentation and poster by socio-economic monitoring specialist (in collaboration with TNC and WWF) on “Reconciling Investments in Threats Abatement and Monitoring” accepted for Society of Conservation Biology meeting in July 2002
- Presentation by landscape ecologist and biological monitoring specialist of “Using a Spatially-Structured Harvest Model to Set Targets for Reserve Areas” accepted for Society of Conservation Biology meeting in July 2002

**c. Table of Activity Status**

<b>Activity Number</b>	<b>Activity Title</b>	<b>Status</b>	<b>Page Number</b>
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1.3	Cross-site Analyses	On track	5
<b>Obj. 2</b>	<b>Provide technical and monitoring assistance to BCLS field implementation</b>		
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<b>Obj. 3</b>	<b>Ensure coordination and communication services for the Program</b>		
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**II. Detailed Description of Progress**

**a. Key program objectives for this reporting period (October 2001 – March 2002)**

Our objectives for the first half of FY 2002 included: ensuring effective functioning of the Program; elaborating the Landscape Species Approach (in particular the role of “Ecologically Functional Populations as Conservation Targets”); providing technical expertise to field projects in implementing the approach; further developing conceptual models and monitoring frameworks for each of the sites; assisting with threats assessments for two new sites (Greater Yellowstone Area and Adirondack Mountains), continuing the writing and printing of the Bulletin series for distribution throughout WCS-NY, for WCS field programs and for the broader conservation community - including donors); fulfilling report writing and other USAID-related requirements; critical assessment of additional sites for Program expansion; widespread communication regarding the program and the approach via presentations in many different forums.

**b. Activity Description**

**Objective 1: Guide development and testing of the Landscape Species Approach.**

**Activity 1.1. Landscape Species Approach Design**

On track

Coordination Unit and BCLS field staff continued to elaborate and refine the Landscape Species Approach. Landscape species selection criteria and how they were applied and refined in two

core sites (Northwestern Bolivian Andes and Ndoki-Likouala), was detailed in a manuscript submitted to *Biological Conservation* (See Appendix 1). Species have now been selected, using these criteria, at each of the three core sites. Progress was made on general protocols for 'building' biological and human landscapes and the process of combining them into 'conservation landscapes', thereby defining the boundaries of the areas in which conservation activities should be focused.

A workshop held in November 2001 to discuss the role of "Ecologically Functioning Populations as Conservation Targets" was an important step in this process, setting target levels for the conservation of landscape species populations and habitats. The workshop included non-WCS conservation practitioners, academics, and WCS staff from field sites and New York. In total, thirty-two people from WCS, Federal agencies, universities and other conservation NGOs attended the workshop. The workshop helped us clarify the process by which we set targets for site-based conservation.

The landscape ecologist and biological monitoring specialist submitted an abstract for a presentation on "Using a Spatially-Structured Harvest Model to Set Targets for Reserve Areas" at the upcoming Society for Conservation Biology meeting. The application of this model will help to define the area requirements for each of the landscape species and therefore is an important tool in implementing the Landscape Species Approach. The abstract was accepted and the presentation will take place in Canterbury, UK in July 2002.

The approach we are using, focusing on landscape species, has generated substantial interest within the conservation community. In order to describe and promote its use, we are therefore documenting the concept and its application for additional audiences. A manuscript describing the Landscape Species Approach has been published recently in the journal of *Landscape and Urban Planning* (See Appendix 2). The article explains the methodological underpinnings of the Landscape Species Approach and includes hypothetical examples of its application (Sanderson, E.W. et al. 2002. A conceptual model for conservation planning based on landscape species requirements. *Landscape and Urban Planning*. 58. pp.41-56). In addition, BCLS staff published an article in *Conservation Biology in Practice* that defended the use of 'umbrella' species as tools for setting conservation targets proactively, based on reasoned ecological criteria (Sanderson, E.W., Wilkie, D.S., Coppolillo, P.B., Strindberg, S., Stone, S., & Vedder, A. 2001. Umbrella species. *Conservation Biology in Practice*. 2, 4-5).

### **Activity 1.2. Threats Assessments**

On track

Threats assessments have been completed in conjunction with staff at each of the three core sites. Sites used a range of approaches to assess threats. Madidi focused on one-on-one meetings and workshops with local, national and international stakeholders. Yasuni relied more on a series of multi-stakeholder workshops in El Coca at the border of the national park and Huaorani Ethnic Reserve. The Ndoki-Likouala project combined meetings with local communities and private sector representatives with a review of park guard experiences and research data. Hunting of wildlife for food and because they are perceived as risks to life and livelihood, is the primary threat across all sites. Land cover transformation and habitat disturbance is also an important

direct threat. All sites identified weak governance institutions and management capacity and lack of management relevant information as factors that indirectly threaten biodiversity.

BCLS staff were involved with preliminary threats assessments done in the context of the two North American sites, Yellowstone and the Adirondacks, and continue to be refined as an important part of applying the Landscape Species Approach at each site.

### **Activity 1.3. Cross-site Analyses**

On track

After consulting with field staff at BCLS sites, reviewing the literature and polling other monitoring and evaluation experts, BCLS monitoring staff determined that the conservation community has developed tools to rank order threats and set priorities for taking action to reduce threats. We also have a growing understanding of how to assess the trade-offs associated within monitoring our conservation objectives directly or through proxies. However, we do not currently have a tool for helping us decide how much of our perennially scarce resources should be allocated to threats reduction and how much to monitoring effectiveness. Without such a tool we most often simply neglect the latter and spend exclusively on the former. To help answer these questions WCS, The Nature Conservancy, World Wildlife Fund and potentially other partners within the USAID/GCP are proposing to establish an experts' working group. This group will, over the next several months explore approaches to reconciling how conservationists might objectively prioritize the allocation of scarce resources to abating threats and monitoring the effectiveness of such actions. The working group hopes at the end of this process to have developed a prototype expert system (e.g., decision tree) that conservationist could use to help them allocate their staff and funding to reducing threats and monitoring conservation success.

## **Objective 2: Provide technical and monitoring assistance to BCLS Field Implementation.**

### **Activity 2.1. Project Design and Monitoring**

On track

Substantial progress was made by the monitoring specialists in further refining the conceptual models and monitoring frameworks for each of the core sites so that they are appropriate and comparable across sites (see Appendices 13-15). The biological monitoring specialist worked closely with several field staff in reviewing and redesigning existing sampling methods in landscape species research. The landscape ecologist and biological monitoring specialist continued with landscape analyses, especially in preparation for a site visit to Madidi in which biological landscapes for their landscape species using protocols developed by BCLS staff were to be completed. The completion of these biological landscapes would lead to the 'construction' of the 'conservation landscape' for Madidi, in order define boundaries of the areas in which conservation activities should be focused.

### **Activity 2.2. Project Needs Assessment**

On track

The director and other programmatic staff continue to assess the technical needs of the core sites by maintaining regular contact with field staff and Coordination Unit staff.

### **Activity 2.3. Application of Landscape Species Approach to New Sites**

On track

The Landscape Species Approach is being extended to additional WCS long-term project sites via several mechanisms. Coordination Unit staff continued to work closely with WCS Regional programs to identify WCS sites for the potential application of the landscape tools and the Landscape Species Approach. During this reporting period, further consultation with Colin Poole of the Asia program has led to the continued use of the Landscape Species Approach in the Northern Plains of Cambodia. This approach formed the central framework for a Cambodian Global Environment Facility proposal submitted during the reporting period (which was subsequently funded).

BCLS has gained momentum in implementing the Landscape Species Approach in two sites in the USA, without USAID funding, including the Greater Yellowstone region (Montana, Wyoming and Idaho) and the Adirondack Park in New York. During this reporting period, the program has worked closely with the WCS North America Program, as well as colleagues and potential partners in both regions, to introduce the Landscape Species Approach and begin its application on the ground (the WCS North America Program has already been at work in both regions for many years). A workshop was held in Bozeman, Montana in December, 2001 and in the Adirondacks in February, 2002 to bring together members of those region's agencies, non-governmental organizations and foundations in order to identify the role within which WCS can be most useful. The Yellowstone workshop revealed a significant gap in management-oriented research on wildlife, which WCS is well placed to fill. Similarly, in a strategic planning document, the Adirondack Park Agency specifically advocated using the Landscape Species Approach as a framework for structuring their land acquisition and management priorities. They are, along with other stakeholders in the Adirondacks, eager to apply the Landscape Species Approach and have contributed actively to the process.

Significant progress was made by the biological monitoring specialist in the design and development of computer software to facilitate the landscape species selection process. Automating data entry and selection of landscape species will ease the further dissemination of the approach to other projects within WCS and potentially other organizations. An initial version of the software accompanied by on-line documentation will be released during the subsequent reporting period.

### **Activity 2.3. (from FY 2001). Wildlife Health Research**

On track

*Note: Although this activity was included in the FY 2001 Implementation Plan and not in the FY 2002 Implementation Plan, carryover funds continued to be used during this fiscal year and are therefore reported below.*

Since the last reporting period, the WCS Field Veterinary Program (FVP) has continued to build on the first draft of the wildlife health guidelines. In February 2002, FVP staff met with USAID senior policy advisors to review the current draft of the guidelines. USAID attendees included the Wildlife and Biodiversity Advisor for USAID EGAT/ENV/ENR, the Health Officer in the Bureau of Global Health and the Agriculture Development Officer in addition to other attendees with expertise in veterinary medicine, epidemiology and infectious disease. Participants shared ideas about how to make the document more useful to project planners and evaluators at USAID.

### **Objective 3: Ensure coordination and communication services for the Program.**

#### **Activity 3.1. Project Consultation/Site Visits**

On track

In November 2001, the socio-economic monitoring specialist conducted a site visit to Yasuní to gain a clearer understanding of the overall conservation context in Ecuador and to assist with overall project strategy and priority setting. Progress was made in refining the Yasuní short and long term goals and objectives, and this improved the completion of their Implementation Plan for the current fiscal year.

Since January the socio-economic monitoring specialist has been working with the Ndoki-Likouala site to put in place a review of efforts by site managers in Congo, CAR and Cameroon to improve abatement of transboundary threats to wildlife conservation in the Sangha tri-national region. The review will not only assess past efforts at transboundary conservation, it will propose a set of concrete “next steps” to be implemented over the next 1 to 3 years to further abate transboundary threats to conservation.

#### **Activity 3.2. Annual Meetings**

On track

The Annual Meeting proceedings for the meeting held during the previous fiscal year was completed by the program officer and administrative assistant, and has been included on resource CDs that are being distributed to WCS staff at this year’s regional meetings. In addition, interested persons (to date including WCS staff from Madagascar, Bolivia and North America) who requested the proceedings via the Living Landscapes Program email were sent the proceedings as well.

#### **Activity 3.3. Budget and Administration**

On track

During this reporting period, reporting deadlines were met in a timely fashion, excepting the case of one of the field sites, whose Implementation Plan was submitted at a later, agreed upon date. Implementation plans, Semi-annual reports and Performance Monitoring forms were submitted for each of the field sites and the Coordination Unit. Quarterly accounting reports were submitted to GCP in a timely fashion by the program officer. The program officer also attended two quarterly GCP meetings.

### **Activity 3.4. Communications and Informational Packets**

#### **On Track**

BCLS staff made presentations about the Living Landscapes Program, the Landscape Species Approach and other conservation tools throughout the reporting period. The director gave a talk on the WCS approach on “Monitoring Outcomes” at a Moore Foundation event, as well as a presentation on the Landscape Species Approach at a Northern Forest Alliance meeting. The program officer participated in a Packard Foundation event for Conservation and Development program staff and presented “The Use of Conceptual Models as a Tool in Conservation”. The landscape ecologist also gave presentations on the Landscape Species Approach at several workshops including those described above in Activity 1.1 and 2.3.

Living Landscapes Program Bulletins 1 and 2 (printed during the last reporting period) were translated into French and Spanish and distributed to field sites for in-country distribution (See Appendices 3 – 6). So far, distribution of the Bulletins in all three languages has been widespread. Over half to two thirds of the Bulletins printed has been distributed to date via WCS regional meetings, to WCS development for dissemination to potential donors, to WCS communications for media use, to GCP partners, to foundations, as well as to interested individuals. In addition, the Bulletins are all available online at the Living Landscapes Program website (<http://www.wclivinglandscapes.org>).

General public interest in the Living Landscapes Program is indicated by a substantial email distribution list of interested members who sign up for periodic updates about the program. To date there are approximately 75 members who have signed up since the website launched in July 2001.

During this reporting period, Bulletin 3 (“The Role of Landscape Species in Site-based Conservation”) and Bulletin 4 (“Selecting Landscape Species”) were written (See Appendix 7 and 8). In addition, final drafts of Bulletins 5, 6 and 7 were written (See Appendix 9 - 11).

BCLS staff also took the lead in developing an information packet to increase donor awareness and promote donor interest in conservation in Central Africa. The information packet included a 7.5 minute video, a ‘conservation atlas’ of Central Africa, and 7 fact sheets. The atlas and fact sheets are available online ([www.wcs.org/centralafrica](http://www.wcs.org/centralafrica)).

The Living Landscapes approach was highlighted in WCS-wide communications throughout the reporting period, including WCS newsletters and the Wildlife Conservation magazine, which has a broad readership made up of WCS members, donors and the general public. It was also featured by CNN’s environmental correspondent, Gary Strieker, on their televised broadcast and their website: (<http://www.cnn.com/2002/TECH/science/01/12/living.landscapes/index.html>).

The methodological manuscript describing the Landscape Species Approach was published in *Landscape and Urban Planning* (See Activity 1.1). An article for *Biological Conservation* on the landscape species selection criteria has been written by Coordination Unit and field staff and has been submitted for review (See Activity 1.1). Both articles should contribute to the fields of applied conservation, and will serve to facilitate the use of the approach throughout the broader

conservation community. Significant positive feedback has been received from members of several conservation organizations about the possibilities of the approach, including from The Nature Conservancy, The Adirondack Park Agency, the Northern Forest Alliance and others.

BCLS staff continued to be active in making biodiversity conservation and wildlife management information available to a wide readership including government publications, research journals and books (See Appendix 12).

### **III. Success Stories and Appendices**

During this reporting period, we have engaged in the development dissemination of the Landscape Species Approach within WCS and within the broader conservation community. Our effort have included: presentations by BCLS staff at a variety of venues including workshops with local stakeholders (such as in Yellowstone and Adirondacks) and with Foundations (such as Moore and Packard); the writing and printing of materials discussing our tools and approach; and broadcast via the internet and email and other media outlets. Results include WCS internal interest and participation in the approach from the WCS North America program, WCS Marine program, WCS Bolivia program and continued implementation by the WCS Cambodia program. In addition, our broad dissemination has resulted in positive feedback from conservation actors ranging from The Nature Conservancy in Alaska to the Adirondack Park Agency.

#### **Appendices**

1. Landscape Species Selection Criteria draft manuscript
2. Landscape Species Approach published manuscript
3. Bulletin 1 French (“Un Concept Innovant pour la Conservation au XXI<sup>e</sup> siècle”)
4. Bulletin 2 French (“L’approche ‘Espèce Paysage’: Un Outil Pour La Conservation In Situ”)
5. Bulletin 1 Spanish (“Un Concepto Innovador Para la Conservacion en el Siglo 21”)
6. Bulletin 2 Spanish (“Las Especies Paisaje – Para La Conservacion Basada en un Sitio”)
7. Bulletin 3 (“The Roles of Landscape Species in Site-based Conservation”)
8. Bulletin 4 (“Selecting Landscape Species”)
9. Bulletins 5 (“Conceptual Models”) DRAFT
10. Bulletin 6 (“Monitoring Frameworks”) DRAFT
11. Bulletin 7 (“Setting Priorities”) DRAFT
12. List of recent BCLS staff publications
13. Bolivia conceptual model
14. Congo conceptual model
15. Ecuador conceptual model