Incorporating Social Aspects and Human Wellbeing in Biodiversity Conservation Projects

Conservation Measures Partnership
www.conservationmeasures.org

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Front Cover:
Women carrying water, Ibo Island, Mozambique
Photo courtesy of Guillermo Placci

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1. Introduction

Conservation is inevitably a social undertaking. Humans have dynamic roles in conservation since they can serve as conservation stewards, they depend on in-tact resources for their livelihoods and wellbeing, and they exert pressure on biodiversity and resources through unsustainable use or when they fail in their role as stewards. Given this situation, it is now common practice for many conservation teams and organizations to incorporate or address human wellbeing when developing their conservation projects.

Conservation teams, however, need to be clear about what they are trying to achieve. Is their main focus conservation? Or is it human wellbeing? Many will be tempted to say it is both. While these two aims can be compatible, they usually involve some trade-offs. It is important for teams to recognize this and clearly define what falls inside and outside the scope of their project.

Purpose of This Document

This document (version 2.0) is an update to the 2012 guidance that was designed to serve as a companion document to the *Open Standards for the Practice of Conservation* to provide greater detail and guidance on the relationship between conservation and human wellbeing – a concept that was incorporated as an update to the *Open Standards* in 2012. This update is based on 3.5 years of applying the concepts from version 1.0 across dozens of projects spanning a wide range of countries and cultures. It draws on feedback from those in the OS community who have used the guidance, as well as those who have used variations of the concepts laid out in this guidance over the past two decades.

Given that the *Open Standards* were developed for teams that have conservation as their primary aim, this guidance focuses on human wellbeing in the context of how it contributes to or is derived from conservation actions. While it does not intend to provide guidance for multi-aim development projects, this guidance does have broader utility to help teams from these types of projects lay out relationships and identify synergies and trade-offs.

Beginning in 2011, the Conservation Measures Partnership (CMP) decided to formally outline ways of considering and conceptualizing human wellbeing in the context of the *Open Standards*, as many organizations applying the *Open Standards* were looking for more explicit direction in this area. In large part because this formal guidance did not exist, conservation teams were struggling with the topic and trying to interpret how they should incorporate human wellbeing. The result was a wide and inconsistent array of approaches to defining, describing, and addressing human wellbeing. One of the greatest values of the *Open Standards* is that they provide a consistent framework for approaching conservation project planning and management. For a while, this framework was missing for human wellbeing, but with the 2013 updates and this companion guidance, the *Open Standards* have attempted to provide structure to the wide array of approaches that various teams are taking.

The 2013 revisions to the *Open Standards* discuss human wellbeing in general, high-level terms. We have developed and updated this guidance document to provide more detailed advice and examples. We continue to see this document as a dynamic, living draft that should be tested in the field and improved over time as we learn more about considering human wellbeing in the context of conservation projects.

This guidance is meant to complement other *Open Standards* guidance for Steps 1 and 2. It does not lay out all steps a team should consider when implementing a project that seeks to address human wellbeing. Rather it assumes the team will be using other *Open Standards* guidance along with this guidance on human wellbeing. For example, one of the first decisions a team would make in planning a project under the *Open Standards* is determining who is on the team and part of the planning process. The guidance here will not prescribe how teams should be formed, but it does clarify that it is important to specify whose human wellbeing the team seeks to affect ([Section 5](#)).

Likewise, this guidance document is not meant to advocate the use (or not) of human wellbeing targets in conservation projects. Human wellbeing is a relevant aspect of all socio-ecological systems in which we work, but how to include human wellbeing is a decision a team will have to consider in light of its context and those involved in the project. Indeed, teams consider human-nature relationships in conceptual models and often develop strategies that are social in nature. However, teams also should explicitly discuss whether they will include human wellbeing targets and why. If a team determines that it should address human wellbeing, then it is important to read and apply this guidance.

What's New in This Document

This document provides several minor edits to clarify and refine text, based on feedback on the 2012 version. It also includes the following additions:

- Recognition that the approach laid out in this document may not work under all conditions, and teams will need to determine what resonates with their audiences, while staying as true as possible to the Open Standards process. With this in mind, we include an appendix with examples of other approaches.
- More detailed guidance for how to address cultural elements ("cultural targets") – a concept not explicitly included in the 2012 version of the guidance.
- Examples of how to display human wellbeing targets and how those layouts might be interpreted differently by different audiences.

2. Defining Human Wellbeing, Ecosystem Services, and Key Relationships

Across the social and natural sciences, a lot of thinking has gone into discussing and parsing out definitions related to human wellbeing and ecosystem services. With this in mind, the Conservation Measures Partnership did not attempt to develop its own classifications. Instead, it uses definitions and descriptions developed by the Millennium Ecosystem Assessment (2003).[1] These work fairly well for ecosystem services, but when thinking about human wellbeing, teams will likely find it useful to look at other classification systems (see, for example, Leisher et al. 2013, Mace et al. 2012, and Wongbusarakum et al. 2014).[2]

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[1] Millennium Ecosystem Assessment. (2003). Ecosystems and Human Well-being: A Framework for Assessment. Washington, DC: Island Press.

[2] Leisher, C., Samberg, L. H., van Beukering, P., & Sanjayan, M. (2013). Focal Areas for Measuring the Human Well-Being Impacts of a Conservation Initiative. Sustainability, 5, 997-1010.
Mace, G. M., Norris, K., & Fitter, A. H. (2012). Biodiversity and Ecosystem Services: A Multilayered Relationship. Trends in Ecology & Evolution, 27(1), 19-26.
Wongbusarakum, Supin, Erin Myers Madeira, Herlina Hartanto. (2014). Strengthening the Social Impacts of Sustainable Landscapes Programs: A practitioner's guidebook to strengthen and monitor human well-being outcomes. The Nature Conservancy. Arlington, VA.

Human Wellbeing

The Millennium Ecosystem Assessment (MA) identifies five dimensions of human wellbeing:

- **Necessary material for a good life:** including secure and adequate livelihoods, income and assets, enough food at all times, shelter, furniture, clothing, and access to goods;
- **Health:** including being strong, feeling well, and having a healthy physical environment;
- **Good social relations:** including social cohesion, mutual respect, good gender and family relations, and the ability to help others and provide for children;
- **Security:** including secure access to natural and other resources, safety of person and possessions, and living in a predictable and controllable environment with security from natural and human-made disasters; and
- **Freedom and choice:** including having control over what happens and being able to achieve what a person values doing or being.

When applying these definitions to human wellbeing targets (see following section), it may make sense to expand or refine the interpretations. For example, one could think of health as including physical, emotional, mental, and spiritual dimensions. Likewise, it might not be clear where to categorize access to education. In general, the categories should serve as a framework for thinking about human wellbeing, but where one categorizes each element is less important.

Human Wellbeing Targets

The *Open Standards for the Practice of Conservation* define human wellbeing targets as aspects of human wellbeing that the project chooses to focus on. In the context of a conservation project, human wellbeing targets focus on those components of human wellbeing affected by the status of conservation targets. This last aspect offers an important

Fisher community, Saloum Delta, Senegal
Photo courtesy of Ilke Tilders

clarification. Though a conservation team may care about all aspects of human wellbeing, if its ultimate aim is conservation, it should focus on human wellbeing as it is derived from or dependent upon conservation. So, for example, a team might choose human wellbeing targets of fisheries livelihoods or forestry livelihoods, as these are clearly connected to the health of fish species or forest conservation targets. In contrast, the team would probably not focus on human wellbeing targets related to literacy or religious freedom. They are important elements of human wellbeing, but, in most situations, they are not directly connected to biodiversity conservation.

Thus, if teams use diagrams like conceptual models and results chains, in most cases, they should only include human wellbeing targets clearly dependent upon biodiversity

conservation. As implied above, the categories of human wellbeing are not important to display in a diagram and could even lead to confusion. We recommend that teams simply use these categories to make sure that what they are identifying as a human wellbeing target is indeed an aspect of human wellbeing – and not, for example, an ecosystem service or a socially beneficial strategy or result. Later sections will address these points in more detail.

Ecosystem Services

Ecosystem services are the services that intact, functioning ecosystems, species, and habitats provide and that can benefit people. The Millennium Ecosystem Assessment (2003) offers four categories of ecosystem services and examples within those categories:

Provisioning services: Products obtained from ecosystems. Examples include:
- Food (including seafood and game), crops, wild foods, and spices
- Fuelwood
- Water
- Minerals (including diatomite)
- Pharmaceuticals, biochemicals, and industrial products
- Energy (hydropower, biomass fuels)

Regulating services: Benefits obtained from regulation of ecosystem processes. Examples include:
- Carbon sequestration and climate regulation
- Waste decomposition and detoxification
- Purification of water and air
- Crop pollination
- Pest and disease control

Supporting services: Services necessary for production of all other ecosystem services. Examples include:
- Nutrient dispersal and cycling
- Seed dispersal
- Primary production
- Soil formation

Cultural services: Non-material benefits obtained from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences. Examples include:
- Cultural diversity
- Spiritual and religious fulfillment
- Knowledge systems (traditional and formal)

Mangroves, Sao Paulo, Brazil
*Photo courtesy of Guillermo Placci*

- Educational values (Ecosystems and their components and processes provide the basis for both formal and informal education in many societies)
- Inspiration
- Aesthetic values

As with the categories for human wellbeing, it may not always be clear where to place an ecosystem service. For example, the Millennium Ecosystem Assessment classifies crop pollination as a regulating service, while it classifies seed dispersal as a supporting service. Moreover, there can be causal associations among categories. For example, a riparian buffer zone could provide a regulating service of water purification, which can contribute to a provisioning service of clean water availability for human use. However, teams should view these categories as a broad guide for thinking about what an ecosystem service is and what sorts of ecosystem services conserved biodiversity targets might provide. In terms of representing ecosystem services within an *Open Standards* context, it is more important to understand what an ecosystem service is and the natural conditions it depends on than to correctly classify it.

Relationship between Conservation Targets, Ecosystem Services, and Human Wellbeing Targets

In a conceptual model, human wellbeing targets are shown to the right of conservation targets, influenced by the status of conservation targets and the ecosystem services that depend on biodiversity conservation (Figure 1). Likewise, a results chain would show how conservation targets in good health provide ecosystem services that support human wellbeing.

Figure 1. General Relationship between Conservation and Human Wellbeing Targets
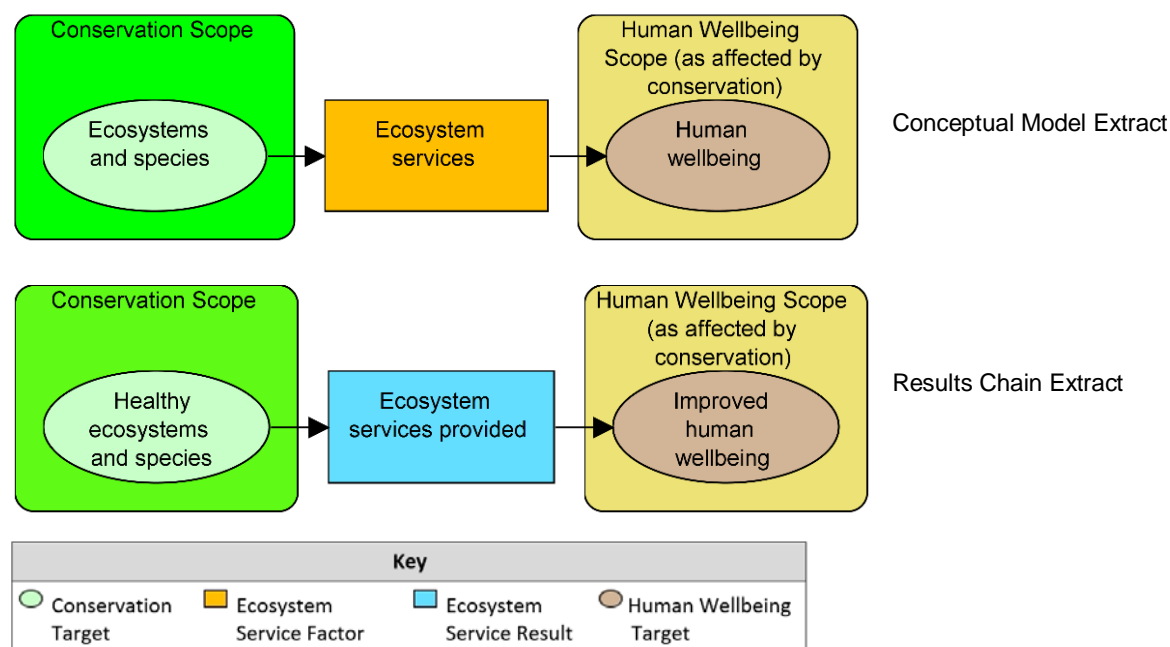
We could expand these models to more detail, showing the Millennium Assessment categories (Figure 2, results chain only shown for simplicity's sake).   As a matter of practice, we recommend that teams that use diagrams limit those diagrams (and more importantly, their planning efforts) to only those human wellbeing targets directly linked to or influenced by conservation targets and the ecosystem services they provide. To identify these

linkages, teams should assess the multiple aspects of human well-being that are relevant for various stakeholders and ideally assess evidence to ensure that that planning and management efforts focus only on those aspects for which a clear and meaningful link or influence can be established.

Figure 2. General Relationship between Conservation Targets and Human Wellbeing Targets with Millennium Assessment Categories
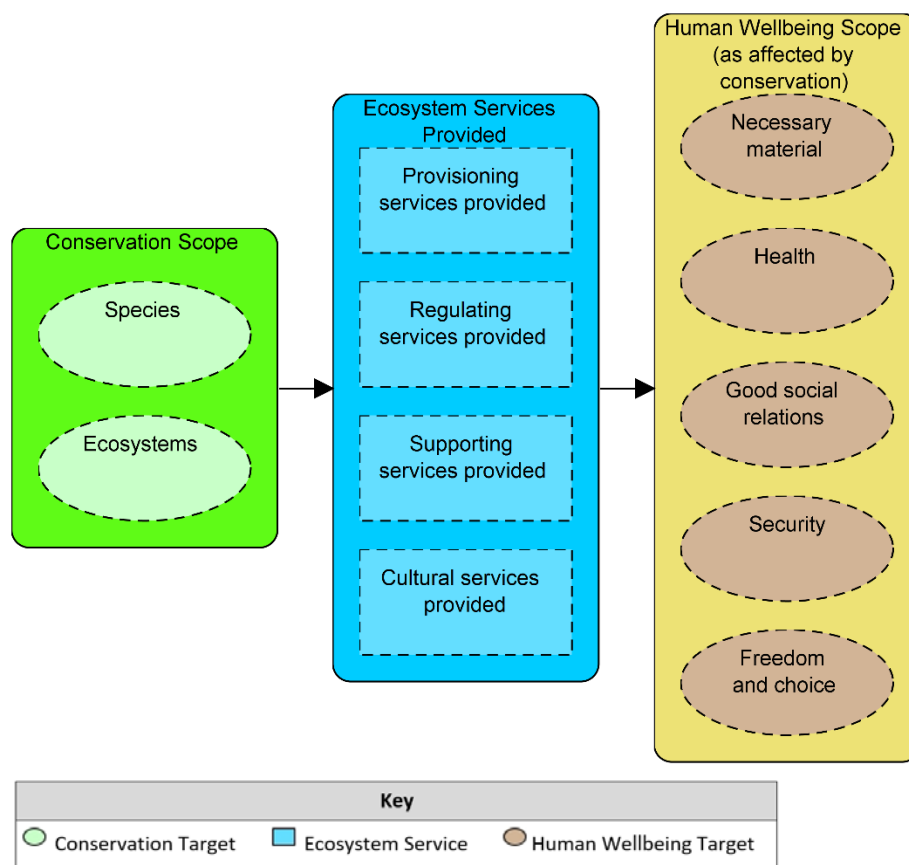
Box 1. Mapping Partner's Work on Human Wellbeing

Some conservation teams may work with other teams that focus exclusively on aspects of human wellbeing, such as health, development, or education. In such cases, teams may find it useful to map one another's work in a conceptual model, such as the one below – thus, illustrating the work both groups are doing, and where or how it intersects and offers opportunities for collaboration.

These conceptual models can be useful for communication purposes. A conservation team should be careful to be clear about what part of the model they are working to influence (i.e., the left-hand side) and not try to address those factors on the right-hand side that fall outside the purview of a conservation team – unless a team has a mission with dual and equal goals of improving both conservation and human wellbeing. In such cases, it is important that the team understands and fully recognizes the trade-offs it is likely to make when developing strategies and allocating resources.

For a team working primarily on conservation, the team can still show how it contributes to human wellbeing, but it should do so based on the guidance offered throughout this document. Specifically, it can show how the strategies it implements in service of conservation have direct human wellbeing benefits and/or it can show how functioning conservation targets provide ecosystem services that contribute to human wellbeing.
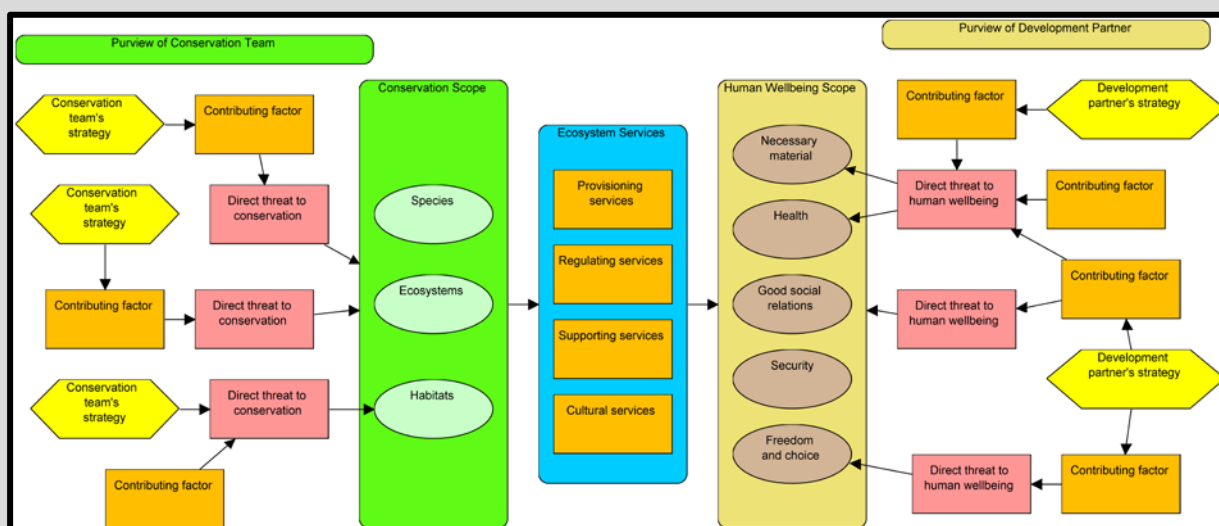
3. Clarifying Socially Beneficial Results and Human Wellbeing Targets

Some conservation teams want to be able to show how their projects have benefits for humans, as well as for conservation. However, it can be confusing to figure out when such benefits should be human wellbeing targets or when they are simply benefits from a conservation strategy.   One can think of conservation projects as contributing to human wellbeing via two primary avenues: A) conservation strategies that have a social focus and provide direct social benefits to humans as a means to achieve or while also contributing to conservation goals (Figure 3); and/or B) conserved biological targets which provide ecosystem services needed for human wellbeing (i.e., human wellbeing targets, Figure 4).

Case A. Human Wellbeing Enhanced Directly via a Socially Oriented Strategy: In the first case, the conservation strategy (e.g., ecocertification of timber harvesting) provides social benefits that are derived from a strategy that is done in service of conservation. The social benefits are a direct and necessary result of the strategy and one that benefits humans, as shown below. Note that the figure does not show human wellbeing targets because this team considered human benefits as an intermediate result that would increase conservation success within their tactic and did not feel a need to explicitly address human wellbeing as an end outcome of their conservation project.

Figure 3. Case A: Socially Oriented Conservation Strategy Producing Socially Beneficial Results
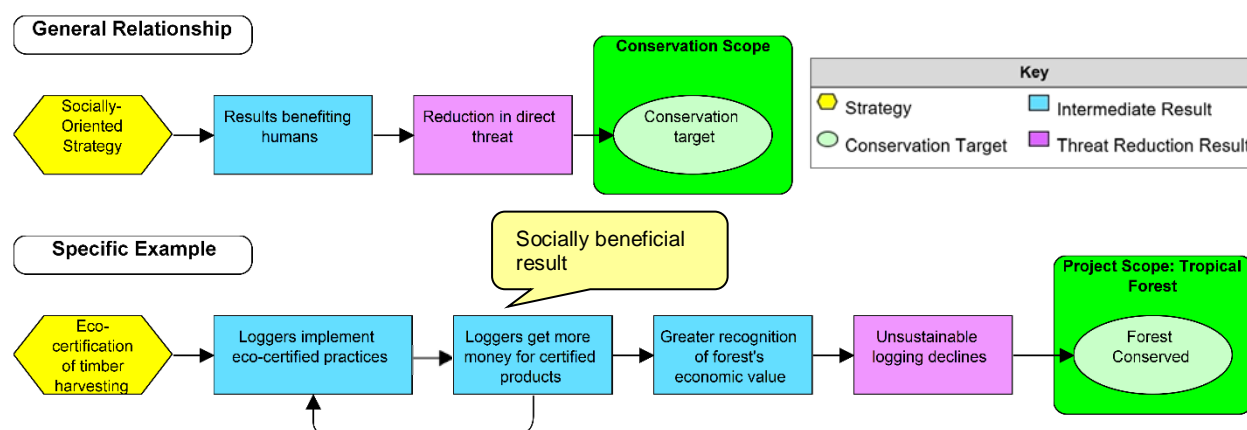
While Figure 3 shows an economic benefit from a conservation strategy, there is a wide range of social benefits conservation strategies work to achieve. Table 1 provides some examples of socially-oriented strategies and their benefits. These benefits are directly linked to the strategies, and they are also necessary results for that strategy to be successful in achieving its conservation goals. Clearly, they also do contribute to human wellbeing, and one could make the link between the result and the human wellbeing targets, if desired (Case C below, Figure 5).

Table 1. Examples of Socially Oriented Strategies and Their Benefits

Conservation Strategy	Results benefiting humans *(and necessary for achieving conservation)*
Improving governance	Increased ability to influence decision making Empowerment Reduced corruption / better services
Capacity building, technical assistance	Improved technical skills Improved ability to manage
Alternative livelihoods	Increased income Diversified income sources
Eco-certification	Access to niche markets Increased income
Sustainable resource management/ extraction	Improved ability to manage resources sustainably Increased yields (in some cases)
Environmental education	Increased knowledge and awareness

Case B. Human Wellbeing Enhanced via Ecosystem Services: In the second case, a conservation team might implement a strategy that has a less direct or apparent social benefit (e.g., strengthening legal enforcement of logging laws or restoration of an important native timber species). The strategy and overall project, however, can contribute to human wellbeing via the ecosystem services provided by a well-conserved forest (Figure 4). Even though these are less direct benefits than those provided by a socially oriented strategy, the team may be very intentional about ensuring that these benefits are achieved and that they contribute to human wellbeing.

Figure 4. Case B: Conservation Strategy Contributing to Human Wellbeing via Ecosystem Services
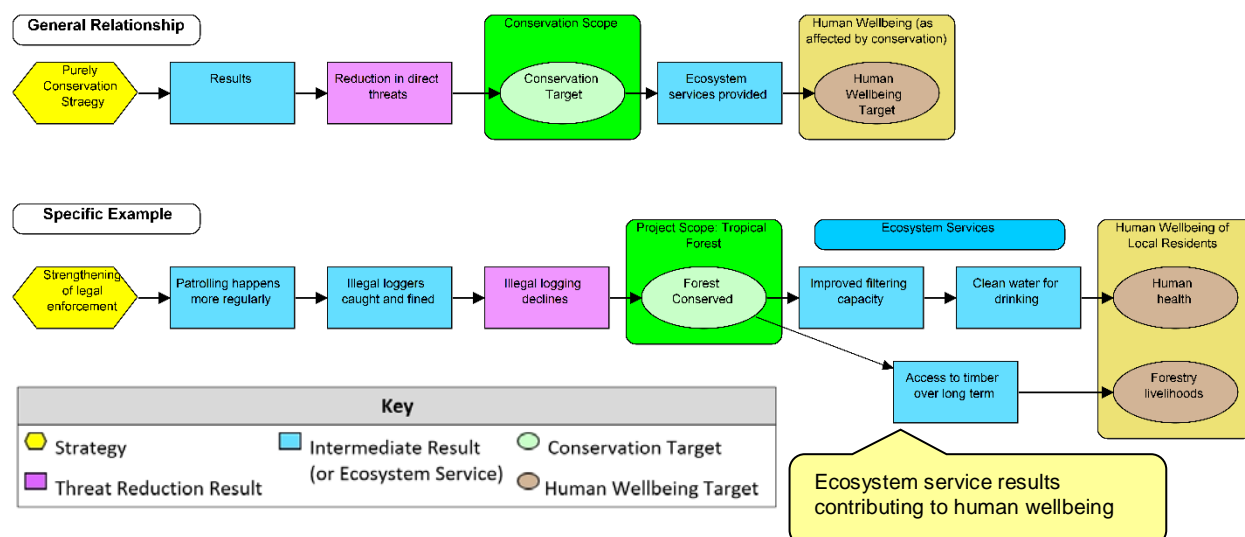
Case C. Human Wellbeing Enhanced via Multiple Avenues: While it can be helpful to think of these two main avenues for how conservation improves human wellbeing, they are not mutually exclusive. A conservation strategy with direct social benefits could also

contribute to human wellbeing via conserved biological targets and ecosystem services (Figure 5). In this example, loggers benefit financially from eco-certification – this is a direct socially beneficial result from the strategy and a necessary result to ensure that they continue to implement eco-certified practices and decrease their use of unsustainable logging practices. The team could then carry the logic all the way through ecosystem services and human wellbeing. If they desired, they could also show that the income that loggers get from certified products does have a direct effect on forestry livelihoods (brown arrow in figure below, which connects a result necessary for achieving conservation directly to a human wellbeing target).

Figure 5. Case C: Socially-Oriented Conservation Strategy Contributing to Human Wellbeing via Multiple Avenues
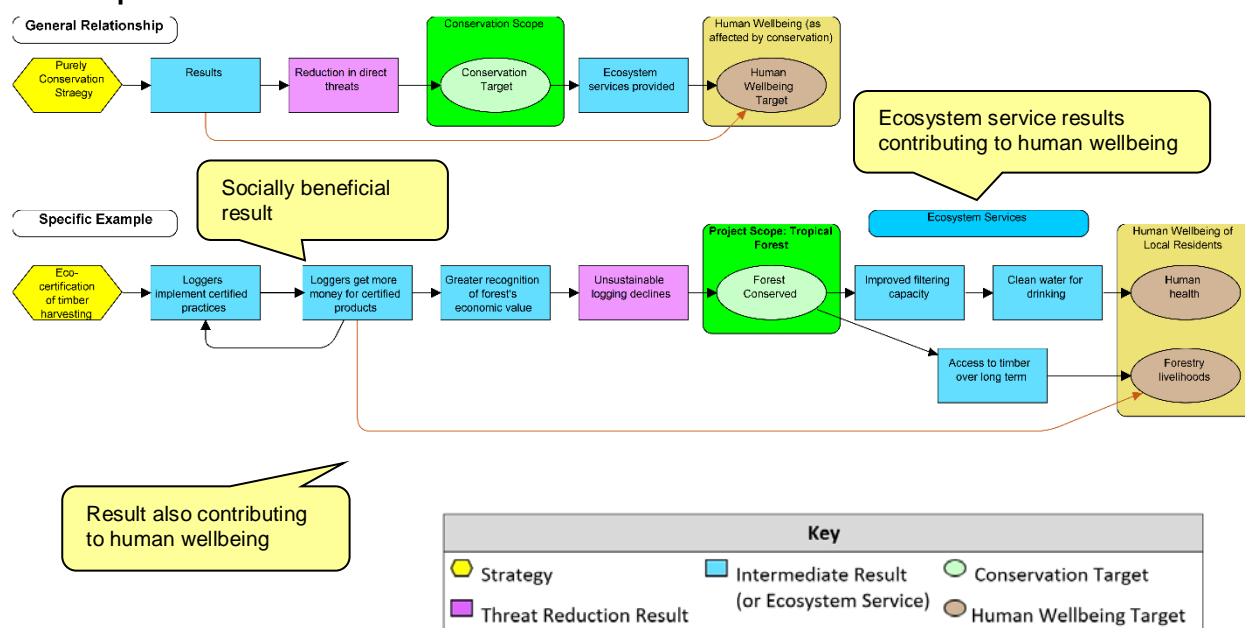
Additional Examples

It would be a complex task to develop an exhaustive library of the way conservation projects could directly or indirectly contribute to human wellbeing. The following figures, however, should help guide conservation teams seeking ways to conceptually portray these relationships. As you review these, keep in mind that, depending on your team's needs, you may want to show multiple relationships, as in Figure 5, or keep it simpler, as in Figure 3. There is no "right" level of detail, though teams should be careful to make sure that their results chains accurately classify their strategy's contribution to human wellbeing and that they are easily understood by external audiences.

Appendix A provides examples of alternative approaches to conceptualizing human wellbeing in conservation projects. These examples differ from the approach laid out in this document; however, some teams have found these alternative approaches to resonate with their audiences and in their contexts. We recommend that teams use the approaches in Appendix A under the guidance of a coach or facilitator with extensive experience in conceptualizing conservation and human wellbeing linkages, as they require comfort with an interpretation of the *Open Standards* under a broader lens.

Examples of socially-oriented conservation strategies with socially beneficial results (Case A):

In these cases, we have only highlighted the benefit to humans, resulting directly from a socially-oriented conservation strategy.

Figure 6. Examples of Socially-Oriented Conservation Strategies with Socially Beneficial Results
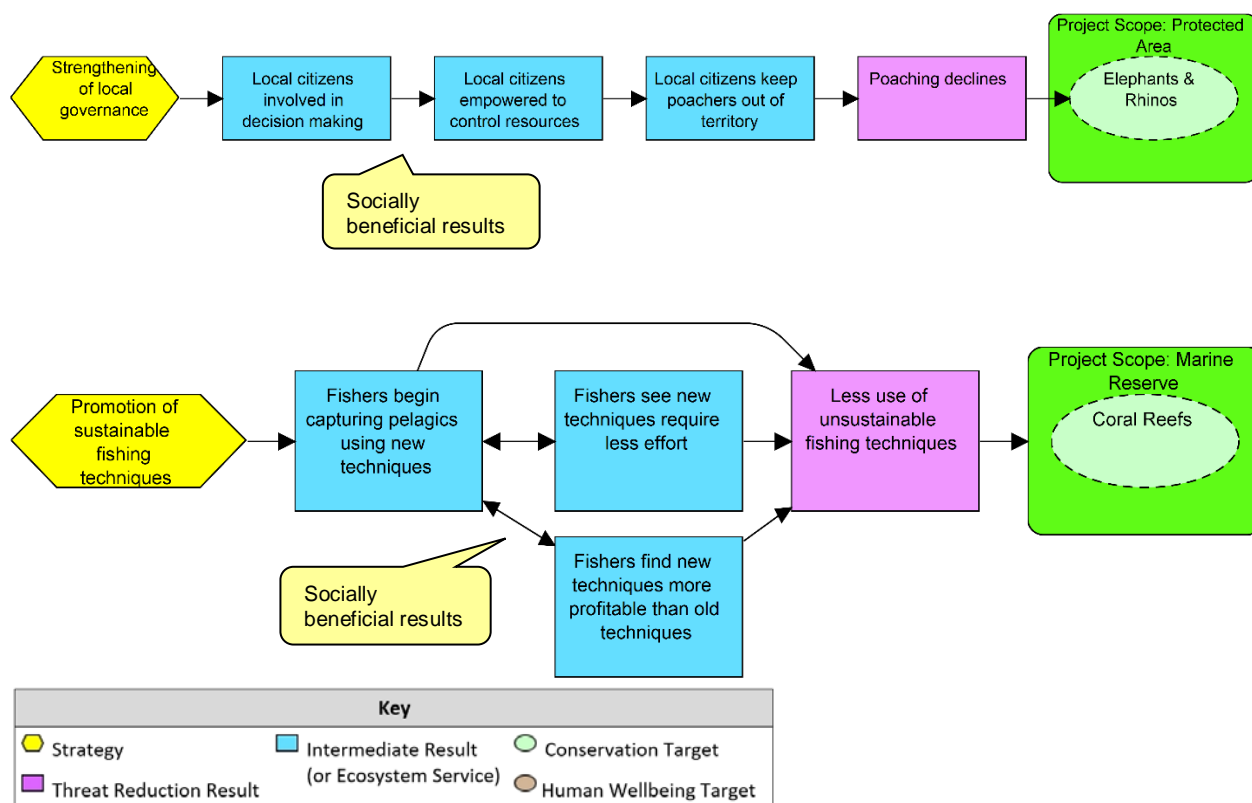
Examples of conservation strategies with socially beneficial results and benefits to human wellbeing via ecosystem services: (Cases B and C)

We could take the two examples above and show how they also contribute to human wellbeing targets, as shown in the figures below. A team could choose to end the chains at the conservation target (as above) or carry out the logic all the way to human wellbeing, depending on their needs and interests.

Figure 7. Examples of Conservation Strategies with Socially Beneficial Results and Benefits to Human Wellbeing via Ecosystem Services
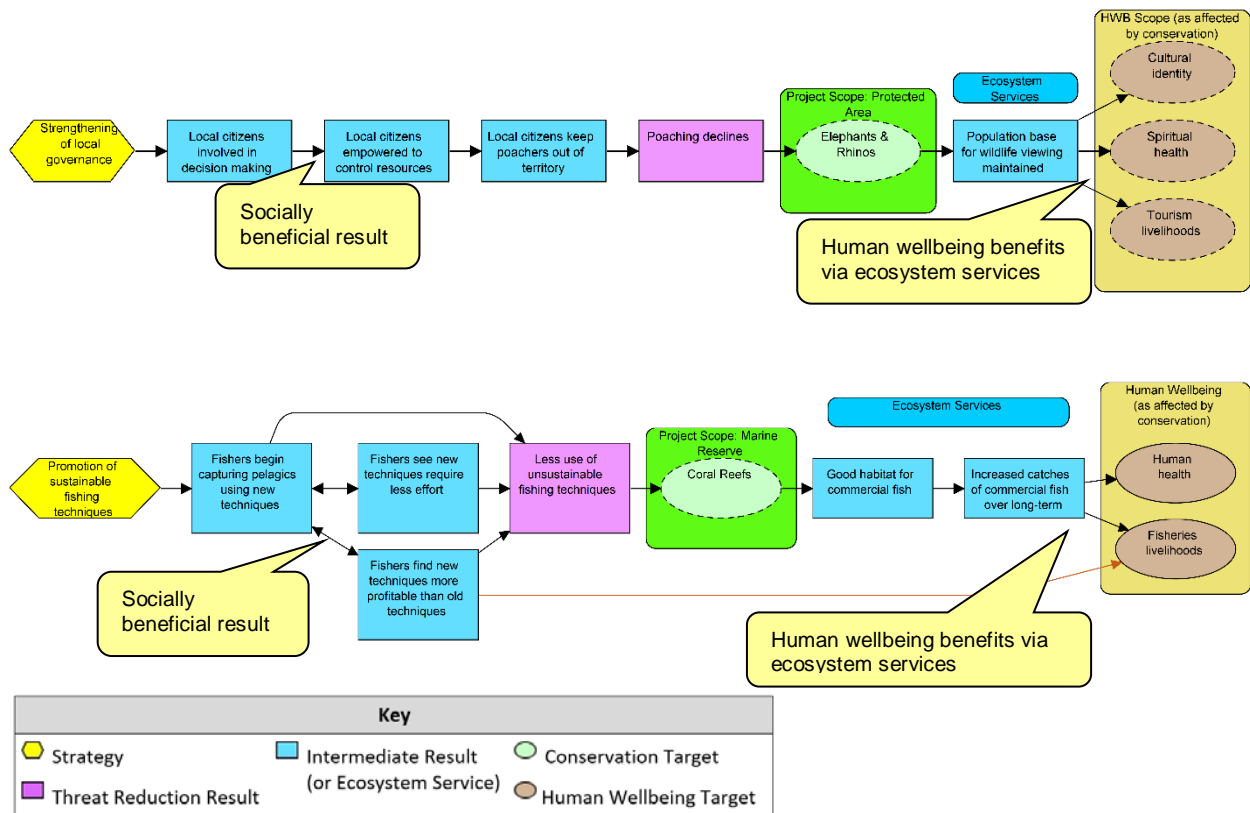
The following examples include conservation strategies that do not have obvious direct benefits to human beings, but they provide indirect benefits via ecosystem services.

Figure 8. Examples of Conservation Strategies with Benefits to Human Wellbeing Only via Ecosystem Services
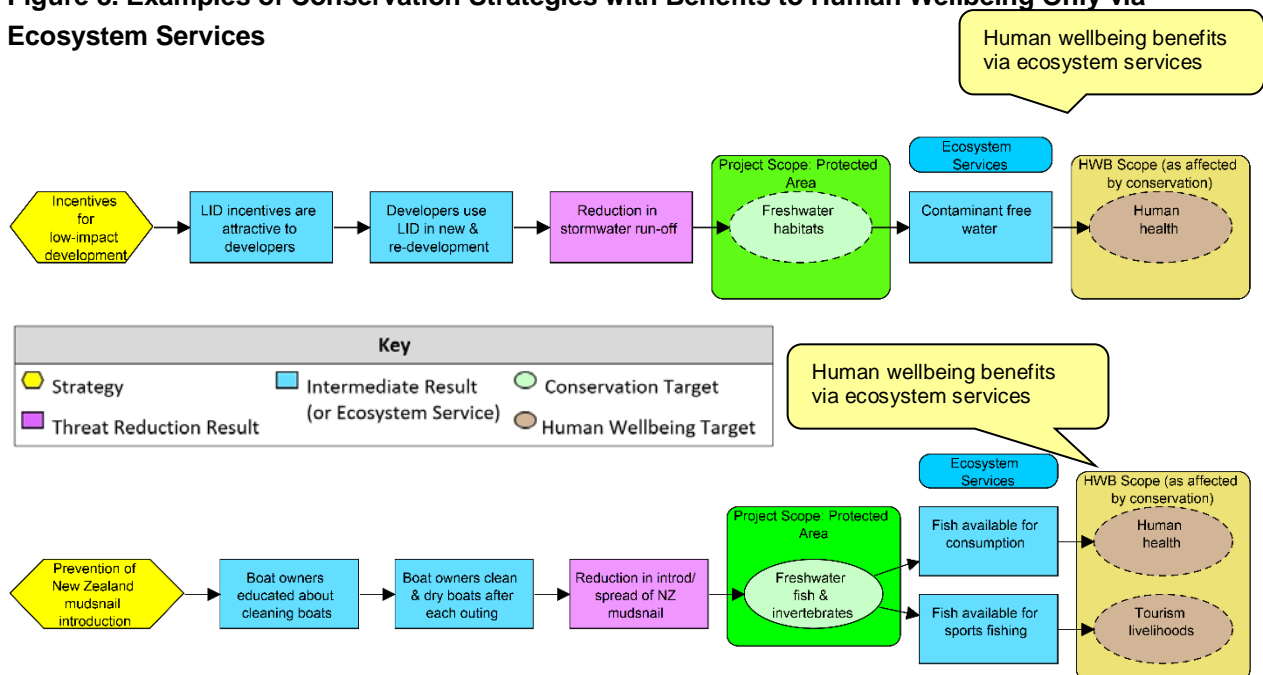
In the following example, there are human wellbeing benefits from ecosystem services, but one could also make the argument that decreasing residential development directly benefits agricultural livelihoods without going through the conservation target and ecosystem services. In this particular case, the benefit is ancillary or incidental to the conservation intent.

Figure 9. Example of Contribution to Human Wellbeing without Going through Conservation

4. Understanding Your Audience

This guidance focuses primarily on technical aspects for how teams can conceptualize conservation and human wellbeing linkages. It provides general guidelines, but teams should work to understand their audiences and beneficia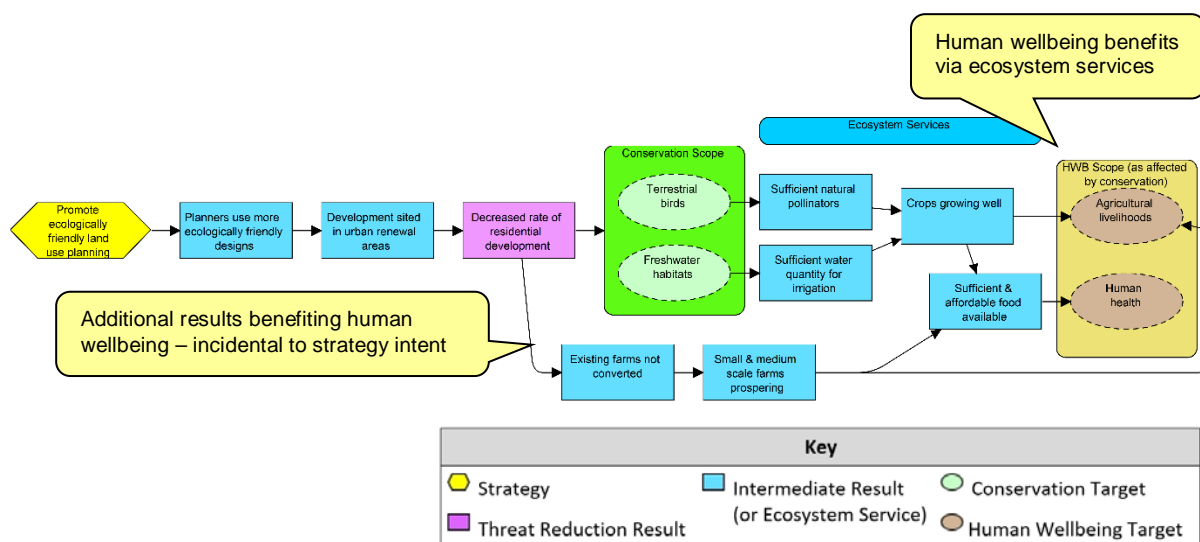ries, as well as what will resonate best with them. For instance, the working group that developed this guidance has learned that a diagram like Example A in Figure 10 implies to some audiences that conservation is the main aim and human wellbeing is an afterthought. We have also observed that some groups look at the same diagram and think it implies that human wellbeing is the ultimate goal. Either of these messages might be appropriate, depending on a team's audience. Therefore, teams should be flexible and adaptable to better understand what will resonate most with their constituents and audiences.

As an alternative, a team could consider presenting the same information in a different format, as in Example B in Figure 10. As with Example A, Example B can lead to varying interpretations, but perhaps it will resonate more for a particular group of stakeholders than Example A. There is no right or wrong decision here. Teams also can develop different communication tools (e.g., narratives, stories) that will best communicate their strategies and expected results to various audiences. The main point is that teams need to understand their audiences, and use and adapt the Open Standards tools in thoughtful, logical ways that will help relevant stakeholders buy into the broader process. Teams should remember, however, that whatever they share should accurately reflect their theory of change.

Figure 10. Alternative Ways to Present Same Relationships for Different Audiences
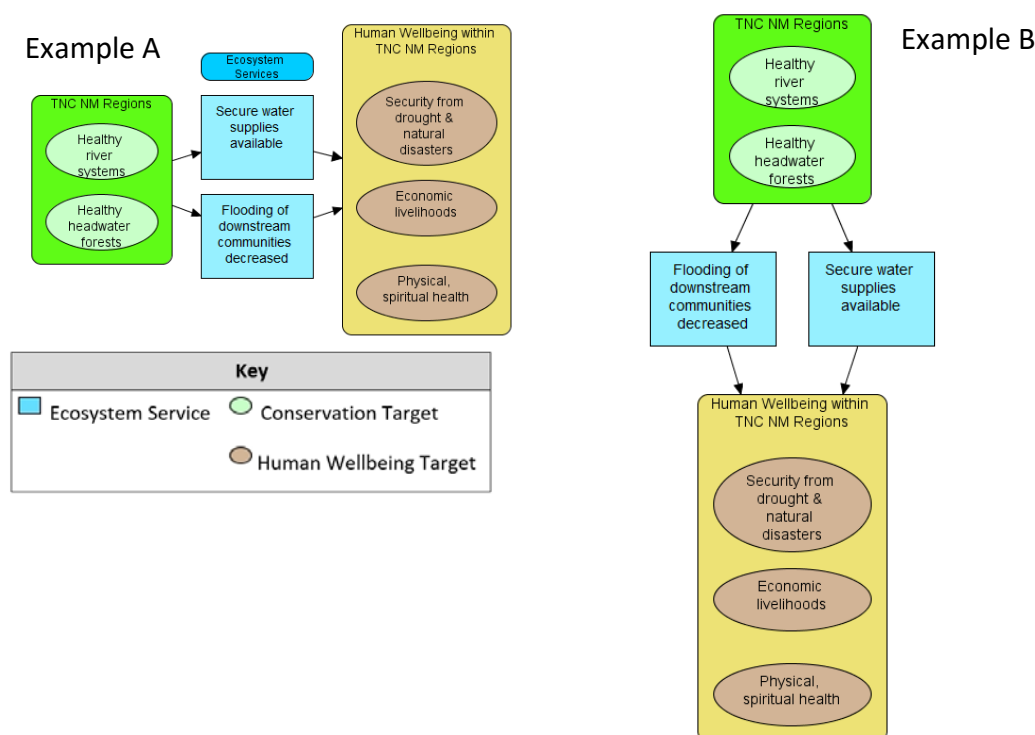
5. Developing Goals for Human Wellbeing Targets

Proposed Conditions for Goal Setting for Human Wellbeing Targets

The *Open Standards for the Practice of Conservation* were developed for those organizations and teams that have conservation as their **primary mission** and were not meant to address multi-aim development projects. Nevertheless, the *Standards* acknowledge that teams may want or need to clarify their contribution to human wellbeing and thus, identify human wellbeing targets. If a team does choose to set human wellbeing targets, then the *Standards* recommend that the team should set goals for these.

However, whether it makes sense for a team to set human wellbeing goals will often depend on the circumstances under which it is operating. Given that goal setting and associated monitoring increases the team's accountability, project costs, and complexity of the process, teams should carefully consider whether to set goals and the trade-offs for not setting goals. Here we provide some conditions to help teams make that critical decision and the implications it has for project design.

A team should set human wellbeing goals if:
- It is required to demonstrate that conserving biodiversity provides ecosystem services which benefit humans – this requirement might be statutory or linked to funding;
- The organization to which the team belongs has a higher level mission and/or goals and objectives related to human wellbeing (e.g., some sustainable use protected areas have explicit missions to improve wellbeing of human communities while conserving biodiversity);
- Stakeholders involved in the process want or need to see change in human wellbeing (and will not be satisfied with simply showing the conceptual linkages);

- It has a scientific interest in explicitly testing whether conservation of biodiversity and delivery of ecosystem services improves human well-being
- It can increase support for its efforts and broaden its conservation impact by measuring human wellbeing benefits;
- Failure to set human wellbeing goals will undermine its ability to achieve its conservation goals; and/or
- It has the resources to invest in setting and monitoring goals for human wellbeing.

In most cases, a team should <u>not</u> set human wellbeing goals if:
- Stakeholders involved in the process have an interest in human wellbeing, but they are comfortable with just understanding the conceptual linkages between biodiversity conservation and human wellbeing;
- It does not have funding or legal requirements to show human wellbeing impact;
- It is working with a narrow group of stakeholders whose main interest is biodiversity conservation; and/or
- It has limited resources and setting and monitoring human wellbeing goals would compromise its ability to implement its project well and monitor biodiversity results.

If a team does not set goals for human wellbeing targets, does that mean it does not care about human wellbeing or think it is less important than biodiversity? Absolutely not. This goes back to the question of whether the team's main emphasis is biodiversity conservation (but it still cares about human wellbeing) or whether it is human wellbeing (again, the team might still care about biodiversity). Working under the assumption that a team's main emphasis is biodiversity conservation, teams should be careful not to spread resources too thinly and risk diluting conservation aims. If a team sets goals for human wellbeing, then it is implying that it will measure them and, to some degree, hold the team accountable for improving human wellbeing. Thus, teams need to consider what is most appropriate for their situations.

Morro Bay, California, USA
Photo courtesy of Caroline Stem

Proposed Criteria for "Good" Human Wellbeing Goals

Drafting goals for human wellbeing targets is probably best done in a process parallel to setting goals for biological targets, although different stakeholders may be involved. The final set of goals should clarify how a team believes human wellbeing benefits from biodiversity conservation and associated ecosystem services. Central to this is the question of whose human wellbeing a team is aiming to affect. As an example, suppose a team is developing a

human wellbeing goal for livelihoods linked to shrimp fisheries. The shrimp is currently trawled by fishermen from outside the region and processed in foreign factories. When setting a goal, the team needs to consider if and how to deal with benefits that accrue to people outside the area, possibly in other countries and what this means for stakeholder representation in the participatory process. It also needs to decide if and how to consider future generations. In general, it is important for the team to clarify early on whose human wellbeing the project intends to affect or can reasonably influence. It will also be important for the team to understand if their project may negatively affect some stakeholders and understand the implications of that possibility.

By laying out the causal relationships in a results chain format, a team has taken the first step in defining human wellbeing

Local fruits, Bali, Indonesia
Photo courtesy of Guillermo Placci

benefits and, thus, what goals make sense in the context of a conservation project.

When developing human wellbeing goals, it is important not to confuse them with short-term outcomes from a socially-beneficial strategy (see Section 3) or with non-ecosystem related goals for human wellbeing. The following criteria help teams overcome this confusion.

A good human wellbeing goal should meet all of the following criteria:
1) linked to a human wellbeing target
2) clearly identify the group(s) affected;
3) directly dependent on ecosystem services provided by conservation targets;
4) does not compromise the ability of conservation targets to adequately deliver any ecosystem service; and
5) time limited, measurable and specific (like conservation goals).

Using Key Attributes to Set Human Wellbeing Goals

As with conservation targets, it can be helpful to consider key attributes of human wellbeing targets when developing goals for them. Key attributes are aspects of a target that if present, define a healthy target and if missing or altered, would lead to the outright loss or extreme degradation of that target over time. Key attributes of human wellbeing can be quite broad and include aspects that fall well outside the domain of conservation. For example, a key attribute of human health could be access to good quality health care, and a key attribute for tourism livelihoods could be good marketing skills. If a team is working equally to achieve both conservation and human wellbeing aims, it is important to identify all *key* attributes.

In the context of a conservation project, however, key attributes should be linked directly to the ecosystem services humans can access. For the previous examples, access to potable water in sufficient quantity would be a key attribute of human wellbeing that is directly linked to an ecosystem service of water filtration and purification. Likewise, reliable access to natural areas/wildlife in good condition could be a key attribute of a tourism livelihoods target. The following table provides some additional examples of attributes that are dependent upon conservation and those that fall outside the influence of well-functioning conservation targets and the ecosystem services they provide.

Table 2. Examples of Key Attributes for Human Wellbeing Targets

| Human Wellbeing Target | Key Attributes | |
	<u>Within</u> Conservation Realm	<u>Outside</u> Conservation Realm
Forestry dependent livelihoods	• Supply of timber for forestry livelihoods	• Access to markets, right contacts* • Good business acumen*
Physical health	• Access to clean water in sufficient quantity • Access to clean air • Access to areas for recreation	• Access to good quality health care • Healthy circulatory system
Security from natural disasters	• Natural protection from flooding • Predictable water flows • Natural protection from wildfires	• Disaster-proof homes • Access to emergency services
Spiritual health	• Access to natural areas/ wildlife • Sense of place	• Ability to balance competing priorities • Good relationships with friends & family
Cultural identity	• Access to culturally-important animals • Access to sacred sites in good condition	• Strong oral history

* See clarification below

As a point of clarification for Table 2, a project may work to facilitate access to markets and the right contacts or to help develop business acumen as part of a conservation strategy to promote sustainable tourism. So, these "attributes" might show up as results needed to reduce threats (to the left of the conservation target in a results chain), but they are not attributes associated with ecosystem services (Figure 11). As such, a team might set objectives and indicators around them, but they would not set human wellbeing target goals for them.

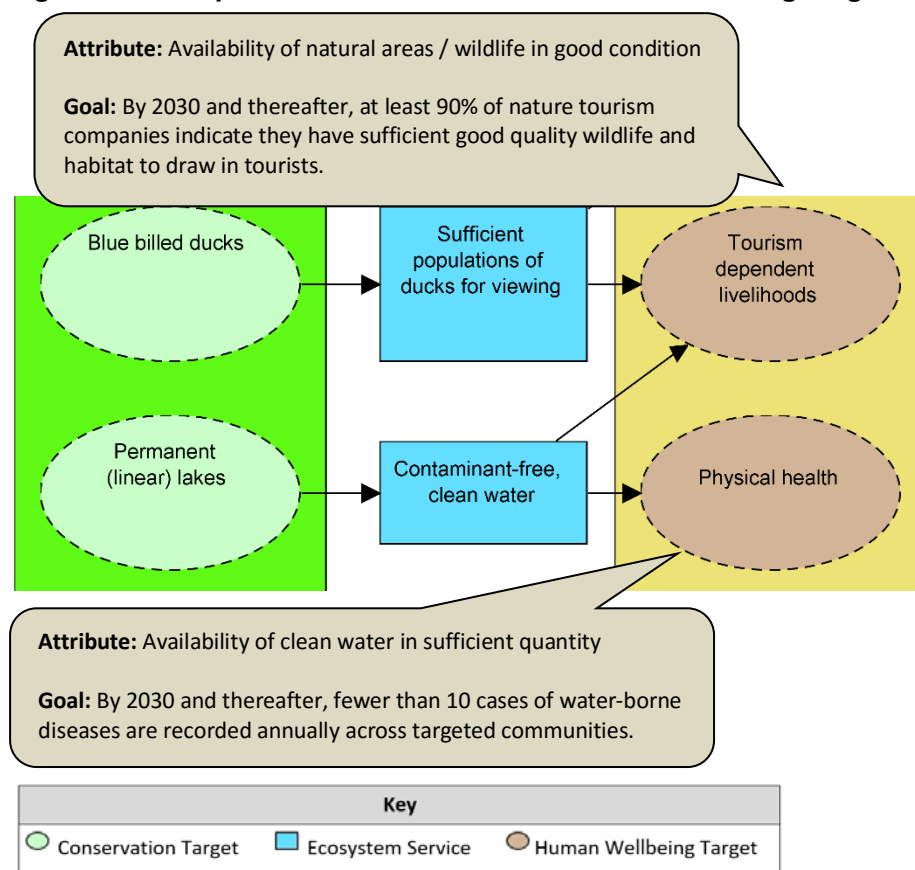**Figure 11. Distinguishing between Key Attributes of Human Wellbeing Targets & Indicators Associated with Social Results**
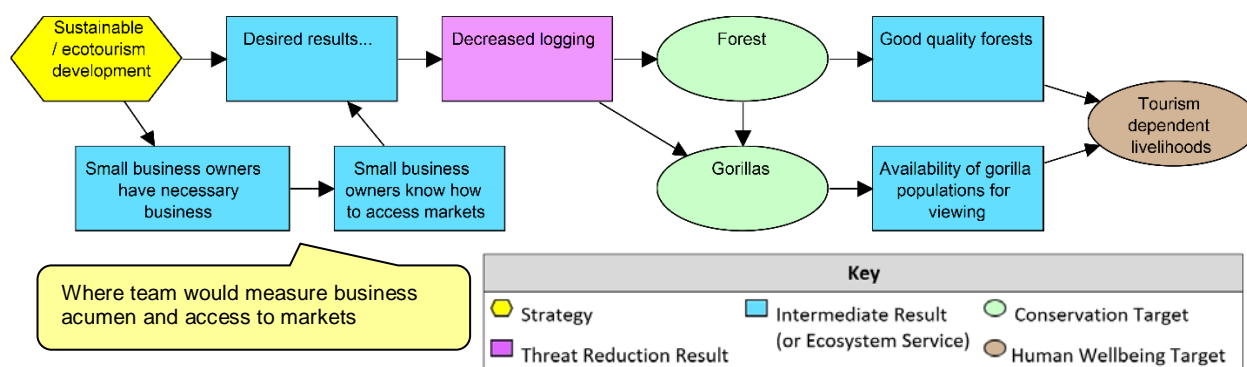
Key attributes can provide a framework for nesting aspects of human wellbeing under broader targets and can help teams be more specific about what aspects of human wellbeing benefit from the ecosystem services provided by functioning ecosystems, habitats, and species. As such, teams should make sure the wellbeing goal is based on a key attribute linked to an ecosystem service. In doing so, teams should be aware of potential tensions between maximizing human wellbeing goals and what that means for conservation and ecosystem services. For example, having enough water to keep a natural system functional and healthy is not the same as having enough water to satisfy the needs of commercial farmers or dense urban sectors. Keeping in mind the criteria for a good human wellbeing goal should help conservation teams set goals that are directly related to their conservation efforts.

Ideally, the goal should be focused and express the ability to access a particular ecosystem service because broader goals often go beyond the realm of what can be reasonably influenced by conservation efforts. For example, in Figure 12, the team might set a goal of: "By 2030 and thereafter, at least 90% of nature tourism companies indicate they have sufficient good quality wildlife and habitat to draw in tourists." This goal is clearly within the realm of influence of a conservation project because it is directly tied to the ecosystem services of "sufficient populations of ducks for viewing" and "contaminant-free, clean water." The attribute is also tied to the ecosystem service and an important aspect of tourism dependent livelihoods. Alternatively, a team could set a goal, such as: "By 2030 and thereafter, the number of nature tourists visiting the area increases by at least 25%, as compared to 2010 levels." Achieving this goal, however, requires that several assumptions outside the realm or influence of a traditional conservation project must hold. For example, the goal assumes a sufficiently strong economy, infrastructure for tourism is in place, and the absence of war, disease, or other hazards that would discourage people from visiting the area. We recommend that teams set goals that are clearly tied to and dependent upon an ecosystem service. If, however, a team does set broader goals, it should clarify its assumptions, either as written text or graphically. Ideally, it would also monitor these external assumptions to be able to more clearly establish attribution.

Figure 12. Example Goals and Attributes for Human Wellbeing Targets

Attribute: Availability of natural areas / wildlife in good condition

Goal: By 2030 and thereafter, at least 90% of nature tourism companies indicate they have sufficient good quality wildlife and habitat to draw in tourists.

Blue billed ducks

Sufficient populations of ducks for viewing

Tourism dependent livelihoods

Permanent (linear) lakes

Contaminant-free, clean water

Physical health

Attribute: Availability of clean water in sufficient quantity

Goal: By 2030 and thereafter, fewer than 10 cases of water-borne diseases are recorded annually across targeted communities.

Key

○ Conservation Target   ▢ Ecosystem Service   ○ Human Wellbeing Target

# 6. Developing Indicators for Ecosystem Services

If a team has identified ecosystem services and wishes to monitor whether those services are improving, it will need to select a set of indicators. Because a healthy, functioning conservation target provides ecosystem services, we could make the argument that indicators for ecosystem services can also be indicators of conservation target health. The Millennium Ecosystem Assessment (2005) supports this rationale, stating that ecosystem services are characteristic for a functioning ecosystem and that people judge the status of an ecosystem by its ability to provide them. Thus, a good place to start thinking about potential indicators for ecosystem services is to look at a team's indicators for its conservation targets. Keep in mind, however, that not all indicators of conservation target health are indicators of ecological services.

We can think of two main steps for identifying indicators for ecosystem services: 1) Review existing conservation target indicators (typically identified in the viability assessment step) to determine if they are suitable for measuring ecosystem services; and 2) Identify new indicators not already covered under the conservation targets.

1) Review conservation target indicators: As a rule of thumb, teams should not do more monitoring than needed for good management decisions. Thus, if a project has an indicator that can work for both conservation target and ecosystem services purposes, it should use that single indicator. For example, suppose a project has a conservation target of pelagic fish species and an indicator of abundance of specific tuna species. An ecosystem service provided by well-conserved pelagic fish target is a sufficient stock that could be harvested

and consumed by humans. As shown in Figure 13, the indicator for that stock (ecosystem service) would be the same as the indicator for the conservation target (i.e., abundance of specific tuna species).

Figure 13. Example of Indicator Relevant for Ecosystem Service and Conservation Target
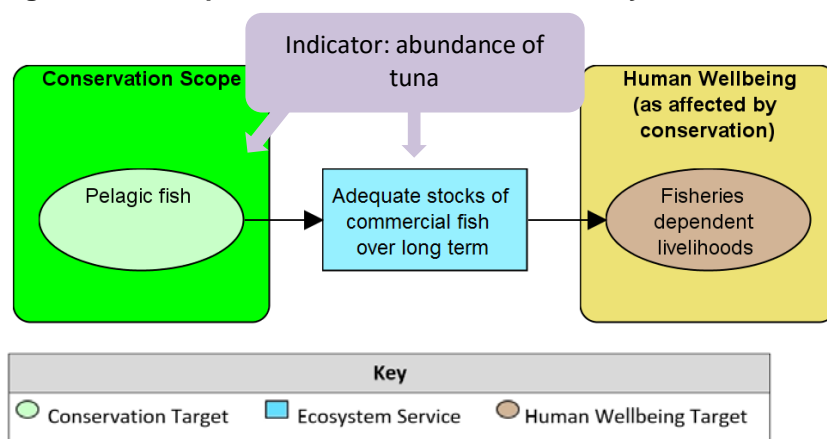
In some cases, a team may find that the ecosystem service provided by a conservation target is better reflected in an indicator for another target. For instance, if a project aims to conserve forests, those forests may play an important filtering service that results in clean water. The team may find it easier to measure the ecosystem service by water quality indicators tied to a river conservation target, not a forest conservation target (Figure 14).

Figure 14. Example of Indicator Relevant for Ecosystem Service and a Non-Linked Conservation Target
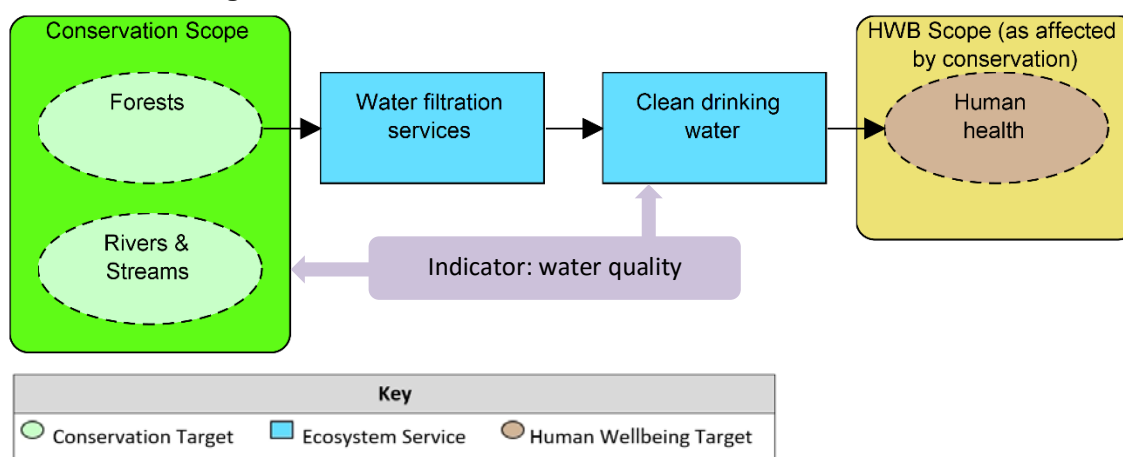
2) Identify new indicators not covered under the conservation targets: For those ecosystem services that need but do not yet have an indicator, the team can select additional indicators. The team may find that some conservation targets provide important ecosystem services that are not critical to the conservation target's health. For example, as shown in Figure 15, bats and birds provide important pollination services for agriculture, but these services are not critical to the bats' and birds' health and would not come up during a viability assessment. In this case, the indicator might better fit tied directly to the ecosystem service or even tied to the human wellbeing target.

Figure 15. Example of Indicator Relevant for Ecosystem Service and Human Wellbeing Target
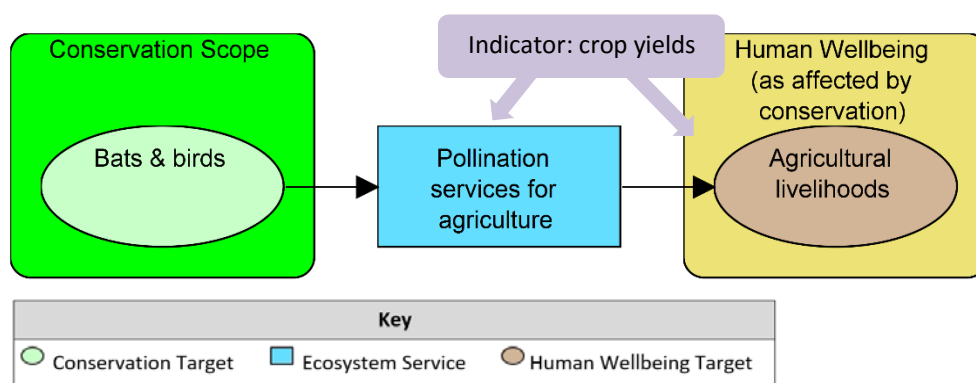
Once the team has selected any additional indicators not covered under the conservation targets, it should revisit its conservation target indicators and determine if any could be replaced with the ecosystem service indicators, without losing the ability to adequately assess the conservation target's health. The aim here would be to keep the total number of indicators manageable.

Implications for threat ratings: When a team rates threats to conservation targets, it normally assesses the impact of the threat on the health of each conservation target affected. If the team has linked its conservation targets to human wellbeing via ecosystem services, then it could also consider the impact of the threat on the conservation target's ability to provide identified ecosystem services. Doing so might help certain actors fully understand the impact of a particular threat on human wellbeing because it can emphasize the relevance of that threat to people. For example, some people might not be so concerned about an invasive species. But, once they understand that the invasive species is negatively altering the quality or quantity of water available for human consumption, then they will care a lot more. Likewise, if a team determines it is centrally important to their project to ensure a key ecosystem service (e.g., good quality water in sufficient quantities) for those falling within the human wellbeing scope, team members can have this in mind as they do their threat rating. For example, are some threats more likely to affect the quantity and/or quality of the water, and if so, how severe is that impact likely to be?

7. Showing Trade-offs, Feedback Loops, and Unintended Consequences in Results Chains

Defining Trade-offs, Feedback Loops, and Unintended Consequences

When trying to clarify how conservation strategies impact conservation and/or human wellbeing, project teams generally try to illustrate the expected positive impacts of their strategies. Unfortunately, not all strategies have exclusively positive impacts for both conservation and human wellbeing targets. Therefore, in results chains, it can be useful to show the likely outcomes – both positive and negative. The results chains can help teams be clear about what they expect and also explicitly acknowledge if some results or objectives are higher priority than others and, therefore, may warrant the acceptance of some negative outcomes. They also help teams explicitly consider social safeguards – in other words, teams can identify if there are ways to prevent or mitigate harm to humans that may come from implementing conservation strategies (while also balancing the need to achieve conservation goals and objectives).

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Teams should consider these potential positive and negative outcomes when designing any conservation strategy. Positive and negative outcomes are not exclusive to those situations in which a team is concerned about both conservation and human wellbeing targets (e.g., different conservation targets can have trade-offs). Nevertheless, they are probably more commonly seen in those situations because teams are trying, to a certain degree, to fulfill goals that can conflict with one another either directly or at least in the near term.

We can think of three situations which might not be portrayed in a standard results chain that outlines how a team believes its strategy will lead to conservation impact. These situations involve trade-offs, feedback loops, and unintended consequences. We define each of these below.

Feedback loops illustrate how an event or result in a chain loops back into a system, either reinforcing and amplifying the relationship (positive feedback) or dampening the relationship (negative feedback). As an example of a positive feedback loop, a team encourages fishers to use alternative gear that reduces bycatch and improves overall fishing effort. The fishers see that they are getting the same catch for less effort, improving the quality of their work situation. As a result, they feel more vested in the alternative gear and continue to use it. They may even bring in other friends, thus amplifying the impact of the alternative gear strategy. One might see a negative feedback loop in the same situation if the fishers found that the gear was too difficult to use and did not improve overall fishing effort. They have a negative experience with the gear, and they are less likely to continue to use it. Additionally, they may even discourage other fishers from using the gear, creating a spiral of declining adoption

An **unintended consequence** is a result that was not envisioned as part of the original action or strategy. It can be positive or negative, though it typically carries a negative connotation (also known as a "negative impact"). A feedback loop could contain an unintended consequence, but unintended

Massai dancing, Ngorongoro, Tanzania
Photo courtesy of Guillermo Placci

consequences are broader and could stray outside of the feedback loop. An example of an unintended consequence can be seen in a situation where a project team implements a strategy to increase income and reduce reliance on forestry products, but they see that some people are using their additional income to invest in cattle, which results in forest clearing for

cattle grazing. Some teams have developed approaches to assess potential risks and negative impacts. Such risks and negative impact can directly and negatively affect the nature and people we care about, they may jeopardize the project success, and they are often difficult and costly to repair. Thus, it is essential to assess them *ex-ante* (i.e. in the planning phase of a project), plan accordingly, and develop mitigation or prevention actions (see Appendix B for a simple, cost-effective approach).

Finally, a **trade-off** involves a situation where one aspect (or result) is favored at the expense or partial expense of another. It implies a decision is made with an understanding of the costs and benefits. So, for example, a conservation project might advocate for the protection of a particular bird's nesting site. As a result, tourists and community members are not able to visit the nesting site. People might feel a decline in wellbeing because they cannot enjoy viewing the bird (a cultural ecosystem service). Despite this short term cost, if the nesting site is one of the last remaining sites for this species, then the team may determine that they must protect it for conservation purposes and in the long run for the benefit of the people.

Implications for Displaying Complex Interactions between Biodiversity Conservation and Human Wellbeing

In general, project teams should consider potential consequences, trade-offs, and feedback loops when planning and monitoring their projects – and what social safeguards they may be able to put into place. Although the distinctions among these three situations are conceptually important and can help teams brainstorm potential scenarios, it is less important to correctly classify what situation a team is addressing in its project. The more critical issue is to ensure that the team adequately captures the *likely* scenarios in its results chains. As a point of guidance, a team should only include these scenarios when it feels that there is a high probability of seeing trade-offs, feedback loops, or unintended consequences and that the team should be monitoring them to know if they are influencing the project's results. When trying to identify potential scenarios, it is helpful to think about key stakeholders (refer back to your work on identifying whom you are trying to influence) and also to develop maps to help visualize possible impacts.

If you are following the Open Standards process, you should be thinking about any unintended consequences or potential negative impacts *before* you implement your project. Doing so will help you determine if you should still implement the strategies you have identified and/or if you should have any supporting strategies to ensure the success of prioritized strategies.

Fisher community, Mindanao, Philippines
*Photo courtesy of Guillermo Placci*

Even if you are starting to use the Open Standards in mid-implementation, it is useful to give thought to unintended consequences and negative impacts to determine if you should be adjusting (or even abandoning) strategies already in implementation.

Scenario: Legal Enforcement of Fishing Restrictions
When a strategy involves limiting access to specific resources, human wellbeing may be negatively affected for some community members (e.g., decreased income, loss of social cohesion, reduced access to food sources). If not addressed, the associated short-term transition costs can potentially jeopardize the intervention and/or reduce its legitimacy. In order to help teams understand these potential consequences and their implications, it is useful to illustrate them when laying out assumptions in a results chain. The team should consider these consequences and think of options to address them. Such options may include simply involving key resource users in the planning process so that the team understands their concerns and so that the resource users understand the potential benefits, and the two groups can work together to determine the best path forward. Another option could include planning a new strategy or activity to help offset or limit the impact of key stakeholder losses.

The results chain in Figure 16 shows a situation where legal enforcement reduces illegal fishing and provides longer term access to harvested stocks, allowing future users to derive a sustained income. It also shows how the strategy could negatively affect livelihoods over the short-term (temporal trade-off) and cause fishers to engage in other illegal practices (an unintended negative feedback loop).

Figure 16: Law Enforcement Strategy with No Supporting Strategy
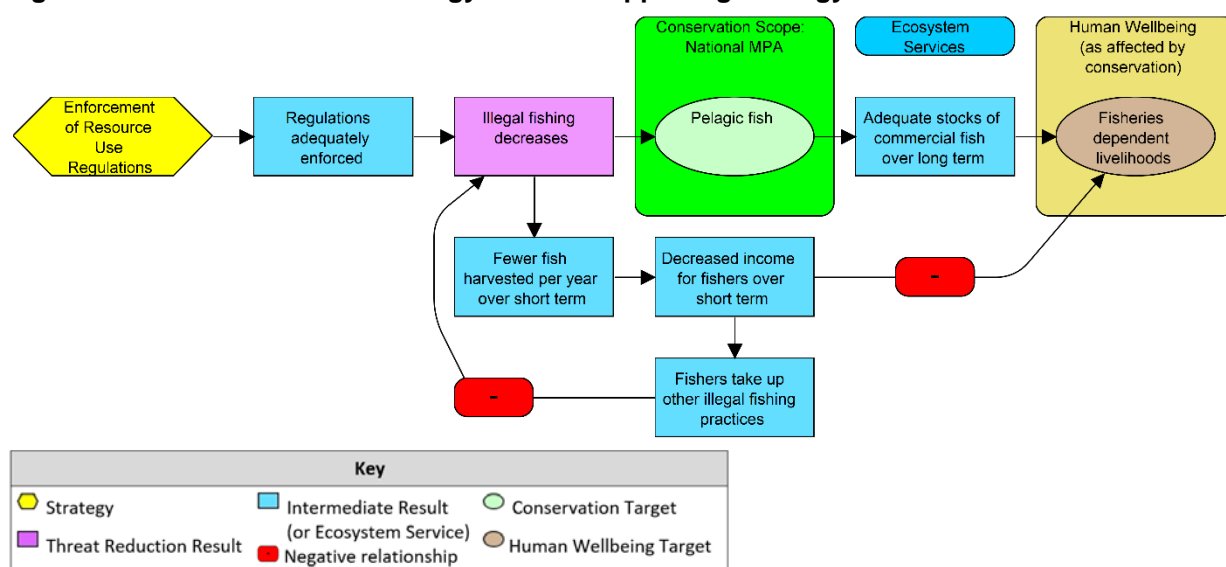
Note: If using Miradi, one can create a red text box and hover it over the line that connects the 2 results where there is a negative relationship

In Figure 17, the results chain shows how an additional strategy may help address the transition costs associated with the temporal trade-off to enable future generations to benefit from using the resource. In this case the new strategy involves the processing and marketing of sustainably harvested fish to offset the short-term loss from restrictions on illegal fishing.

Figure 17: Supporting Strategy to Aid in Transition Period for Enforcement Strategy
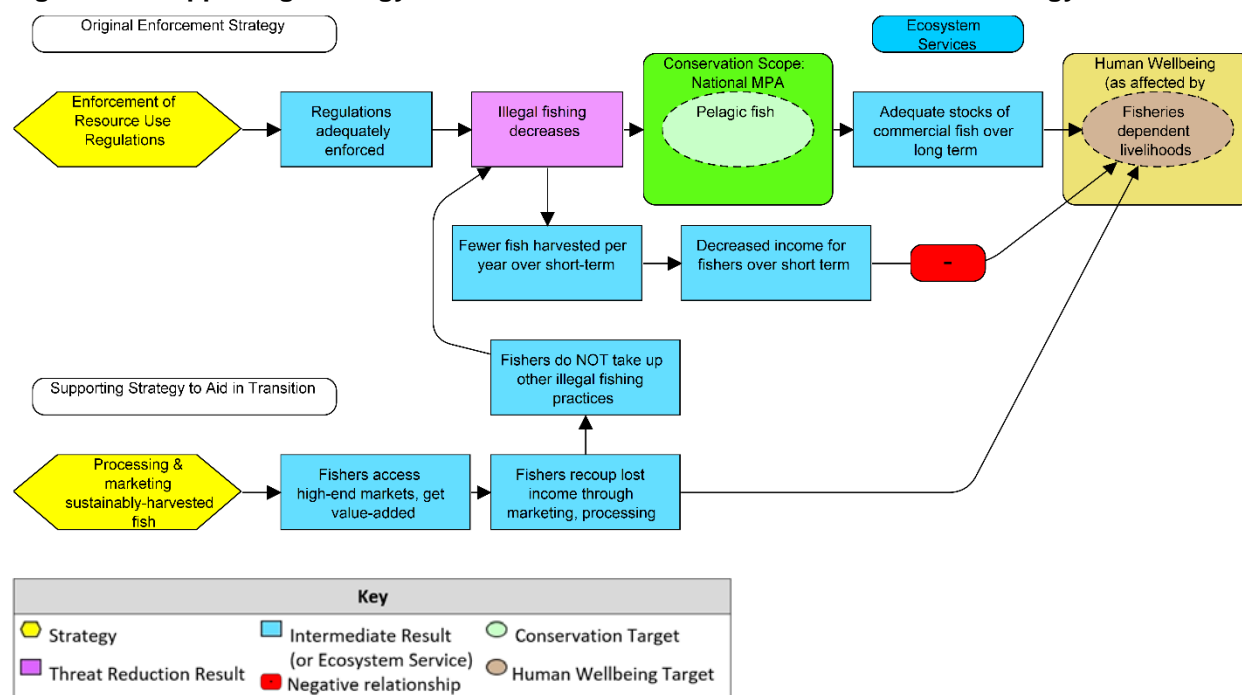
Keep in mind that feedback loops and unintended consequences can also be positive, as shown in Figure 18. However, we do not recommend any different annotation to show those relationships, as the general intent of results chains is to illustrate the expected (and therefore positive) results from a strategy. Again, the general guidance is to only show these relationships when there is a high likelihood they will occur, and the impact will be significant. Obviously, this is subjective, and will require judgment calls on the part of the team.

Figure 18. Example of an Unintended or Ancillary Positive Consequence
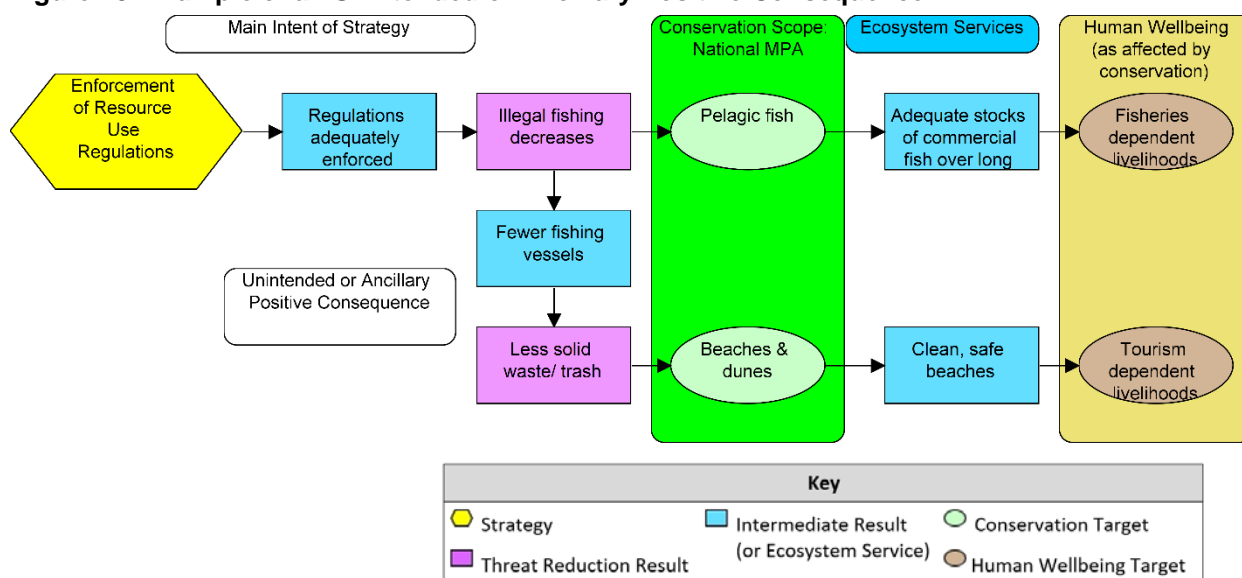
Additional Examples

Here are a few examples to provide teams with more ideas of how feedback loops, unintended consequences, and trade-offs can be shown in different situations. Recognizing potential negative or unexpected outcomes can help teams develop stronger projects, but **it is important to only show those situations with a high probability of occurring**. Teams risk losing the communications power of results chains and conceptual models when they try to make them overly comprehensive.

Figure 19 is based on a real-world example where a team was trying to improve harvesting and management practices of Brazil nut forests. As the team started laying out their chain, they realized that it was quite possible that higher income would encourage some harvesters to buy cattle – a typical investment strategy among Latin American rural populations. If that unintended consequence were to happen, there would be more conversion of forest, not less. By showing this in a results chain, the team could be aware of that possibility and could be monitoring closely to see which path better reflected what really happened.

Figure 19. Example of an Unintended Negative Consequence in a Tropical Forestry Situation
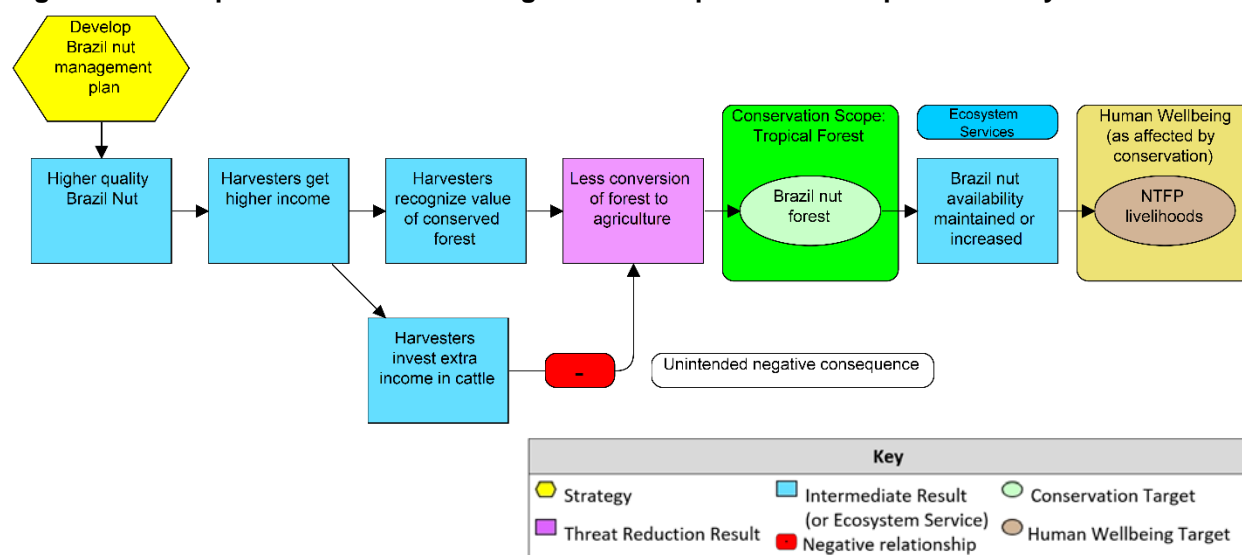
Figure 20 provides another example of an unintended negative consequence. In this case, the team anticipated that enforcement of anti-poaching laws would decrease poaching for tusks and horns, but they also recognized that poachers could simply start hunting bushmeat to continue to earn an income. In terms of showing this in a results chain, they could have illustrated that potential negative consequence and left it at that. In this case, however, they added a strategy to counteract the potential that hunters would switch species and decided to show that in the results chain.

Figure 20. Example of an Unintended Negative Consequence in a Species Conservation Situation[3]
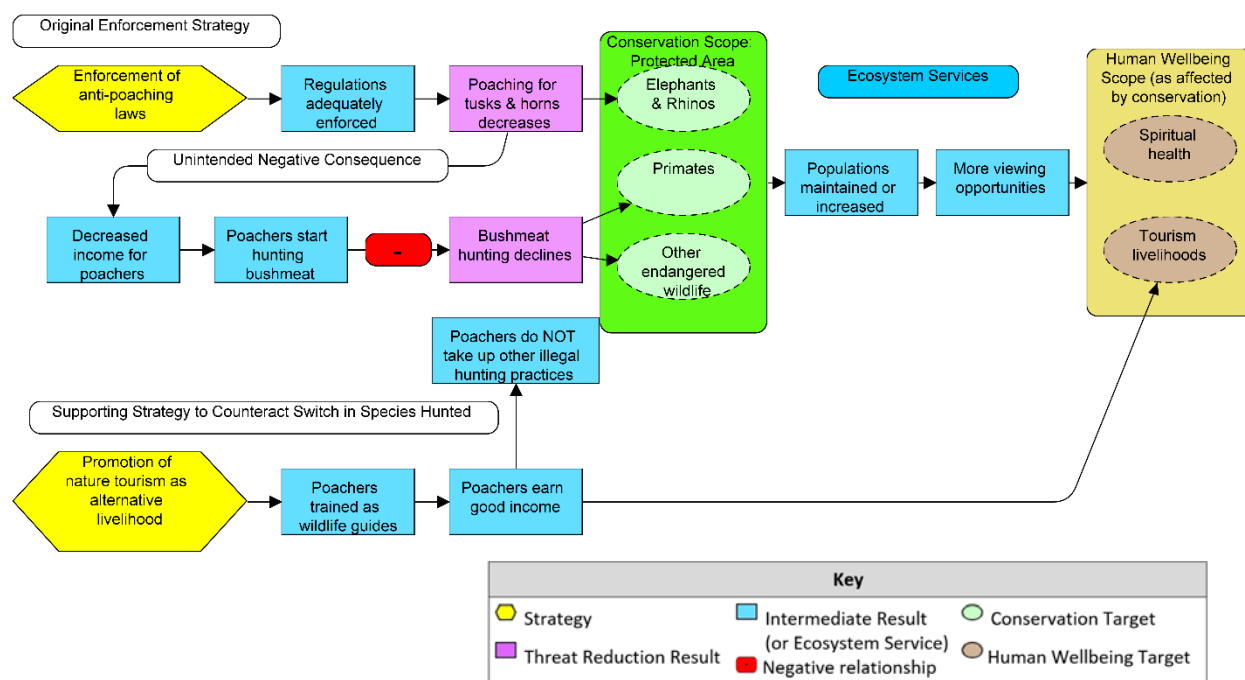
Figure 21 shows an example of a strategy to remove non-native trout that had been introduced to lakes and streams decades ago in order to attract fishers to the region and support the local tourism economy. By removing these non-native trout, the team expects an economic trade-off due to decreased recreational fishing opportunities. At the same time, there could be a positive impact on tourism livelihoods because the native cutthroat trout is an important source of food for eagles, grizzly bears, and other wildlife that tourists are interested in seeing.

Figure 21. Example of a Trade-Off in a Mountain Freshwater Ecosystem

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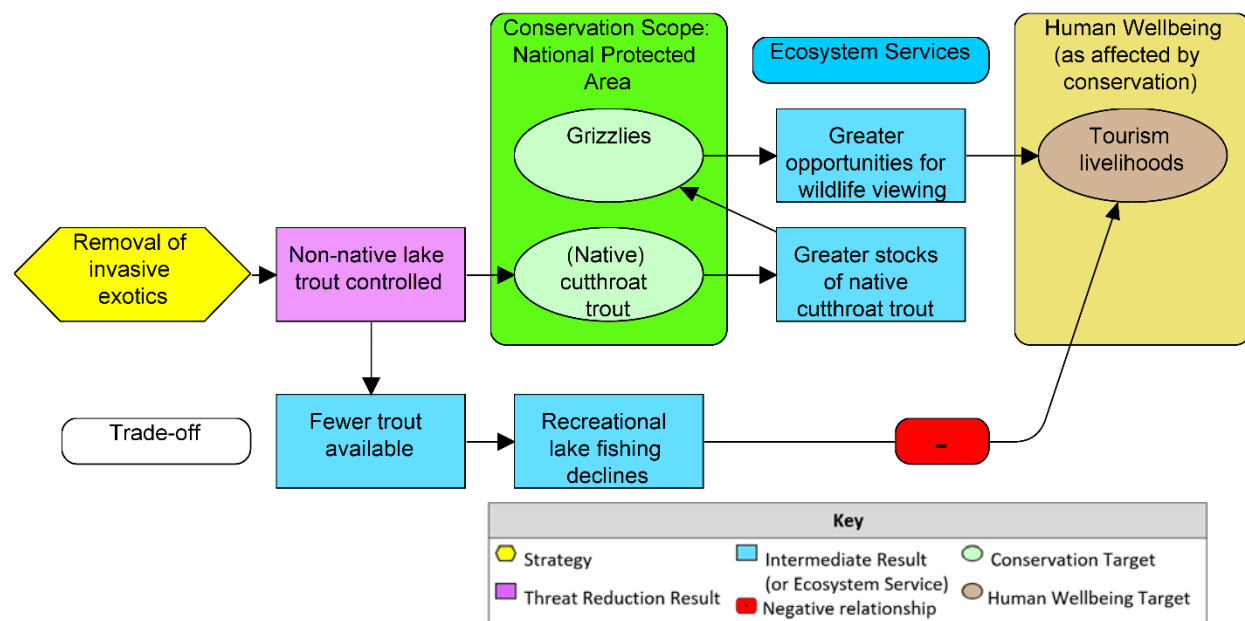
[3] In its purest definition, feedback loops are positive if they strengthen a relationship and negative if they detract from a relationship. In this figure, we use a looser, easier-to-understand interpretation in which a positive feedback loop creates a desirable condition, and a negative feedback loop creates an undesirable condition.

Finally, some teams may want to show that contributing to human wellbeing targets can also positively or negatively influence the ability to achieve conservation results. This is possible and technically correct, but we re-emphasize the importance of only showing the most important relationships and those that have a high probability of occurring. The power of results chains and conceptual models lies in their ability to communicate simply and clearly what a team is trying to influence and how it intends to do so. If, with these considerations in mind, a team still feels compelled to show those relationships, Figure 22 provides an example of how to do so.
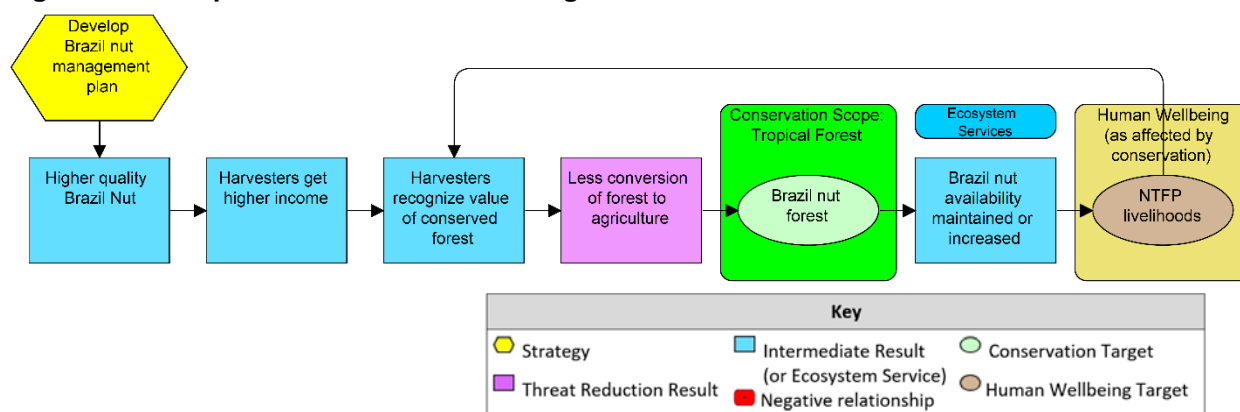
Figure 22. Example of How Human Wellbeing Could Feed Back and Contribute to Conservation

8. Defining Cultural Targets

Some teams work in areas of significant cultural importance or with populations that have deep cultural roots that are closely intertwined with nature. There are also some landscapes in which the current configuration, function, and dynamics of change have been the result of thousands of years of interactions of nature and people, and where cultural components have become part of the ecosystems. It can be a bit confusing figuring out how to portray and plan for these situations under the Open Standards. This section proposes an approach that follows the guidance laid out in this document but also interprets the Open Standards under a slightly broader lens. In essence, it lays out two types

Palenque, Mexico
Photo courtesy of Guillermo Placci

of "cultural targets:" tangible and intangible. When considering cultural targets, teams should be clear about why they are addressing them (e.g. Is their project area a working/cultural landscape? Is it an IUCN Category V protected area? Are there clear linkages between cultural features conservation and biodiversity conservation?), as well as what will resonate with their audiences. For alternative approaches to considering cultural targets, see Appendix A.

Tangible Cultural Targets

Tangible cultural targets are physical elements or spaces that are seen as culturally significant or important. Examples include archaeological sites, temples, ruins, sacred groves, and burial grounds. Using a broader lens, these could be considered special types of conservation targets because, for the most part, they share similar threats and require similar or synergistic strategies. For example, an ancient temple might be threatened by residential development and unsustainable tourism – threats that also affect the forest surrounding the temple. Any conservation strategy to abate residential development and unsustainable tourism will also benefit the temple. However, teams should be aware that there are some strategies that are more specific to cultural targets (e.g., historical restoration) that may involve decisions of where to prioritize resources. While this layout works fairly well conceptually, it can get quite messy if a team tries to include tangible cultural targets in a threat rating with standard conservation targets, so the general advice is not to do so. However, as mentioned several times throughout this document, a team will have to gauge what will work for its audience.

Figure 23. Tangible Cultural Targets as Special Type of Conservation Target
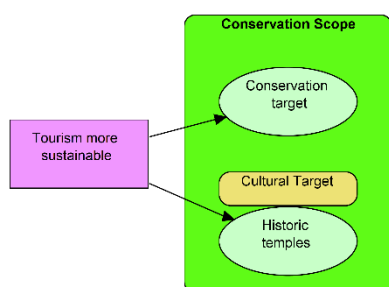
Intangible Cultural Targets

Intangible cultural targets include those elements of culture that are not material or cannot be physically touched or observed. Examples include cultural identity, cultural or traditional knowledge, cultural practices, cultural or traditional skills, and cultural cohesion. Following the original version of this guidance, these cultural elements have been treated as human wellbeing targets. They benefit from ecosystem services (including but not limited to cultural services) provided by conservation targets and/or tangible cultural targets. Figure 24 builds off of Figure 23 to include ecosystem services and human wellbeing targets, including an intangible cultural target, "cultural identity."

Figure 24. Tangible and Intangible Cultural Targets
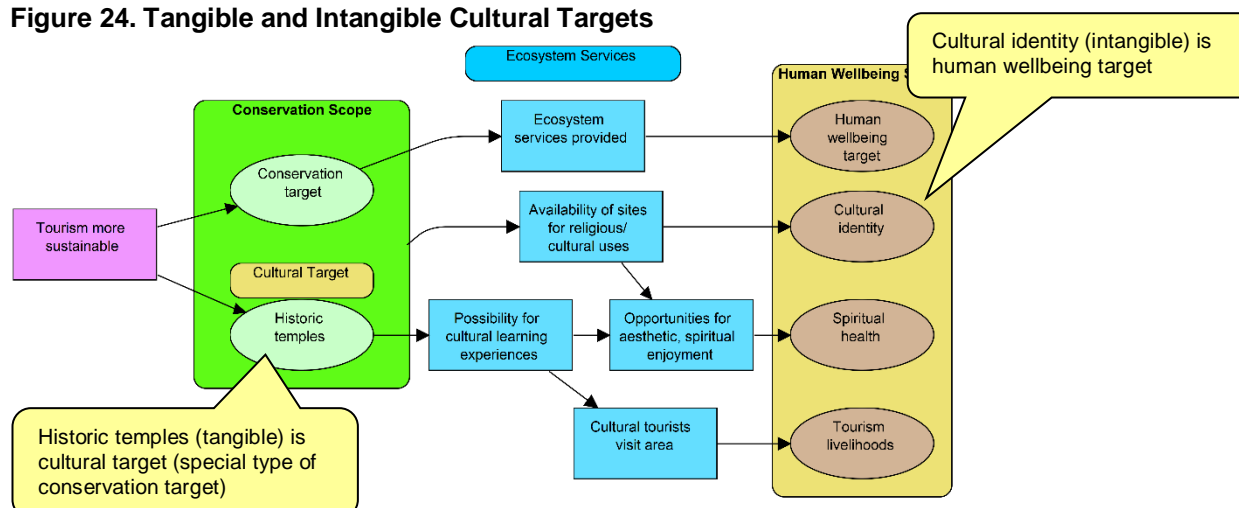
Displaying Culture as Factors, Results, and/or Targets

If a team is including intangible cultural targets in their models, it can be confusing how or where to include factors that threaten those intangible cultural targets. Take, for instance, Figure 25. This excerpt shows how the loss of cultural identity acts as an indirect threat to conservation because traditional knowledge is not passed on and youth are not serving as stewards. However, a team could also think of this as a direct threat to the human wellbeing target, cultural identity – which, indeed, it is. It is up to the team whether they want to make this relationship more explicit. They could decide to draw an arrow from "loss of cultural identity" on the left-hand side over to the human wellbeing target of "cultural identity."

Figure 25. Conceptual Model Extract Showing Loss of Cultural Identity as a Factor
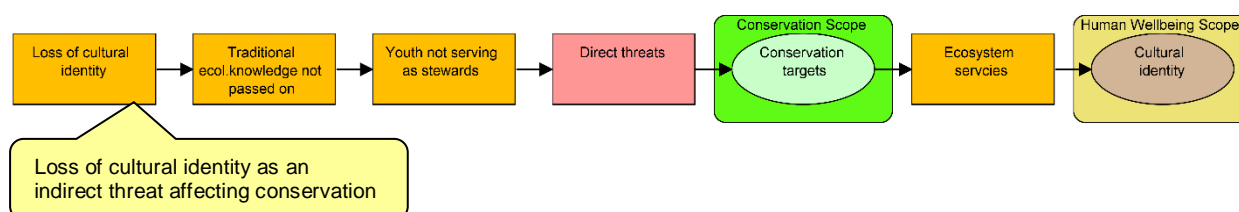
Figure 26 provides an example of a results chain where a team decided to link the cultural result to the cultural identity human wellbeing target. We leave this decision to a team's discretion, based on its context. The audience involved in the planning may want to see that explicit link. Or, the audience may prefer less complex models and have comfort with the relationships, as shown in Figure 25. In general, we encourage teams to aim for both simplicity and coherent cause-effect relationships. It is also important to remember the value of conceptual models and results chains as tools for communication. The most important thing to keep in mind is that teams should lay out relationships in a logical fashion that helps teams prioritize and make decisions, as well as recognize trade-offs. As with any relationship displayed in a results chain, it is ideal that the relationships be substantiated by evidence, where possible.

Figure 26. Example Results Chain Showing Cultural Results and Links to Intangible Cultural Targets Directly and Indirectly
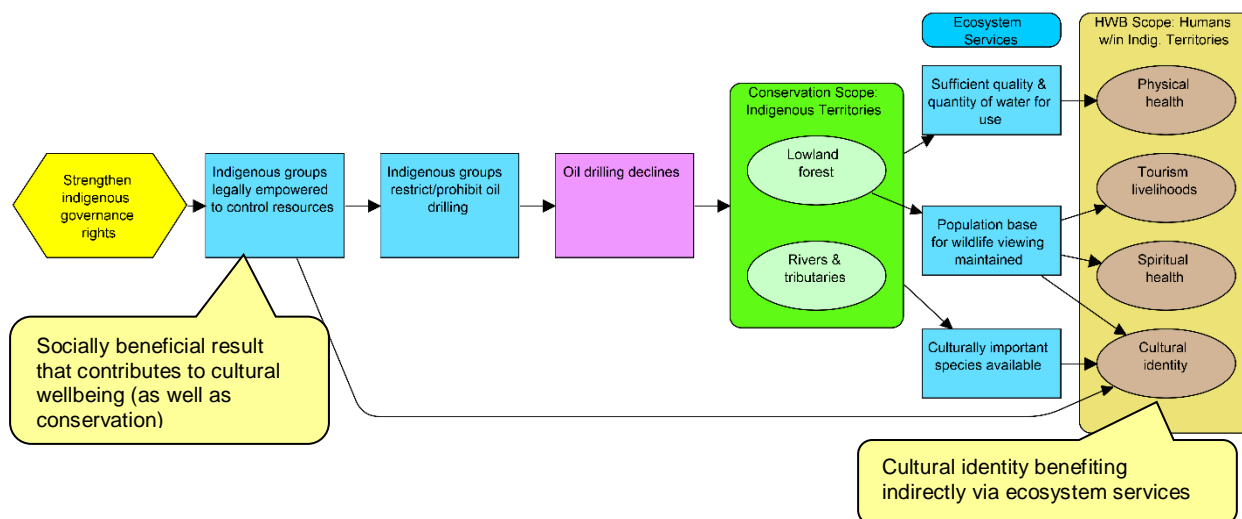
Other Approaches to Cultural Wellbeing

Appendix A provides examples of how other teams have worked on cultural wellbeing. These approaches have resonated in the context within which these teams have worked. They require a solid understanding of the Open Standards and comfort with adapting the Open Standards to fit certain circumstances.

9. Concluding Remarks

The Open Standards were designed for teams that are working with conservation as their primary aim. This guidance document was developed with that audience in mind. The guidance attempts to provide a clear structure and set of recommendations for how conservation teams that want to explicitly consider human wellbeing can do so within the overall context of the Open Standards for the Practice of Conservation.

The intent of this document is not to advocate for the use of human wellbeing targets in conservation projects. Whether and how to include human wellbeing is a decision a team will have to consider in light of its context, its audience, and those involved in the project. If a team determines that it should address human wellbeing through management actions, then it is important to study and apply this guidance.

Practicing the principles of adaptive management, we see this document as a first draft that should be tested in the field and refined and improved over time. To that end, if you have any questions or suggestions, please direct them to: info@conservationmeasures.org.

10. Glossary

For general Open Standards terminology, please refer to the Open Standards for the Practice of Conservation. The following terms are specific to human wellbeing aspects.

Cultural Target (Intangible): Those elements of culture that are not material or cannot be physically touched or observed. Examples include cultural identity, cultural or traditional knowledge, cultural practices, cultural or traditional skills, and cultural cohesion. The main guidance suggests these are human wellbeing targets (see Appendix A for other approaches).

Cultural Target (Tangible): Physical elements or spaces that are seen as culturally significant or important. Examples include archaeological sites, temples, ruins, sacred groves, and burial grounds. The main guidance suggests these are special types of "conservation targets" (see Appendix A for other approaches).

Ecosystem Services: Services that intact, functioning ecosystems, species, and habitats provide and that can benefit people. The Millennium Ecosystem Assessment (2003) offers four categories of ecosystem services: provisioning, regulating, supporting, and cultural

Feedback Loops: A situation where an event or result in a chain loops back into a system, either reinforcing and amplifying the relationship (positive feedback) or dampening the relationship (negative feedback).

Human Wellbeing Target: An aspect of human wellbeing that the project chooses to focus on. In the context of a conservation project, human wellbeing targets focus on those components of human wellbeing affected by the status of conservation targets.

Key Attributes (of Human Wellbeing Targets): Aspects of a human wellbeing target that if present, define a healthy target and if missing or altered, would lead to the outright loss or extreme degradation of that target over time. In the context of a conservation project, key attributes of human wellbeing targets should be linked directly to the ecosystem services humans can access.

Socially Beneficial Result: Benefits to humans that are derived from a strategy that is done in service of conservation. The social benefits are a direct and necessary result of the strategy to achieve conservation.

Trade-offs: A situation where one aspect (or result) is favored at the expense or partial expense of another. It implies a decision is made with an understanding of the costs and benefits.

Unintended Consequences: A result that was not envisioned as part of the original action or strategy. It can be positive or negative, though it typically carries a negative connotation.

Appendix A. Other Approaches to Cultural Wellbeing

This appendix contains three additional approaches to addressing cultural wellbeing that differ (to varying degrees) from the approach laid out in the main body of this text (see Section 8). Teams may find it helpful to understand different approaches that may work better in some contexts than the approach described in the main body.

These approaches include:
- How a Cultural Practice (Responsible Falconry) Is Leading to Conservation Success for Migratory Birds (Ilke Tilders)
- Highlighting the Importance of Cultural Targets in the OS Application for Cultural and Natural Landscapes (Oscar Maldonado)
- Healthy Country Planning: Using the Open Standards with Indigenous Communities (Stuart Cowell and Annette Stewart)

How a Cultural Practice (Responsible Falconry) Is Leading to Conservation Success for Migratory Birds
By Ilke Tilders, FOS (Europe)

Illustration: Proud sparrowhawk owner in north-east Turkey, 2015.

The Case

Up to one and a half million raptors converge along the eastern edge of the Black Sea each year in autumn. For centuries, local people in northeast Turkey have made use of this migration for catching sparrowhawks, which they lure to nets using red-backed shrikes as decoys. Other migratory raptors in turn, were killed and fed to these decoys, simply because they form a freely available source of protein for the decoy birds. In 1987 alone, an estimated 15,000 sparrowhawks were trapped, of which around 3,750 perished. In addition, an estimated total of 9,000 red-backed shrikes were employed as decoys, and an additional 15,000 raptors killed to be fed to the decoys. It is important to realize that Turkey was already at the time a signatory to all relevant conservation-related international conventions, and that, in fact, all aspects of falconry in northeast Turkey were illegal.

Over the years, Doğal Hayatı Koruma Derneği (DHKD), the Turkish Birdlife Partner, made considerable headway to reverse this situation. By 2015, an estimated 7,500 sparrowhawks were trapped, of which 4,000 were released right away and 3,500 were kept as pets or used for hunting quail and released later. In addition, the number of trapped red-backed shrikes and sparrowhawks had decreased by as much as 50%, and virtually no sparrowhawks or other raptors had been killed to serve as food for the decoys.

Key to this conservation success was the decision of DKHD to combat the illegal and unsustainable practice of falconry by partnering with local falconers and jointly working towards a legal and sustainable form of falconry. Though perhaps contrary to conservationists' instincts (and heavily criticized by fellow conservation NGOs), the choice of strategy was deemed the only viable alternative given the popularity and scale of the practice of falconry.

During the early 1990s, DHKD carried out extensive campaigns aimed at both the general public and local and national government authorities to raise awareness about the slaughter of

thousands of raptors. This eventually led to widespread consensus that falconry in that form was unacceptable and immoral. Subsequent constructive dialogue among government, sparrowhawk trappers/owners, and conservationists led to a willingness from all sides to make concessions. Trappers adopted simple measures such as feeding the decoy birds with hard-boiled eggs instead of raptor meat. The new Hunting Law (approved in 2003) and subsequent regulations allowed for, among other things, up to two sparrowhawks to be trapped and kept for a limited amount of time, and it also introduced a rigorous system for obtaining mandatory certificates. Sparrowhawk trapper and owner numbers declined from the late 1990s onwards, as did raptor killing for decoy food.

Alternatives Ways to Illustrate the Link between Responsible Falconry and the Conservation of Migrating Birds

With local falconers being a primary partner (audience) in the conservation strategy it makes sense to acknowledge sustainable falconry as a cultural target, as it is a specific target the project is aiming to conserve. Without this acknowledgement, falconers would have been alienated from the strategy.

The figures below show two alternative results chains: Figure A - 1 captures the full results chain showing elements of responsible falconry as the results needed to eliminate the killing of migratory raptors and contribute to the conservation of both migrating raptors and the practice of responsible falconry. Figure A - 2 (focusing on the right side of the results chain only) shows responsible falconry leading to no more killing of migratory raptors. In this version, the key elements of responsible falconry have become specific goals of the cultural target.

The differences between the chains are subtle. The first chain conveys the message that the project is working to conserve both migrating raptors and the practice of responsible falconry and, as such, non-responsible elements of falconry need to be reversed. This version is probably closest to the real situation and hence most comfortable to conservationists.

The second chain highlights the interdependency between responsible falconry and the conservation of migrating raptors. Such a diagram can send a powerful message when fostering collaboration between stakeholders. Though powerful from a process point, it is probably slightly further from the real situation: migrating bird populations are in no way dependent on the existence of falconry (responsible or not).

Figure A - 1. Results Chain "Toward Responsible Falconry in Turkey"
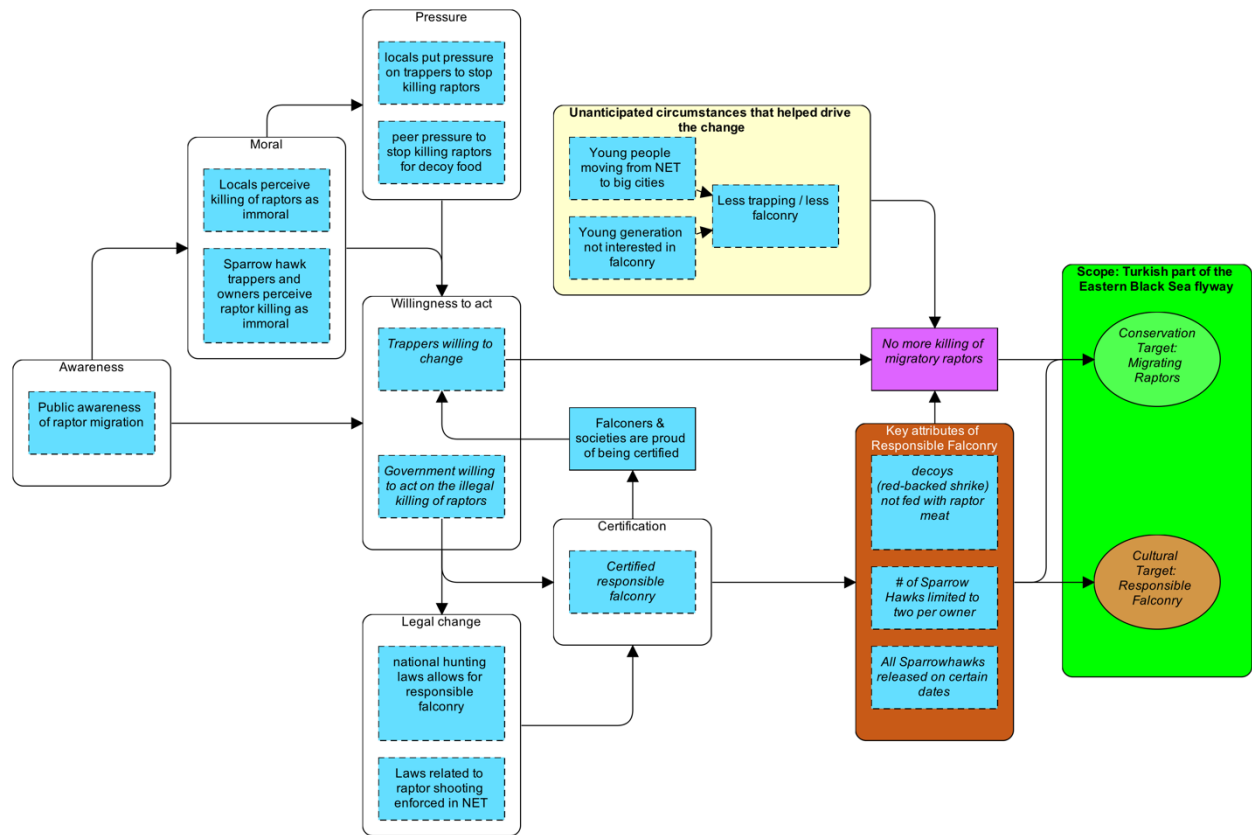
NET = Northeast Turkey

Figure A - 2. Variation on Figure A - 1 Results Chain "Toward Responsible Falconry in Turkey"
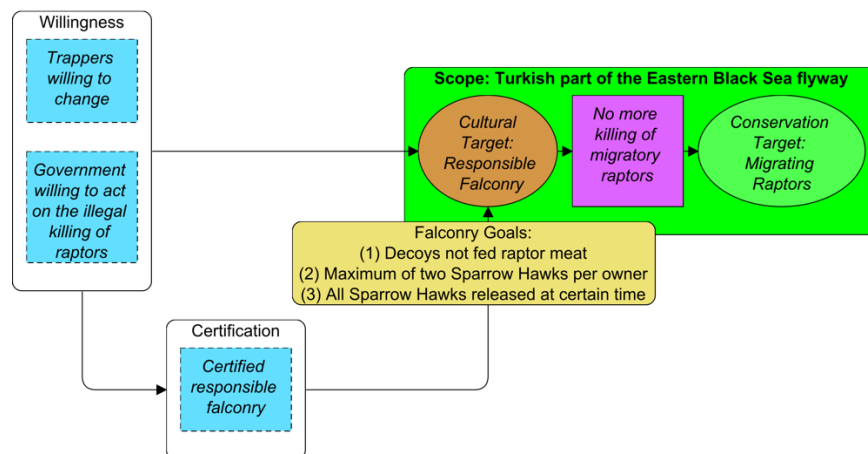
(Picture and case provided courtesy of Gernant Magnin & Oguz Kurdoglu.)

Highlighting the Importance of Cultural Targets in the OS Application for Cultural and Natural Landscapes

By Oscar Maldonado

The approach described in the following examples has been used to highlight the importance of cultural features in conservation projects that encompass important cultural components, such as conservation projects with indigenous or traditional communities. Other projects that are required to consider cultural features, such as IUCN Category V Protected Areas and conservation areas that have a mandate to encompass cultural components, may also benefit from this approach.

Understanding Cultural Targets in Biodiversity Conservation

The disassociation of humans and nature that has long influenced conservation initiatives is now shifting to a new, more holistic perspective. Thus, for more than a decade, there has been a need to adapt available conservation tools to better capture this perspective. In many conservation projects, some cultural features (if not the whole culture) are a foundation for biodiversity conservation. This is the main rationale for placing "cultural targets" before biological targets in a theory of change (and therefore, in results chain diagrams). Considering important cultural features as targets identifies them as important factors requiring conservation attention.

Biodiversity conservation project teams are increasingly aware of the links between natural and cultural diversity, and the vulnerability of both to external pressures (and to radical changes in either natural or cultural systems. Most of the important biodiversity landscapes (the Amazon, the Andean highlands, and the African savannahs, to name a few) represent centuries, if not millennia, of mutual adaptation of humans and nature. Disconnecting this relationship only adds pressure to two inherently linked systems, fostering rapid, undesired transformation.

Why Cultural Targets Are Important

There are two kinds of cultural targets in the practice of conservation: ***tangible targets*** and ***intangible targets*** (see main text for a more detailed explanation of both). While the former do not necessarily depend on, or are not necessarily a key component for biodiversity conservation, they may depend on the natural environment to be conserved over time. They can also provide opportunities for a broader approach to conservation and, in some cases, the strategies required for their conservation can also benefit the conservation of biological targets (e.g. monitoring and enforcement).

Intangible conservation targets, however, may represent a key component for conserving biodiversity, as they encompass a series of practices, beliefs, and institutions that were created and have evolved to manage natural resources in harmony with nature. In some cases these cultural features represent a "key attribute" on which biodiversity depends, a characteristic that highlights their importance.

For example, in Catalonia, traditional grazing practices are critical for conserving grasses and avoiding forest encroachment on grasslands. Similarly, dragonfly diversity depends on artificial ponds, while all over the Mediterranean coast, human-made stone walls are key for lichens and lizards.

Why Cultural Targets Are "Conservation" Targets

Culture, like biodiversity, is the result of adaptation and evolution. Furthermore, like biodiversity, culture is vulnerable to threats that can severely perturb its characteristics and jeopardise its long-term integrity and viability, and potentially annihilate it permanently. With the degradation or loss of cultural components (such as traditional institutions that safeguard the environment and natural resources), the equilibrium of a harmonious relationship between humans and nature is broken, with potentially devastating effects for both people and biodiversity.

When to Include Cultural Targets

Many conservation areas have objectives focused on both cultural and biodiversity features. In Latin America, some conservation areas were created with dual objectives of conserving natural and cultural heritage. Perhaps the best examples of combined cultural and natural objectives are IUCN Category V protected areas, namely Cultural Landscapes[4] and areas that have long been inhabited by traditional or indigenous communities.

Broadly, three independent conditions may help clarify the need to include cultural conservation targets in a project:

- When a conservation area or protected area has an official mandate to conserve cultural and natural features;
- When it is an IUCN Category V protected area, where the nexus between cultural and natural features is the focus of conservation; and/or
- When there is a clear link between culture and nature, and there is evidence that the conservation of culture leads to the conservation of nature. This is often the case when working in territories inhabited by indigenous people.

Trade-offs or Win-wins?

Well-conceived conservation is more about getting win-wins than creating trade-offs. Not all traditional practices may be key for conservation, and some of them may not be sustainable in an evolving context. External factors such as imported cultural values or technological changes (e.g., bow/arrow hunting versus firearm hunting), or internal factors such as population growth or erosion of traditional institutions, may lead to conflicting relationships with the natural environment and wildlife. This is why an in-depth participatory analysis of cultural conservation targets is critical for conserving positive cultural features and providing a response for those that have been eroded or drastically modified.

Some Examples

Case 1: Maasai Mara Conservancies

The Maasai Mara, along with the neighbouring Serengeti, represents an iconic African landscape. The global recognition of this landscape is due not only to its wildlife, its mega-fauna, and the particular beauty of the savannahs, but also because it is an inhabited landscape where people, the Maasai, have played an important role in shaping the ecosystem for at least three thousand years (Reid, 2012). Indeed, the greater Maasai Mara ecosystem is a cultural landscape where wildlife and humans have coexisted for centuries. Moreover, some

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[4] "[An] area of land, with coast and sea as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/or cultural value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area." (IUCN 2003)

scholars argue that the Maasai grassland ecosystem exists because, and not despite, the interrelations between the Maasai people, wildlife, and their environment.

In recent years, several factors have eroded the Maasai culture and thus, the close relationship of the Maasai with their natural environment. Population growth, land privatisation and subdivision, and external cultural influences are amongst the root causes of degradation of positive Maasai cultural features (or "pillars," such as a semi-nomadic lifestyle, communal land tenure and management, and rotating grazing systems). Consequently, these drivers modify traditional practices, which in turn threaten the region's wildlife. For local stakeholders, the Maasai culture is an important component of the landscape and the most important piece to keep it functioning and viable over time.

**Figure A - 3. Maasai Mara Conservancies Result Chain (simplified version)**
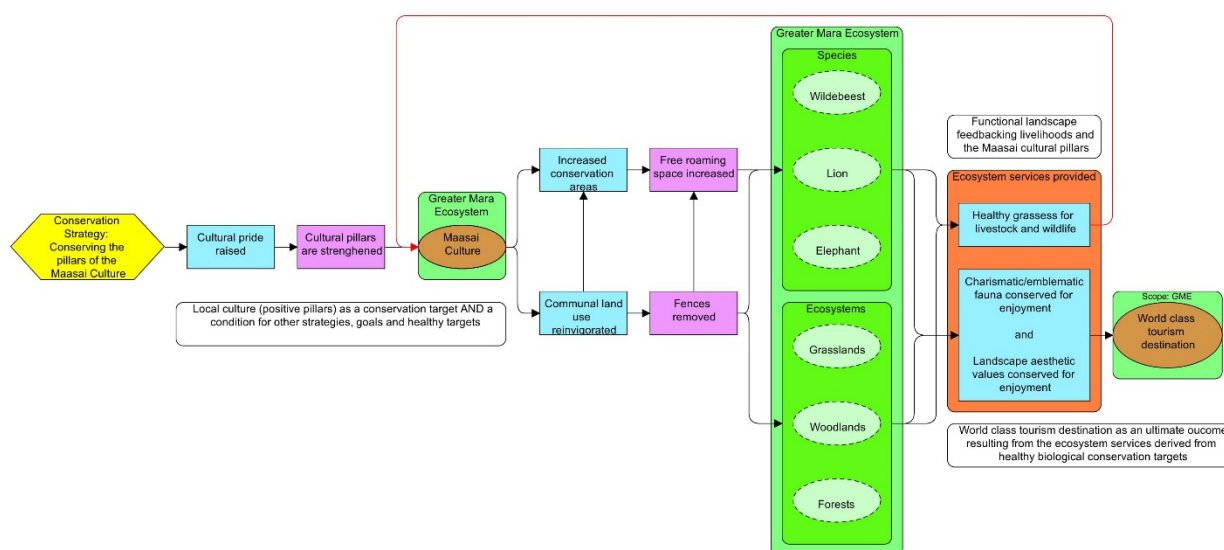
Case 2: Huamantanga and the Mamanteo System in the High Andes

This project is a sub-set of the water fund initiative for the city of Lima, Peru. It aims to conserve watershed condition in order to get more and better water infiltration in a critical sub-watershed. Hydrological analyses have demonstrated that water infiltration depends on keeping healthy natural grasses in the upper watershed, as well as on a cultural practice known as the *mamanteo*. Ancient pre-Inca and Inca people developed highly sophisticated hydrological systems. The *mamanteo* practice consists of diverting part of a stream onto human-made stone channels that cross the mountain via areas with high infiltration capacity. The remaining flowing water is returned approximately one kilometre downstream. Part of the diverted water appears in ponds several hundred metres downhill, in small valleys where it is used as a water source for both people and cattle in the dry season. While it was an active practice in ancient times, currently only a few dozen *mamanteo* systems exist, and only two of them are functioning. An ancient practice that dates from more than a thousand years ago is at risk of being lost.

To take an integrated, holistic approach, the project team and the local community of Huamantanga considered that, along with natural grasses (called locally the *Puna*), the *mamanteo* needed to be considered a cultural target. In the diagram, it appears at the same level of importance as the grasslands.

Figure A - 4. Water Ecosystem Service in the High Andes (simplified version)
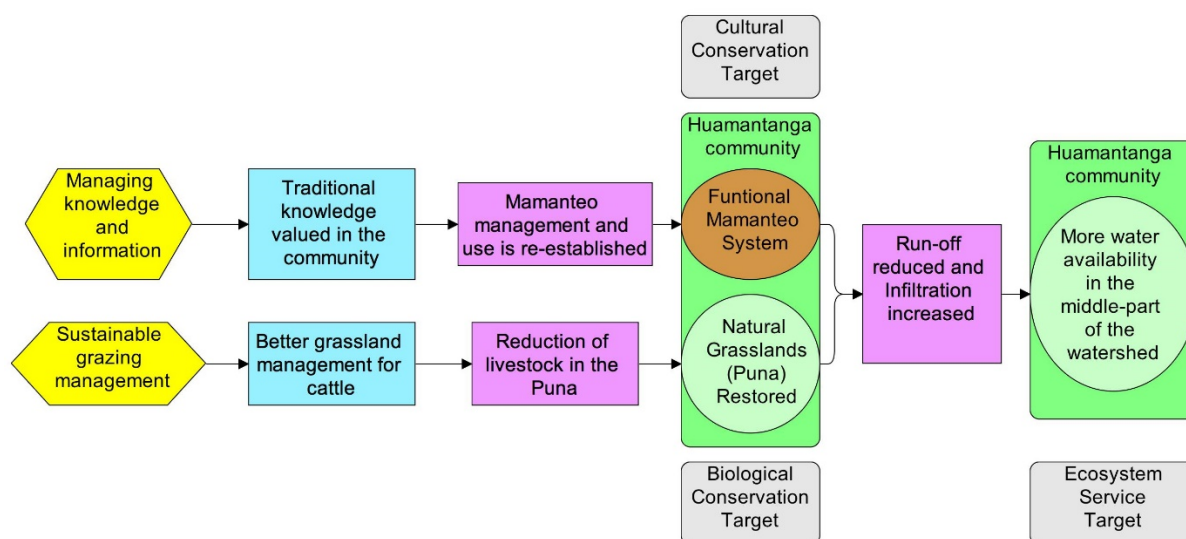
Case 3: Tchimpounga Natural Reserve

The Tchimpounga Natural Reserve in the Republic of Congo (Brazzaville) may appear to be a typical setting for a conservation project: it has one of the healthiest populations of chimpanzees in Africa, it has very healthy ecosystems, and it hosts a population of *Tesmania dawei*, a tree that, once common in the western Africa coasts, was almost declared extinct. The project's scoping phase determined that the Natural Reserve also needed to protect important historical sites within its boundaries and in the buffer zone, as they are important icons from different historical periods of the Congo (e.g., the Kingdom of Louango, the slave trade, and the French colony). Moreover, during the planning workshops, stakeholders recognised the importance of traditional ritual sites that depend upon the integrity of the forests. The stakeholders suggested that the historical sites needed to be considered conservation targets not only because of their cultural importance and meaning for local communities, but also because their conservation (as well as related beliefs and traditions) would reduce the pressure on natural resources.

Figure A - 5. Tchimpounga Natural Reserve (simplified version)
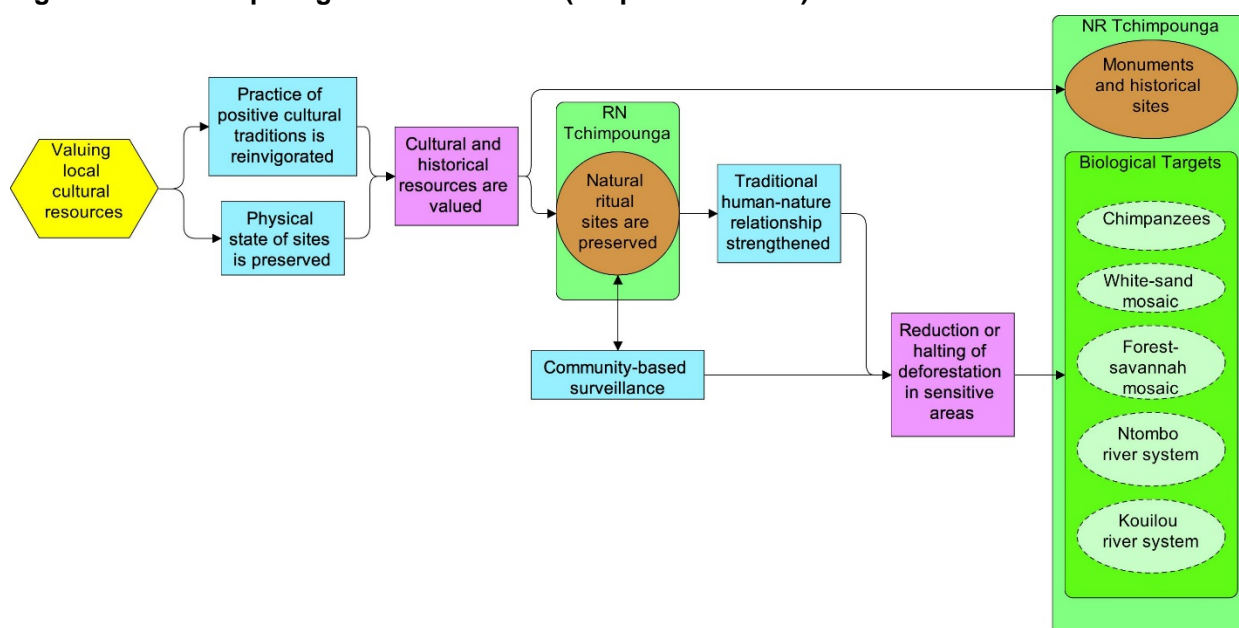
Healthy Country Planning:
Using the Open Standards with Indigenous Communities
By Stuart Cowell and Annette Stewart

Thinking about targets to include an indigenous cultural perspective as a contribution to addressing cultural identity in the Open Standards

The Open Standards are a powerful tool that can enable teams to achieve significant impacts for the betterment of the planet. Although focused on biodiversity conservation, the tools of the Open Standards can be translated for use in other contexts, particularly those where biodiversity conservation is intertwined with the culture and livelihood of local communities.

One way of achieving this is to follow the Human Wellbeing guidance developed by the Conservation Measures Partnership (main body of this guide; Conservation Measures Partnership, 2012). The guidance recognizes two main pathways for conservation projects to contribute to human wellbeing: via socially beneficial results and/or via ecosystem services. While this approach has been effective in many contexts, the authors have found that it is useful to take a different approach when working with indigenous peoples, in particular with respect to the pathway associated with ecosystem services.

In some contexts, and particularly in the authors' experience working with indigenous peoples, the relationship between people and nature is understood differently, with people and nature being indivisible, requiring a different approach in the use of the Open Standards. This approach is outlined here with some examples. It is based primarily on work completed over the past eight years in Australia working with Australia's Aboriginal people and an adaptation of the Open Standards called Healthy Country Planning (HCP). A very large proportion (>30%) of the Australian land mass is now under various forms of Aboriginal governance, so effective conservation in Australia requires adaptation of the standard process.

The work in Australia was heavily influenced by the early work of Estuardo Secaira and María Elena Molina to adapt the Conservation Action Planning methodology to include Cultural Targets (Secaira and Molina 2003).

An important note – the Open Standards are a powerful and effective tool to be used to guide action and impact. They follow the main principles of all robust strategic planning frameworks and are widely applicable in a number of contexts. There are many guidance documents on the delivery of each of the components of the Open Standards. They come, however, from a strongly rationalist planning tradition that can be limiting in some contexts. As noted by Moorcroft et al (2012:8)

> *"Historically, conservation planning in Australia has been embedded in a specific cultural context that privileges Western science, linear views of time and bounded notions of space, and asserts particular assumptions about the separation of nature and culture, resource management and human intervention"*

> *"Application of such planning approaches into an indigenous context risks impacting on indigenous governance structures, by constructing and imposing external frameworks that undermine local authority, expertise and knowledge systems. Structural constraints to participatory planning processes, such as the organisational*

systems of partners, funding programme requirements and accountability, can also impede on delivering outcomes"

[However] *"planning can achieve positive outcomes for indigenous groups if it is community-based, and centred on community objectives, capabilities and knowledge systems rather than those imposed by another party (Lane 2006)" in (Moorcroft et al 2012: 8)*

The western rationalist tradition of separating the world into elements can be a challenge for many people. However, it is an important part of looking at the most important activities for the plan – it just needs to be done in an appropriate way for the context.

The guidance presented in this section is intended to help practitioners use the Open Standards but in a context where its uncritical application may alienate project participants and partners. In this, we at times distinguish between the underlying approach (Open Standards) and the HCP approach. In other words, we have a rationalist style but highly participatory approach.

The guidance in this section is focused on the definition of Targets and Viability Assessment, using a Healthy Country Planning approach. For broader guidance on other steps in the Open Standards from a Healthy Country perspective, see the Healthy Country Planning Summary Reference Cards (Cowell et al 2012).

Defining Terms
A critical first step in the use of Healthy Country Planning is the discussion and definition of terms and concepts, beyond that already provided in existing Open Standards materials. As noted by Moorcroft et al (2012:6)

> *"One of the first steps in any participatory planning process is to ensure that participants understand and are familiar with the process. CAP has its own language with terms such as critical threats, situation analysis and stressors. These terms are technical jargon derived from the Western science disciplines of ecology and conservation planning. Such terms had little meaning to [Aboriginal people]. To address this issue, a plain language glossary was developed and referred to throughout the process. Local indigenous language terms were also used, particularly for places, plants and animals."*

Before developing targets, it is essential that the concept of targets is discussed and translated into the appropriate cultural context of the project. In the Open Standards, targets are defined as:

> *A limited suite of species, communities, and ecological systems that are chosen to represent and encompass the full array of biodiversity found in a project area. They are the basis for setting goals, carrying out conservation actions, and measuring conservation effectiveness. In theory - and hopefully in practice - conservation of the focal targets will ensure the conservation of all native biodiversity within functional landscapes.*

In the context of working with indigenous peoples, some of these concepts do not translate either easily or at all. Species, communities and ecological systems are, in many worldviews, inseparable from the people in whose traditional lands these occur, and indeed the lore and

practices that surround them. This creates a challenge for teams wanting to work with indigenous peoples as the application of strict Open Standards definitions risks alienating local communities.

In HCP the definition is more inclusive allowing for a range of target types:
> *targets are the values, features, assets that you most care about improving, protecting, restoring and keeping healthy.*

In this way they reflect the difference between the constructs of Open Standards (and the closely aligned Conservation Action Planning process) developed by the Conservation Measures Partnership and many indigenous communities, as illustrated in Figure A - 6.

Figure A - 6. Diagram Illustrating the Different Constructs of Conservation Action Planning and Wanjina Wunggurr (Moorcroft et al 2012:5)
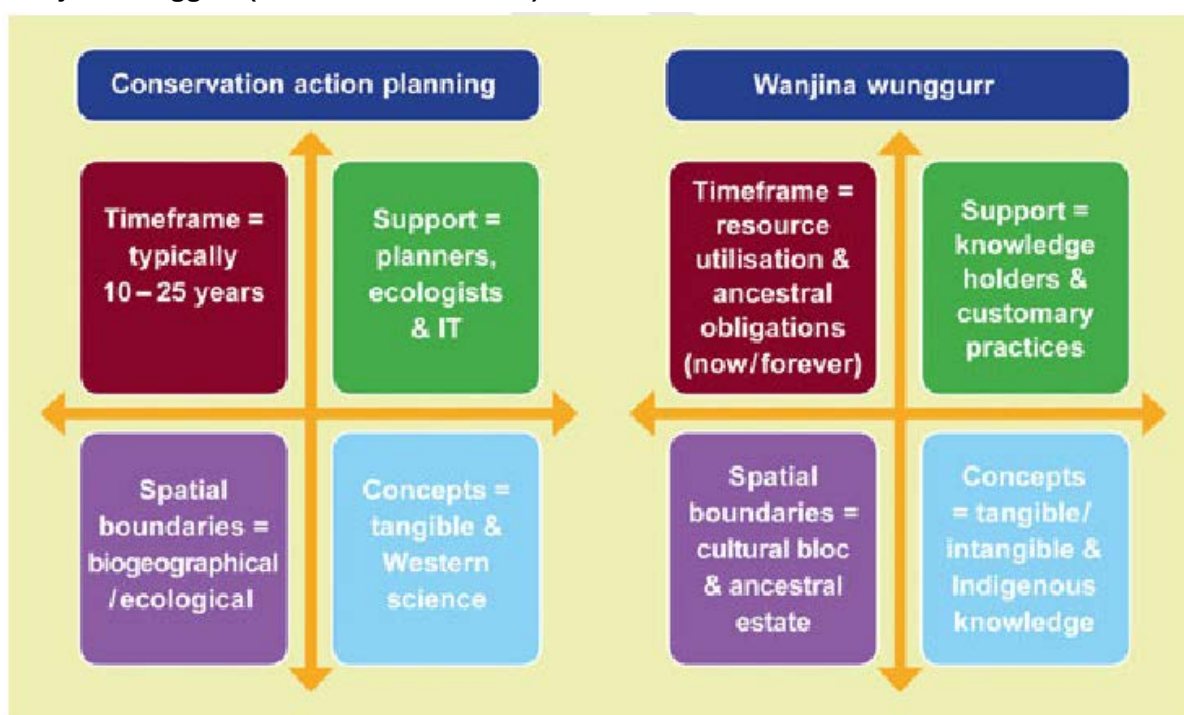
Target Selection
Following from the definition of targets is the process of target selection. There are three things to consider in this step:
1. Target selection is a 'values-based' process
2. Targets can be tangible or intangible
3. Cultural perspectives can also be included or made explicit through key attributes

Target selection as a value process
As has been noted, all targets are cultural and stem from a specific worldview or cultural perspective. The choice in the Open Standards to focus on species, communities, and ecological systems reflects the particular cultural perspective of the conservation community, seeking to drive change in the status of the things that they value. Our choice to select one type of thing over another is informed by our cultural perspective – whether personal or professional – and influenced by who is involved in the process and their world view.

For example: A group may choose salmon as a conservation target
- Because it's a top predator and has important ecological function;
- Because it's a charismatic species with strong marketing potential; AND/OR
- Because it's culturally important

In Healthy Country Planning the primary process participants were Aboriginal people developing management plans for their "country." In the Australian context, "country" is "a term used by Aboriginal people to refer to the land to which they belong and their place of Dreaming. Aboriginal language usage of the word country is much broader than standard English."[5] Country, therefore typically includes the place and people and the relationships between them, as well as their dreaming or "creation which gives meaning to everything. It establishes the rules governing relationships between the people, the land and all things for Aboriginal people."[6]

Target selection is therefore heavily influenced by this view, as explained in Moorcroft et al (2012).

> *"… the value of an asset for [Aboriginal People] reflects resource utilisation and/ or cultural significance and customary obligations, as well as the biodiversity value. Animals such as jebarra (emu, Dromaius novaehollandiae), aamba (kangaroos and wallabies), mangguru (marine turtles) and balguja (dugong, Dugong dugon) are valuable food species and were therefore identified as targets (WGAC 2010).*
>
> *For Wunambal Gaambera people, customary practices passed down through generations honour ancestral obligations. [Aboriginal People] believe that if such practices are not maintained, then this will impact negatively on the 'health' of the country, as these activities interconnect with everything – with Uunguu. "*

"Tangible/Physical" Cultural Targets
In their 2003 work Secaira and Molina proposed a number of different types' of **tangible** cultural targets:
1. Region
2. Area
3. Zone
4. Site
5. Group of Structures
6. Structure
7. Moveable Objects

"[T]hese 'cultural targets' are a special type of conservation target. In many (but not all) cases, threats to these sites and structures would be similar to threats to biodiversity, and strategies to counter them would be similar to and often synergistic with – or at least not in conflict with – conservation strategies" (Stem et al 2014).

Many of the targets identified by Aboriginal People in Healthy Country Planning have parallels to typical conservation targets identified in non-indigenous contexts. In Healthy

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[5] http://australianmuseum.net.au/glossary-indigenous-australia-terms#sthash.lbvmUpFQ.dpuf
[6] http://australianmuseum.net.au/glossary-indigenous-australia-terms#sthash.lbvmUpFQ.dpuf

Country Planning, we have added an additional set of tangible targets that are more dependent on the value process of target selection and they are:

8. Species of cultural significance

Examples of these types of targets are:
- Bush tucker (plants and animals) – Arabana people of South Australia: warrukathi – emu, cadney- frilled neck lizard, kungarra – kangaroo, kapirri – goanna and kalta - sleepy lizards.
- Accessible bush tucker and medicine plants – Balanggarra people of Western Australia: medicine, tools, weapons,
- Saltwater fish – Dambimangari people of Western Australia

Intangible Cultural Targets
In their 2003 work Secaira and Molina proposed a number of different types of **intangible** targets:
1. Non tangible values
    a. identity, recreational, artistic, aesthetic, educational, scientific, peace, intrinsic
2. Local/indigenous knowledge
    a. Medicine, botany, zoology, animal husbandry, agriculture, crafts
3. Social institutions
    a. Customary law system
4. Spirituality
    a. World vision, sacred places and rituals
5. Oral history
6. Traditions
    a. Language, music and dances, festivals, gastronomy

In the current CMP Guidance, intangible cultural targets (e.g., spiritual wellbeing and cultural identity) are Human Wellbeing Targets. However, to many indigenous people, and in the Healthy Country Context, these do not 'stem from' country, but are equally significant as 'a part of' country, as illustrated below:

Example: 'Wanjina Wunggurr Law' as a conservation 'target' (Moorcroft et al 2012)

Wunambal Gaambera people believe that if they are not on their graa [homelands], passing on their indigenous knowledge and following traditional Wanjina Wunggurr Law, then the Country, including its people, will not be healthy. As Sylvester Mangolomara explains:
Traditional knowledge makes us stronger and shows that we belong to the land. Keeping our culture strong, that makes us the person we are – Wunambal. If we don't look after country – that makes us nobody. We need to hang onto that and teach our younger generations so they can follow our footsteps. We got to keep it alive all the time.

During the planning process, Wanjina Wunggurr Law was implicit to all decisions made about the 'really important things about country'. 'Wanjina Wunggurr Law', as

the most important target, anchored the plan to an indigenous world view, rather than that of a non-indigenous perspective privileging biodiversity conservation.

It clearly demonstrated the cultural reality of [Aboriginal Peoples'] connection to their Country. It supported [Aboriginal Peoples'] expertise and primary aspirations to maintain control and ownership of the process and the plan.

Examples of intangible targets used in Healthy Country Planning are:

- Culture and language - Arabana people: Arabana language is central to our cultural identity, it forms the basis of how we think and understand Arabana culture and world view.
- Ularaka (knowledge) - Arabana people: Ularaka connects people in the "here and now" to each other and to country over which we hold rights and responsibilities because we are the living descendants of the Mura Mura who formed country
- Kunmayali (traditional knowledge) – Warddeken people Northern Territory: Kunmayali are the various elements of knowledge to be passed down through generations – skills, thoughts, ideas, intentions and deep knowledge of country.

In Healthy Country Planning, both tangible and intangible targets are considered concurrently with other biophysical targets, and not seen as the result of a service flowing from them.

This results in a target list similar to that of the Wunambal Gaambera Healthy Country Plan below:
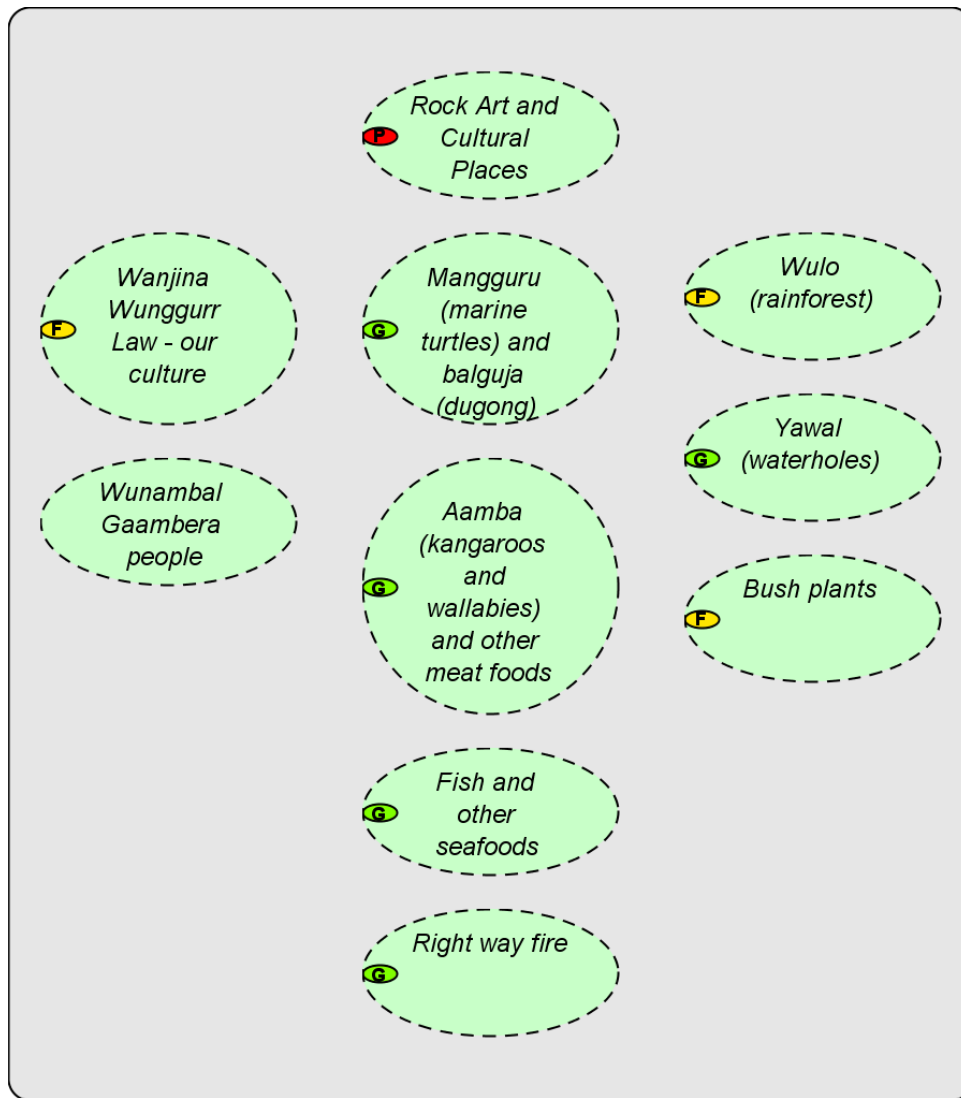
Viability

A key part of the Open Standards process that opens up the opportunity to include diverse cultural perspectives is the viability assessment. The identification of categories, attributes, and indicators all provide possibilities for including and combining diverse cultural perspectives. Again, the Healthy Country Planning process was heavily influenced by Secaira and Molina (2003) and their development of a viability table for the assessment of both tangible and intangible cultural targets:

Viability Analysis	Integrity Analysis	Significance Analysis
Natural Targets	*Tangible Cultural Targets*	*Intangible Cultural Targets*
Size	Conceptual Meaning	Correspondence
Condition	Physical Condition	Inter-generational Transmisibility
Landscape Context	Social and Natural Context	Context

In Healthy Country Planning, a similar approach is taken but attempts to combine the assessment process into a single set of tools and steps. This is outlined below.

Healthy Country Key Attribute Approach

Guidance for viability assessment of tangible and intangible cultural targets is largely similar to that of conservation targets but requires some additional thinking in each of the steps. A revised viability assessment tool was developed to support the process.

In the key attribute approach, a fourth category of attribute was added, to make the final list (see following page for adapted viability assessment tool):

- Size: e.g., minimum dynamic area
- Condition: e.g., composition
- Context: e.g., processes
- Culture: e.g., traditional ecological knowledge

As none of the existing tools (CAP workbook and Miradi) allow for a fourth category, a workaround has been to use the condition category, with the addition of "cultural" before the actual attribute text:

Aamba (kangaroos and wallabies) and other meat foods	Good	
(Cultural) Management and control of fire regime	Fair	Condition
(Cultural) Traditional knowledge of aamba (kangaroos and wallabies) and Wunambal Gaambera Country	Fair	Condition
Habitat viability	Good	Landscape Context
Health of aamba (kangaroos and wallabies)	Good	Condition
Population size & dynamics	Good	Size

Modified Viability Assessment Tool
Representative Key Attributes

	Ecological Systems and Communities	**Species**	**Cultural Sites & knowledge**	**Livelihood**

Size

Minimum Dynamic Area		Species Abundance	Resilience	Access
Is the area sufficient to allow recovery from natural disturbances *e.g. 4x severe historic disturbances*	Is the size of the area sufficient for the breeding of representative species *e.g. 25x ave. female home range*	Is the size of the local population sufficient for genetically viable reproduction	Do enough of the right traditional owners know about sites and country	Do traditional owners have access to land for their use *e.g. for enterprises*

Condition

Composition and Structure				Wellbeing
Are characteristic native species present	Are old growth & biological legacies present in ecological systems	Are species reproducing	Are sites and knowledge being maintained and renewed	Are values present in the area that are significant to the community *e.g. natural resources*

Context

Ecological Processes	Connectivity		Social and Natural Context	
Are the key environmental processes and natural disturbances that sustain the targets still operating *e.g. fire, flooding*	Do characteristic species have access to all habitats and resources needed to complete their life cycle	Can ecological systems, communities & species move in response to environmental changes *e.g. global climate change*	Are cultural sites respected as a valued part of the landscape *e.g. sites not visited at wrong times*	Is the community able to use the area to benefit the community *e.g. traditional harvest*

Cultural Health

Traditional Ecological Knowledge		Meaning	Continuity
Are the key cultural processes that sustain the targets still operating *e.g. fire, ceremony*	Are important species used and managed *eg particular food species*	Do sites retain authenticity, information, messages and meanings	Is cultural knowledge passing from one generation to the next

Rating Key Attributes

Poor *Nearly lost*	Fair *Getting worse*	Good *Not quite right*	Very Good *As it should be*
The key part is unhealthy and if no work is done soon to make it better then it may never be healthy again	The key part of the target is not healthy and needs work to be done to make it healthy again. If no work is done it will get worse	The key part of the target is healthy and may need some work to be done to keep it healthy or to make it very healthy	The key part of the target is very healthy and does not need too much work to be done to keep it very healthy

Note: The ecological factors cited are common to many targets, but are not inclusive. Not all factors will apply to a given target.

In addition to the new category, examples of considerations for cultural targets under the existing categories of size, condition, and context are also required and are included in the modified tool.

Finally, a more generalised rating system is required to allow the use of consistent ratings across the types of targets, but the standard rating scale and intent have been retained to allow for integration between projects.

Simple Approach

Healthy Country Planning was developed primarily using the key attribute viability step. However, in recent times, the adoption of the simple viability assessment has made the use of cultural targets simpler by removing the requirement for consideration of attributes and detailed consideration of viability rank at the category level, and retaining a sole focus on indicators – these are discussed below.

Calculating Viability

The most significant challenge with the introduction of the cultural category is the calculation of the overall viability rank.

Essentially this needs to be completed manually in order to produce an overall viability summary table – it is not possible to produce it automatically from Miradi or CAP Excel workbook tools.

For this, we have taken the following approach:

1. Complete the viability assessment in Miradi or the CAP workbook as usual, clearly labelling the cultural attributes to allow for a clear separation of them from condition-only attributes
2. Export the viability table
3. Using the steps outlined at the end of this paper, calculate a manual rank for each category
4. Retain the original individual ranks within Miradi and CAP as these will be what is modified over time as the project proceeds; only the summary table requires manual development

Indicators and Ratings

As with attributes, the indicators represent an opportunity for integrating different knowledge systems and perspectives. Think about indicators that are the most relevant to local communities, and that reinforce cultural practices, (e.g., hunting).

As noted by Moorcroft et al (2012: 7)

> *Measures such as species abundance and distribution, species range and diversity, number of hectares burnt and water quality [can be] complemented by social and cultural indicators such as amount of time spent on country, amount of indigenous knowledge being passed on, the availability and taste of certain foods, the amount of fat on some animals, the number of visits to cultural sites, who is making decisions about management and who is carrying out the management."*

For example, if the bush apple is sweet and juicy, or if there is a good amount of tail fat on a kangaroo, then this can be an indication that burning is being carried out in the right way and that the country is 'healthy.'

Some of the cultural and social indicators identified [are] based on subjective measurements, such as the taste of foods and the amount of indigenous knowledge being passed on. At the time of writing, an expert panel advising on research and monitoring of biological, social and cultural indicators was being established and will include senior [Aboriginal People] and knowledge holders as well as experienced ecologists trained in Western science" (Moorcroft et al 2012: 7)

The following example from the Spinifex Healthy Country Plan (Draft 2015)

○ *Kapi (Soaks and Rock Holes)*		*Fair*
△	*Clean kapi - species composition and cover*	
△	*Clean kapi – water quality*	
△	*Stories about rockholes are important*	
○ *Kuka (bush meats)*		*Good*
△	*Healthy (fat) animals when hunted*	
△	*Kuka tracks in monitoring plots*	
△	*Lots of feed for animals*	
△	*Plenty of eggs (all animals) – goanna / nganamarra eggs*	
△	*See animals at feeding places*	
○ *Threatened Species (Nganamara, Itjaritjari, Tjakura, Sandhill Dunnart)*		*Good*
△	*Active Itjaritjari (Southern Marsupial Mole) signs in survey pits*	
△	*Active nganamara (mallefowl) mounds*	
△	*Lots of feed for Threatened Species*	
△	*Presence of Threatened Species tracks*	
△	*Stories about country are shared appropriately and known*	

Conceptual Model
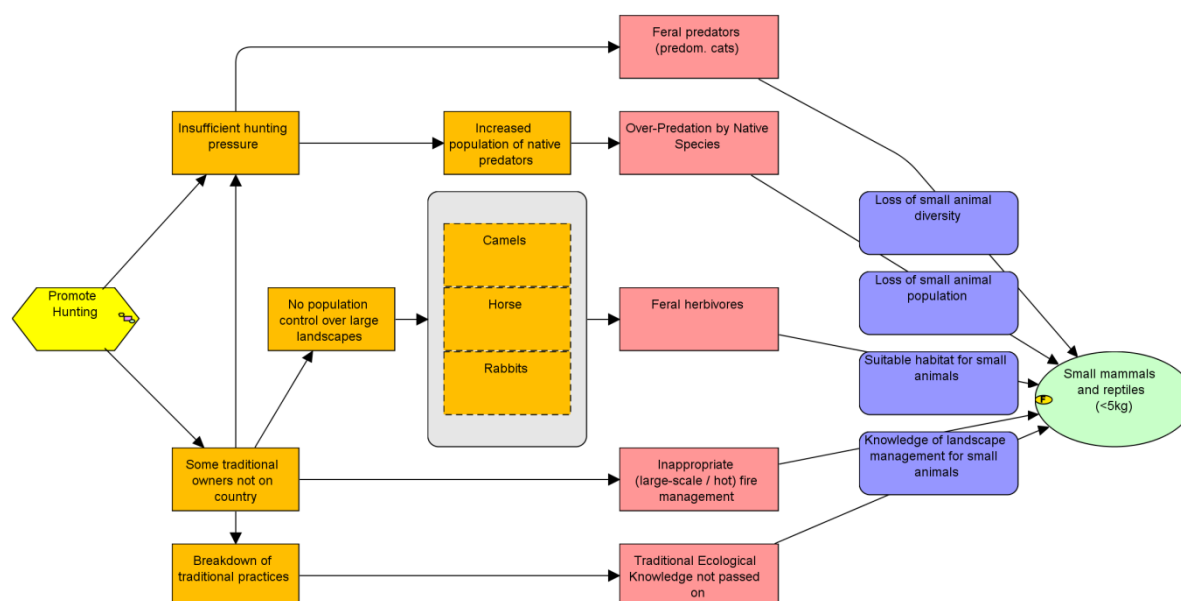
Risks and Limitations

A key concern for conservation practitioners when working with these types of targets and approaches is that they represent an "anything goes" approach, a "watering down" of the Open Standards to include traditions that are not sustainable.

This is indeed possible. However, typically this should be addressed at a number of process points:
1. Pre-planning: a critical step that defines the project purpose and scope should identify potential issues
2. Targets: a cultural practice may no longer be sustainable because of the loss in population of the underlying species upon which the practice depends (which of course also applies with human wellbeing targets). Of course this represents a restoration opportunity and an opportunity to consider alternative strategies – tools such as situation analyses can help tease this out

There are likely to be instances when a cultural practice is no longer sustainable, and the Open Standards can be an effective tool to help communities work to an understanding of that. However, when working with indigenous cultures with a different world view, it is important to have the sort of flexibility described in this section to help these groups develop a "healthy country plan" that best suits their needs.

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Manual Calculation of Viability

Viability | Approach # 1
Step 1: Complete the table

Steps
1. For each **Target** think about each **Category** (Size, Condition, Context, Cultural Health) and what is the most important thing (**Attribute**) about the target for that category
2. For each **Attribute**, say how you will measure it (**Indicator**), and how you will know if the Indicator is Poor, Fair, Good or Very Good
3. Decide what the health is today and mark that (shaded), and then what you think the health will be in 10 years and mark that (***bold***)
4. There may be multiple indicators per attribute, multiple attributes per category, and multiple categories per target, or there may be one, or in some cases none eg no Condition for Grassland

Target	Category	Attribute	Indicator	Rank			
				Poor	Fair	Good	V.Good
Grassland	Size	Area	Ha	a	*b*	c	d
			Disturbed portion	a	*b*	c	d
		Abundance	% T australis	a	b	c	*d*
	Context	Fragmentation	Distance to next patch	a	*b*	c	d
	Cultural Health	Fire regime	Fires managed by TO	a	*b*	c	d
Art Site	Size	Access	Visits/yr	a	*b*	c	d
	Context	Value	% visitors support protection	a	b	c	*d*

Viability | Approach # 1
Step 2: Use Indicators to Rank each Attribute

We need to make 1 rank per attribute (eg Area). Add a column and calculate a rank from the two indicators for Area

Target	Category	Attribute	Indicator	Rank				Attribute Rank
				Poor	Fair	Good	V Good	
Grassland	Size	Area	Ha	a	*b*	c	d	From calculation below
			Disturbed portion	a	*b*	c	d	

Each rank is given a score

Rank					Rank			
Poor	Fair	Good	Very Good		Poor (=1.0)	Fair (=2.5)	Good (=3.5)	V. Good (=4.0)
	2.5				a	b	c	d
		3.5			a	b	c	d

The final rank is found using the table below

The final score is the average of all scores

$$= (2.5+3.5)/2 = 3$$

Poor	1.0-1.745
Fair	1.75-2.995
Good	3.0-3.745
Very Good	3.75-4.0

Target: Grassland
Category: Size
Attribute: Area
Rank: Good

Viability

Approach # 1
Step 3: Use Attribute to Rank each Category

We now create a single rank for each category (eg Size). Add another column and record the final rank there

Target	Category	Attribute	Indicator	Rank				Attribute Rank	Category Rank
				Poor	Fair	Good	V Good		
Grassland	Size	Area	Ha	a	*b*	c	d	Good	From calculation below
			Disturbed portion	a	*b*	c	d		
		Abundance	% *T australis*	a	b	c	*d*	Poor	

A final score is based on the following Rules

- if *any* Attribute = Poor, then Category = Poor
- if *any* Attribute = Fair, then Category = Fair
- if only Good and Very Good
    - if number of Good >= Very Good, Category = Good
    - if number of Very Good > Good, Category = Very Good

Area = Good
Abundance = Poor

→ Target: Grassland
Category: Size
Rank: Poor

Viability

Approach # 1
Step 4: Use Category to Rank each Target

We now add a final column to the table and record the final rank for each **Target** there

Target	Category	Attribute	Indicator	Rank				Attribute Rank	Category Rank	Target Rank
				Poor	Fair	Good	V Good			
Grassland	Size	Area	Ha	a	*b*	c	d	Good	Poor	From calculation below
			Disturbed portion	a	*b*	c	d			
		Abundance	% *T australis*	a	b	c	*d*	Poor		
	Context	Fragmentation	Distance to next patch	a	*b*	c	d	Poor	Poor	
	Cultural Health	Fire regime	Fires managed by TO	a	*b*	c	d	Good	Good	

Each Category rank is given a score based on the same value as for Indicator

	Rank			
	Poor ∎1.0	Fair ∎2.5	Good ∎3.5	V. Good ∎4.0

Target	Category	Category Rank	Score
Grassland	Size	Poor	1.0
	Context	Poor	1.0
	Cultural Health	Good	3.5

The final score is the average of all scores

= (1.0+1.0+3.5)/3
= 1.83

Poor	1.0-1.745
Fair	1.75-2.995
Good	3.0-3.745
Very Good	3.75-4.0

→ **Target: Grassland**
Rank: Fair

Viability

Approach # 1
End result: A Health summary

- Using information from the previous steps, fill in the Summary Table

Target	Size	Condition	Context	Culture	Overall
Grassland	Poor	-	Poor	Good	Fair
Art Site	Good	-	Good	-	Good
Dugong	Good	Fair	Good	Good	Good
etc					

Appendix B. Risk and Negative Impact Assessment Tool

By Oscar Maldonado

Conservation projects are meant to deliver positive impacts. However, many things can go wrong during project implementation, affecting negatively our objectives and goals, and thus jeopardising our project success. Poor planning, wrong assumptions, overlooking contingencies or simply thinking we know best are among the causes for not anticipating potential risks and negative side-effects. We need to foresee this possibility and plan accordingly!

The Open Standards strongly recommend doing a risk analysis, but they provide little guidance. To fill this gap, this tool was developed in 2007, using result chains to analyse risks and negative impacts. It has been improved over the years, drawing on lessons from its wide use, particularly in REDD+ projects, and currently in the Social and Biodiversity Negative Impact Assessment (SBIA) used by the Climate, Community and Biodiversity Alliance.

Purpose of the Tool:

- Improve strategies and projects by analysing possible risks and negative impacts and incorporating mitigation measures as warranted.
- Develop stronger working hypotheses for each strategy (theory of change statements)

Time Required:

- Risk and Negative Impact Assessment: approximately 2 hours
- Feedback incorporation, theories of change, SMART objectives and indicators: 2 hours (including 15 minutes for coffee/tea break)

Key Concepts:

- **Risk:** External condition (often pre-existing), independent to the project implementation that may affect the project's performance or the sustainability of its results. It usually is an obstacle to achieve a result or implement an activity leading to that result.
- **Negative impact:** Unintended negative effect resulting from the implementation of a project.
- **Mitigation measure:** An action intended to attenuate or prevent a negative (and in some cases to correct or restore) effect or risk from occurring.
- **Theory of change:** The main hypothesis that supports a project or strategy. It states the logical sequence of *if-then* linkages underlying a project and makes explicit its expected results to achieve a final impact.

Procedure (first part):

1. The risk and negative impact assessment is the next step following result chain design.
2. Remember that we do this analysis assuming that you have the means to implement the project!
3. It is important that others besides the ones who developed a result chains examine it. While working in breakout groups, groups could be rotated so that "Group A" assesses the work of "Group B" and so on. Why is this important? Because it's always easier to find what can go wrong in the work of others!
4. Examine very generally the results of your host's chain and identify the boxes where you consider a **risk** or a **negative impact** may occur. You can highlight these cards with a symbol

(check, arrow, asterisk) and add an "R" or "NI," depending on whether it is a risk or negative impact.

5. Write in white cards what the risks and negative impacts are about (short description) and place them next to the result where they may occur. Be aware that some risks and negative impacts may exist for the whole result chain and not for a specific box. In that case put the cards next to the diagram.

6. Then, in your flipchart, draw a six-column table. Write the result where you find a negative impact or risk in the first column. In the second column write the risk or negative impact that was identified by the group. Columns 3 and 4 are to include the likelihood and magnitude of the risks and negative impacts, respectively, according to your group's best knowledge
   a. **Likelihood**: probability that the risk or negative impact will happen
   b. **Magnitude**: potential effect of the risk or negative impact on strategy success

7. Propose to your guest group a mitigation action

8. Propose how to include the mitigation action in the project design:
   a. As an **activity** to be considered in the work plan?
   b. As a **result** within the result chain? (State the new result and indicate where it needs to be placed)
   c. As a **series of new results** within the result chain?
   d. As a **necessary new result chain**?

9. Finally, you may want to propose at least one indicator (particularly if it is a high likelihood, high-magnitude risk or negative effect!) that shows that the risk or negative effect is managed.

Figure B - 1. Headers for Six-Column Table

Result	Negative impact or risk identified (R-NI)	Likelihood L-M-H-VH	Magnitude L-M-H-VH	Potential mitigation action	How to include it	Indicator

Figure B - 2. Result Chain with Risks and Negative Impacts Identified
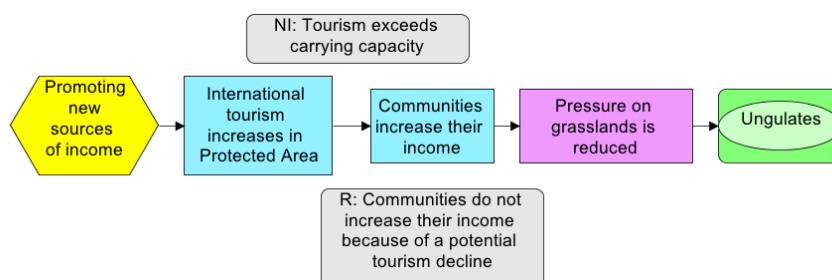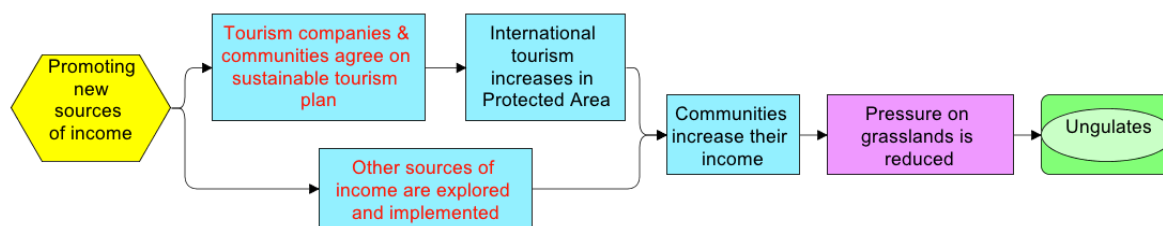
Figure B - 3: Result Chain with Mitigation Measures Incorporated (As Results)

Procedure (second part):

1. "Group A" will have the chance to explain to "Group B" their findings and recommendations, and vice-versa.

2. You have had the chance to hear your peers' findings and recommendations. Then it's your turn to use their feedback to modify your result chains, as you consider appropriate.

3. Discuss with your team the pertinence of your peer's recommendations and make modification to your result chains accordingly. When adding boxes, don't forget to state their content in "result mode."

4. Once your group is in agreement with the result chain (the diagram should be showing how the strategy is making positive changes), write up the strategy general assumption of that result chain: the theory of change. This is the statement that defines how you expect the strategy will work and obtain its expected final outcomes:
   a. Select the most important results in your result chain (the ones that more clearly show a progression towards your strategy impact)
   b. Draft your statement in a style "if… then…"
   c. Your project may contain different strategies, you may need to develop a result chain and theory of change for each one of them.

5. When working on your monitoring plan, do not forget to include the proposed indicators.