

Setting Population Targets



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1. What is the tool?

Population Target Level Setting: A tool used to decide how many animals you will aim to conserve across your landscape.

2. What will this tool do for your project (or what conservation challenges will using this tool help you solve)?

Direct benefits

- ◆ Setting Population Target Levels (PTLs) provides you with measurable conservation objectives.
- ◆ Population Targets can help to place a species in context, both within the local landscape and across its geographic range, especially for migratory species.
- ◆ When integrated with your Conceptual Model, Population Targets will provide a relative measure of how much conservation effort is required to achieve these objectives.
- ◆ Population Targets provide another clear and tangible mechanism for communicating conservation objectives to stakeholders.
- ◆ The quantitative framework generated can be used to assess the allocation of resources across targets and threats.

- ◆ Determining PTLs provides a means of verifying the size of the landscape in which you need to work.

Indirect benefits

- ◆ Another opportunity to engage stakeholders and donors in your overall conservation objectives.
- ◆ Provides a reality check for your conservation efforts, enabling a focus on realistic and achievable wildlife conservation goals.
- ◆ Allows an option for providing a timetable for achieving conservation goals.
- ◆ Population Target Levels, used in combination with current population abundance and future threats, can provide a useful way of characterizing populations, their status across landscapes/sites and their geographic range (e.g. population recovery vs. threat mitigation strategies).
- ◆ Can provide a direction for future research.
- ◆ Population Target Levels help translate Biological and Threats Landscape into numbers that people can understand, relate to and get excited about.

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- ◆ When used with Biological Landscapes, can provide a visual map of what the historical landscape was and what the current landscape could look like in terms of numbers of animals.

Material Product

A quantitative target to aim for and with which to measure progress.

3. What will this tool NOT do for your Project?

- ◆ The need for setting Population Target Levels should not preclude conservation action. Identifying a threat to a population means that interventions can already begin to reduce the threat before a target is set (e.g., poaching of elephants requires immediate intervention).
- ◆ PTLs do not inform interventions specifically, but can help you to determine the general approach of your interventions (short-term, long-term, high impact, medium impact etc.) depending on how much your target levels differ from the current situation on the ground.
- ◆ Setting PTLs is not a substitute for gathering field data! Because a PTL is often a theoretical measure or best educated guess, it should be used in combination with field data, to measure progress towards the target and to enhance the legitimacy of the target itself.
- ◆ Consensus support amongst stakeholders for the choice of targets is not implied by the process of scientifically setting Population Target Levels. While you may be able to set a PTL for a ‘controversial’ species (e.g., wolves or wild dogs), that does not necessarily mean that all stakeholders will agree that the target species is in need of conservation.
- ◆ Population Target Levels by themselves do not actually guide your conservation actions, though they may help you evaluate options.



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4. What are the requisites for using this tool?

Project type and stage of development

- ◆ The ideal project is a long-term species- or site-based conservation project.
- ◆ You need to have been working in the landscape long enough to have gained a basic understanding of the landscape and its functions in order to be able to set meaningful target levels.
- ◆ Whenever your targets are set, it is important to revise and update your targets over time (ie. if more information becomes available to refine your targets)

The Landscape Species Approach

The Landscape Species Approach is a wildlife-based strategy to define ecologically meaningful conservation areas, recognizing the complexity of the biological and social landscape in which conservation occurs (see **Living Landscapes Bulletin 2**). The Landscape Species Approach depends on selecting a set of species with complementary ecological needs (a suite of Landscape Species which collectively represents the biodiversity of the landscape as a whole) (see **Living Landscapes Bulletin 3**). The goal of the approach is for conservation of the suite of Landscape Species to lead to conservation of not only those species, but of all biodiversity in the landscape.

Information and data

A basic understanding of the landscape and its functions is required; while PTLs are conceptually valid throughout the lifetime of the project, this basic understanding is vital to the initial determination of Population Targets. You'll need to know such things as:

- ♦ the habitat requirements of landscape species and their basic biology;
 - ♦ the densities of animals at other sites in relation to your site (and in different habitat types within the landscape), for use as points of reference (but take care in extrapolating from sites or for species which have a particular conservation context);
 - ♦ historical population values from your site or ecologically similar sites; and
 - ♦ the effects of density-dependent interactions between humans and wildlife (e.g. livestock depredation near towns, elephant crop damage near villages) and among different wildlife species.
- ♦ You should also be willing to accept some uncertainty in the estimates at the early stages, and be prepared to update the targets as information becomes available.
 - ♦ Remember to be culturally sensitive and politically savvy if setting your targets within the course of a stakeholder workshop; not all stakeholders will have the same opinions of wildlife as you!
 - ♦ You should furthermore keep in mind that published target levels (such as MVPs) are sometimes best educated guesses.



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Living Landscapes Program—Setting Population Targets

Field examples

Argentina's *San Guillermo* landscape has the potential to support around 8,000 guanacos. Today there are only 3,500 guanacos. A population of 3,500 guanacos may seem like a lot, but when you place it into the context of a population reduction (due to hunting) of about 60% in only 30 years, the current population size and need for conservation effort are put into perspective.

Population Target Levels, which are very likely a theoretical or best educated guess, are ideally complemented with field data. For example, in the *Northern Plains Landscape* of Cambodia, there was no information available on historical levels of certain bird species. Field data is necessary to measure progress toward the target levels chosen; but also, importantly in this case, to confirm the accuracy of the levels themselves.

Technical staff skills

- ♦ Field biologists for information on species biology and habitat requirements (either species experts themselves, or skilled biologists with access to comprehensive published literature—or access to unpublished literature—on the topic).
- ♦ GIS capabilities are necessary if staff will be building the potential Biological Landscapes using the PTLs.

LLP tools

- ♦ Setting Population Targets is a necessary component of a Monitoring Framework
- ♦ Building Biological Landscapes is optional but can certainly be informed by the levels set in this exercise.
- ♦ Conceptual Models are necessary
- ♦ Landscape Species Selection (or selection of other targets)

5. How to use the tool:

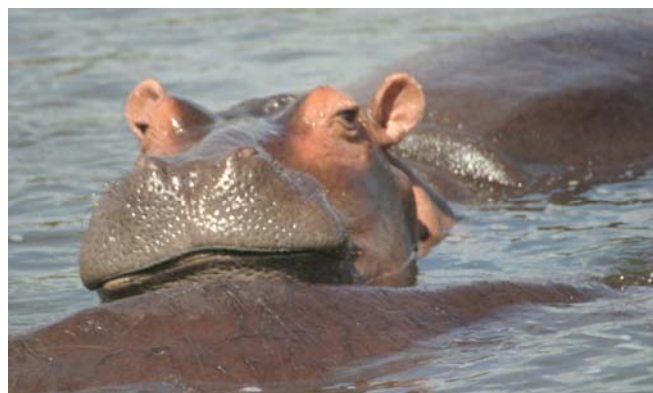
- ♦ Read LLP Bulletin 8.
- ♦ Read E.W. Sanderson. 2006. How Many Animals Do We Want to Save? The Many Ways of Setting Population Target Levels for Conservation. *BioScience* 56(11):911-922.

6. Who should be involved in using the tool, and why?

- ♦ During the early stages of sourcing information (e.g., historical levels, literature reviews), engage stakeholders with caution and at selected/appropriate times. Because this is primarily a technical and data-driven stage, stakeholder opinions risk distorting the process (and endangering the stakeholder collaboration). However, the earlier you engage stakeholders in the process the more likely they are to eventually buy into the necessary interventions.
- ♦ Participation of landscape managers and technicians is essential throughout the process.

7. How long will it take?

- ♦ The quick option is to use points of reference or literature without constructing biological landscapes, which can be done in a matter of days (e.g., Mongolian gazelles using existing known densities, or tigers in Thailand using known densities from different areas in India). This can be done in a matter of days.
- ♦ If you choose to construct a biological landscape, targets can be set and incorporated into biological landscapes. If field data need to be collected and biological landscapes need to be constructed then the process could take over a year.



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Living Landscapes Program Manuals

WCS-International saves wildlife and wildlands by understanding and resolving critical problems that threaten key species and large, wild ecosystems around the world. Simply put, our field staff make decisions about what causes the needs of wildlife and of people to clash, and take action with their partners to avoid or mitigate these conflicts that threaten wildlife and their habitat. Helping our field staff to make the best decisions is a core objective of the Living Landscapes Program.

We believe that if conservation projects are to be truly effective, we must: (1) be explicit about what we want to conserve, (2) identify the most important threats and where they occur within the landscape, (3) strategically plan our interventions so we are confident that they will help abate the most critical threats, and (4) put in place a process for measuring the effectiveness of our conservation actions, and use this information to guide our decisions. The Living Landscapes Program is developing and testing, with our field programs, a set of decision support tools designed to help field staff select targets, map key threats, prepare conservation strategies, and develop monitoring frameworks.

We describe the application of these tools in a series of brief technical manuals which are available by email from llp@wcs.org.

Contact: Living Landscapes Program/Wildlife Conservation Society, 2300 Southern Blvd. Bronx, NY 10460 USA



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