Integrating development with conservation
A means to a conservation end, or a mean end to conservation?

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ARTICLE INFO

ABSTRACT

If a project team is integrating human socio-economic development into its conservation work, there are three options for structuring the project: (1) have an integrated mix of conservation and development ends, (2) use development means in service of strict conservation ends, and (3) explicitly link the project's conservation ends to broader development ends. Although Option #1 is the most common solution, in this essay I argue that careful articulation of the theories of change behind conservation strategies reveals that it is often the worst choice. Project teams ultimately have to select either conservation or development goals, or risk achieving neither, especially in cases in which there is minimal linkage between the goals. Instead, a far better choice is Option #2 under which conservation agencies and organizations use the resources allocated to them by society in service of strict conservation ends. Under this option, project teams cannot ignore development concerns. Instead, they need to consider human needs in the context of both the threats at the site and their strategies – to use development means to achieve their desired conservation ends. Finally, in situations in which conservation teams need to increase available resources, it may be useful to show how conservation ends can also be a means to help achieve broader development ends over the long-term. Under Option #3, creating a clear "results chain" showing the team's theory of change enables teams to explicitly explore and make use of the links between human and natural welfare needs, and provide appropriate authorities with the information needed to weigh tradeoffs and make required decisions.

1. Three options for integrating development into conservation

The "new conservation debate" (Miller et al., this volume) over the ethics and effectiveness of integrating conservation and development is so thorny because it conflates two potentially irreconcilable and opposing truths. On one hand, strict conservation requires eliminating or at least dramatically minimizing human use of natural systems. On the other, conservation is almost exclusively a human endeavor that ultimately requires getting resource users to support conservation aims, thus forcing conservation advocates to frame their work as being in service of human welfare and development needs.

Faced with the need to reconcile these two opposing views, many conservation practitioners have for the past several decades struggled to find the middle ground, developing projects that involve an integrated mix of natural world and human welfare goals (see the Glossary for definitions of key terms used in this paper). As shown in Fig. 1, these practitioners have been searching for the win–win strategies that simultaneously meet both human welfare and natural system conservation needs. This has led to extensive interest in projects that for example, try to develop ecotourism ventures to benefit local people, sustainably manage natural resource harvests, or value ecosystem services. It has also led to a corresponding movement away from parks and protected areas and other traditional conservation strategies.

Unfortunately, although these win–win strategies are easy to formulate in theory, they have proven to be much more difficult to implement in practice (Adams et al. 2004; McShane and Wells 2004). This is in part because these win–win strategies are truly challenging to implement in the complex situations in which most conservation and development efforts take place (McShane et al., this volume; Robinson, this volume). But based on recent work to develop a common language and software tools for designing, managing, monitoring, and learning from conservation efforts (CMP, 2007; Miradi, 2010), the fundamental problem is that practitioners have been using vague logic that ignores real-world tradeoffs. If you are writing a high-level text description of your ecotourism or ecosystem service strategy in a glossy brochure, you can claim that this work will simultaneously achieve both

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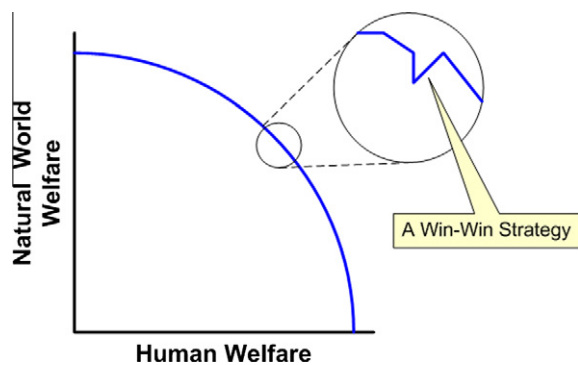 E-mail address: nick@fosonline.org

Fig. 1. The inherent tradeoff between natural world and human welfare. Although in special cases there can be actions that benefit both the natural world and human welfare, overall an increase in human welfare generally involves diminishing natural world welfare. Adapted from Salafsky (1994).

conservation and development ends. But if you diagram an explicit results chain (as outlined in FOS (2007), a results chain is a diagram showing the assumed short and long-term results of an action) showing your theory of change as to how your proposed strategy will achieve both ends, you soon realize you have to make choices and tradeoffs – that it is often impossible to reach these mutually exclusive goals.

Put simply, if a project team is trying to integrate development into its conservation work, there are three options for structuring the project:

Option #1. Have an integrated mix of conservation and development ends.

Option #2. Use development means in service of strict conservation ends.

Option #3. Explicitly link the project's conservation ends to broader development ends.

I suspect that many conservationists today would say that Option #1 is the best compromise. In this essay, however, I argue that at least in its purest form, it is the worst choice – and that conservation practitioners must select either Option #2 or Option #3 to be truly effective. We need to stop believing that we can "have our cake and eat it too" and start either implementing projects with pure conservation ends, or at least projects with clear links between conservation and development ends so that team members and broader society can make well-informed tradeoffs.

2. Why a mix of conservation and development ends is ineffective

Option #1 above involves having a mix of conservation and development goals for a project. Although this compromise is attractive in theory, it is often dangerous in practice. As a simple analogy, imagine that you are sailing your "project boat" towards the islands of conservation and development. If the two islands are in the same location relative to your current position (Fig. 2.1), or are at least in the same direction relative to your current position (Fig. 2.2), then charting your course is relatively easy. But if you are between the two islands (Fig. 2.3) or, as is most likely, if the islands are located some distance from one another (Fig. 2.4), then it gets harder to choose your course. In these latter cases, every action you take towards one goal ultimately takes you farther from the other. And if you try to sail to the "average" location you will end up in the middle of nowhere.

Although the boat analogy may seem simplistic, it is actually not that far-fetched from the situations faced by real-world project teams. Fig. 3 shows a results chain for a dive ecotourism project that directly links conservation and development goals (see Salafsky and Wollenberg (2000) for a definition of linkage and FOS (2007) for more detail about results chains). This direct linkage case is not that different than the situations in Fig. 2.1 or 2.2 in which the two goals really are the same – both conservationists and development advocates in this case need an ecologically viable coral reef and thus will counter internal and external threats to the reef.

As shown in Fig. 1, although there may be some win–win solutions around the margin, in a world dominated by a non-steady state economy (Daly, 1977), overall the dominant relationship is a tradeoff between conservation and development almost by definition. As a result, the vast majority of conservation projects are much more like Fig. 4 in which the team has to choose between conservation and human socio-economic development goals. If you stack the goals in the same column, it mirrors the situation in Fig. 2.4 in which the team cannot reach both goals simultaneously, but has to ultimately choose which one they want to head towards.

The distance between conservation and development goals depends on the degree of linkage between them (Salafsky and Wollenberg, 2000). Thus, in a strict protected area project, there can be a wide gap between the development goals of local people and conservation goals. Likewise, in a "sustainable" fisheries or forestry project, there is often a gap between the intensity of the harvesting regime preferred by economic stakeholders and that
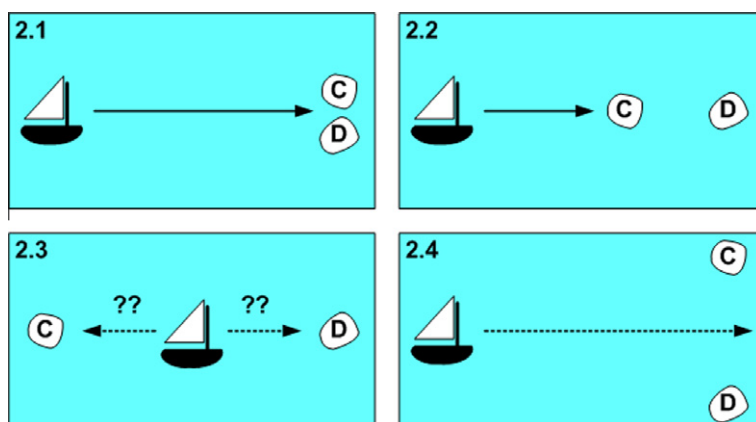

Fig. 2. Sailing a project towards the islands of conservation and development. See text for description.
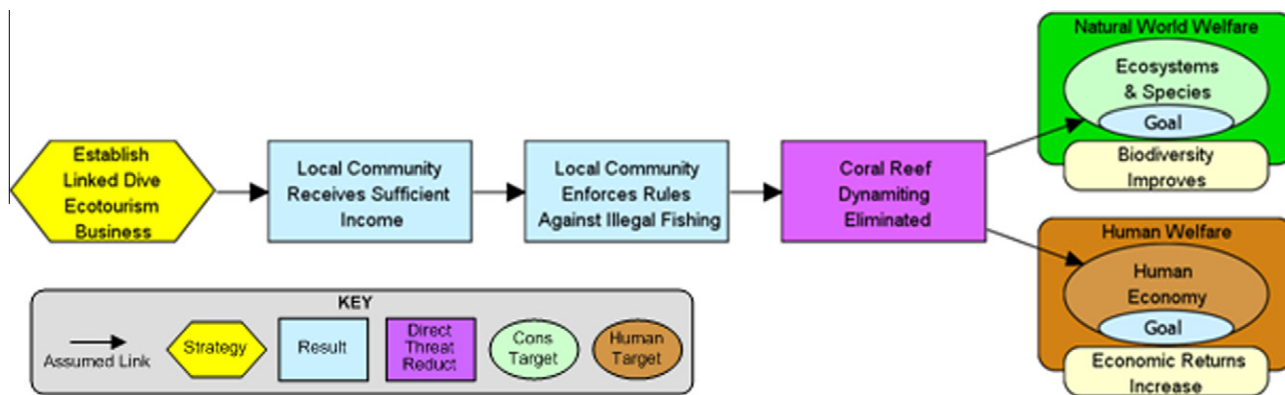
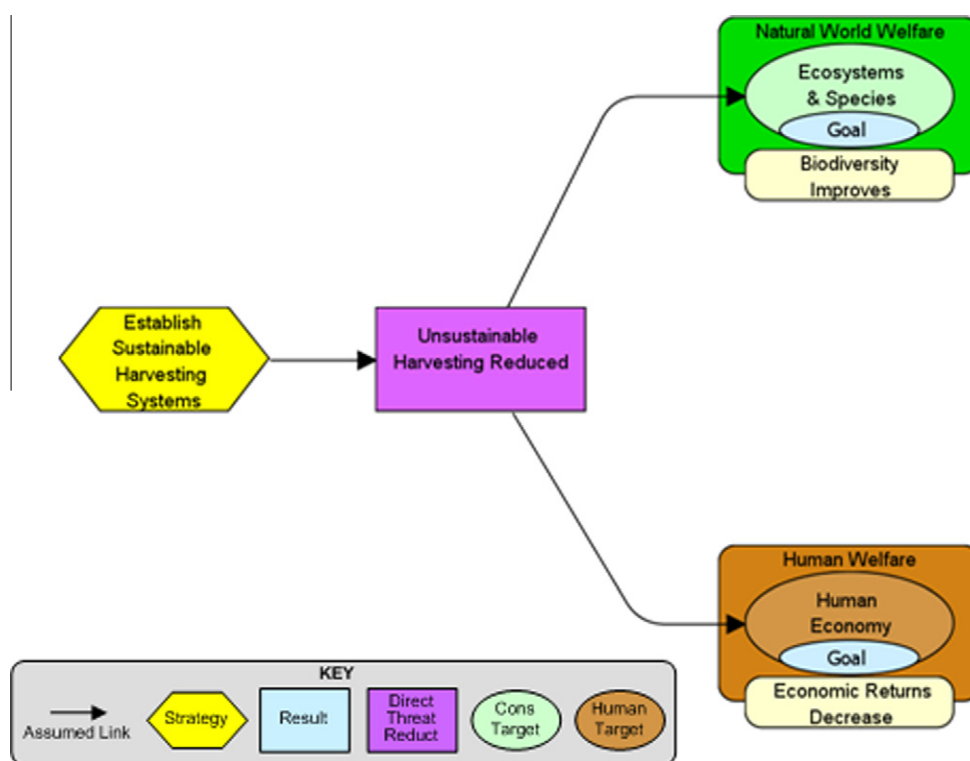**Fig. 3.** A directly linked dive ecotourism strategy can be a win–win.

Fig. 4. Option #1: An integrated mix of conservation and development ends.

preferred by strict conservationists. As a result, there is often pressure to domesticate and simplify the system to produce the desired commodity, for example stocking salmon in a river. Ecosystem service projects also face the same challenge in which for example, as much or more water catchment benefits can be delivered by a pine plantation as from a natural forest. And even in the ecotourism strategy discussed above, there is often strong pressure to feed or otherwise domesticate the top predators so that they will appear when the tourists are present, or to alter the landscape to accommodate tourist needs. As a result the team needs to ultimately choose which goal to aim for, which is difficult to do when disparate conservation and development goals are mixed together in the same vertical column of a results chain without showing the relationship between them. Although Option #1 may seem like an extreme strawman caricature of integrated conservation and development efforts, the point is that effective projects need to choose their ultimate end.

3. Conservation organizations should have strict conservation goals...

Having rejected Option #1, the question becomes should conservation organizations support development only as a means to conservation (Option #2), or as an end in and of itself (Option #3)? Answering this question first requires understanding where a project's goals come from.

The Conservation Measures Partnership, an association of many leading conservation organizations and agencies, has developed the *Open Standards for the Practice of Conservation* (CMP, 2007), a set of best practices for designing, managing, monitoring, and learning from conservation projects. The first steps of the *Open Standards* require that project implementers bound their problem by defining and agreeing upon the project's team, scope, vision and targets/goals. Interestingly, these elements of a project are not independent from one another – the selection of a project team
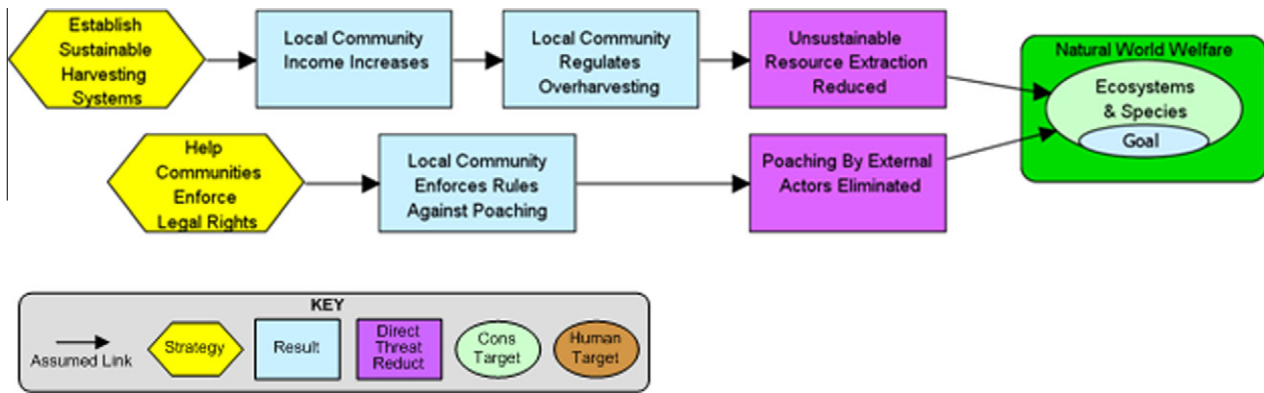
Fig. 5. Option #2: Development means to a conservation end.

will influence the project's scope and targets, and vice versa. For example, in one coastal management project on the West Coast of the United States, core team members initially bounded their project three miles out to sea at the jurisdictional boundary between state and federal waters. This meant that their full project team only had to include representatives from local and state agencies. They soon realized, however, that the fish that they cared about ranged far beyond the three-mile limit and that they had to follow their project out to the 100-fathom line, which took them into federal waters, which in turn meant that they had to expand their project team to include relevant federal agencies.

The important point here is that for any given project, the choice of boundaries and goals is not a scientific question, but rather a reflection of the project team's values subject to practical concerns and legal and ethical constraints. For instance, members of a given project team can decide that they want to cure malaria in Africa, conserve tigers in India, overhaul the health care system in the United States, mitigate the ecological effects of economic development projects, or get Americans to stop smoking. Or likewise, the management and board of a large internationally-focused private foundation can choose to fund programs aimed at arms control, human rights, or the environment. All of these options are equally valid projects in a technical sense. The choice depends on what the team and their supporters want to do – what they value – in light of relevant ethical, legal, and practical considerations.

Unfortunately, as outlined in other essays in this volume (Robinson, this volume; McShane et al., this volume), over the past several decades, many conservation groups have been pressured using the ethics card into taking an increasingly anthropocentric view of the world. As a result, these conservation groups are taking on the need to provide development and livelihood incentives for humans as a goal of their work. This focus on human welfare as a goal (as opposed to as a means) is to my mind an abrogation of their core mission. As a simple analogy, I am on the board of my local neighborhood non-profit preschool in suburban Washington DC. Imagine if at the end of the year, as the board is conducting our performance review of the teachers, we tell them that they have done a great job in their mission of providing a warm nurturing environment for our kids. So far, so good. But then suppose we go on to tell them that they have failed miserably in getting school parents to stop smoking or to provide health insurance for their kids – let alone curing malaria in Africa. Although these are certainly worthy goals (and contribute to the wellbeing of our kids), they are not within the appropriate purview of our preschool. We cannot do everything and need to focus on goals that are both relevant to our mission and within our capacity to accomplish. It is ridiculous for us to expect our preschool to try to solve these broader social ills. But is it any less ridiculous to expect an environmental organization to take on broader social ends as its goals?

If society values curing malaria or solving the healthcare problem, then society's members will contribute resources such as individual donations of funds, grants from private foundations, government funding, and people's time and attention to the agencies and organizations that are perceived as being able to best solve these problems. If society provides resources to a state or federal Environmental Protection Agency, or to a conservation organization, however, then it does not seem too far-fetched to think that society is expecting a conservation return.

It is important to note, however, that if a conservation project adopts strict conservation ends, this does not mean that the team members can ignore development concerns. Instead, as shown in Fig. 5, they need to consider human needs in the context of the threats and contributing factors at the site as well as in terms of their strategies. Thus, as shown in this situation, if a forest or coral reef is threatened by unsustainable resource harvesting by both local people and external actors, team members might well decide that their best option to maintain conservation values is to help the local people set up a sustainable harvesting system and to enforce their resource rights. But the key here is that the conservation team is using development means as the best choice for achieving conservation ends. And if the local community was unable to limit its harvesting to sustainable levels, then at some point the project team would have to try another strategy. Or leave the site to the local community to manage as they see fit.

Likewise, if a project involves mitigating the negative effects of a highway, oil drilling, flood control structures, or other economic or social development efforts, they are effectively in a situation where they are trying to reduce human threats to conservation targets. By mapping out the relationship between these threats and the targets, the team can find the most optimal solutions from a conservation perspective, while considering socio-economic constraints. The key is not to ignore the human activities, but to understand how they affect the biodiversity of interest.

4. . . . Or projects should explicitly link conservation and development ends

Although conservation organizations need to use the financial and other resources that society provides toward strict conservation ends, these resources are currently woefully short of the true resources needed to achieve our desired ends. In addition, although Fig. 1 places human welfare needs in a different dimension from the natural world's welfare needs, over the long-term humans are part of the natural world and our respective fates are inextricably woven together.

To tackle this problem in the context of shorter-term conservation projects, we need to not ignore human welfare needs, but in-
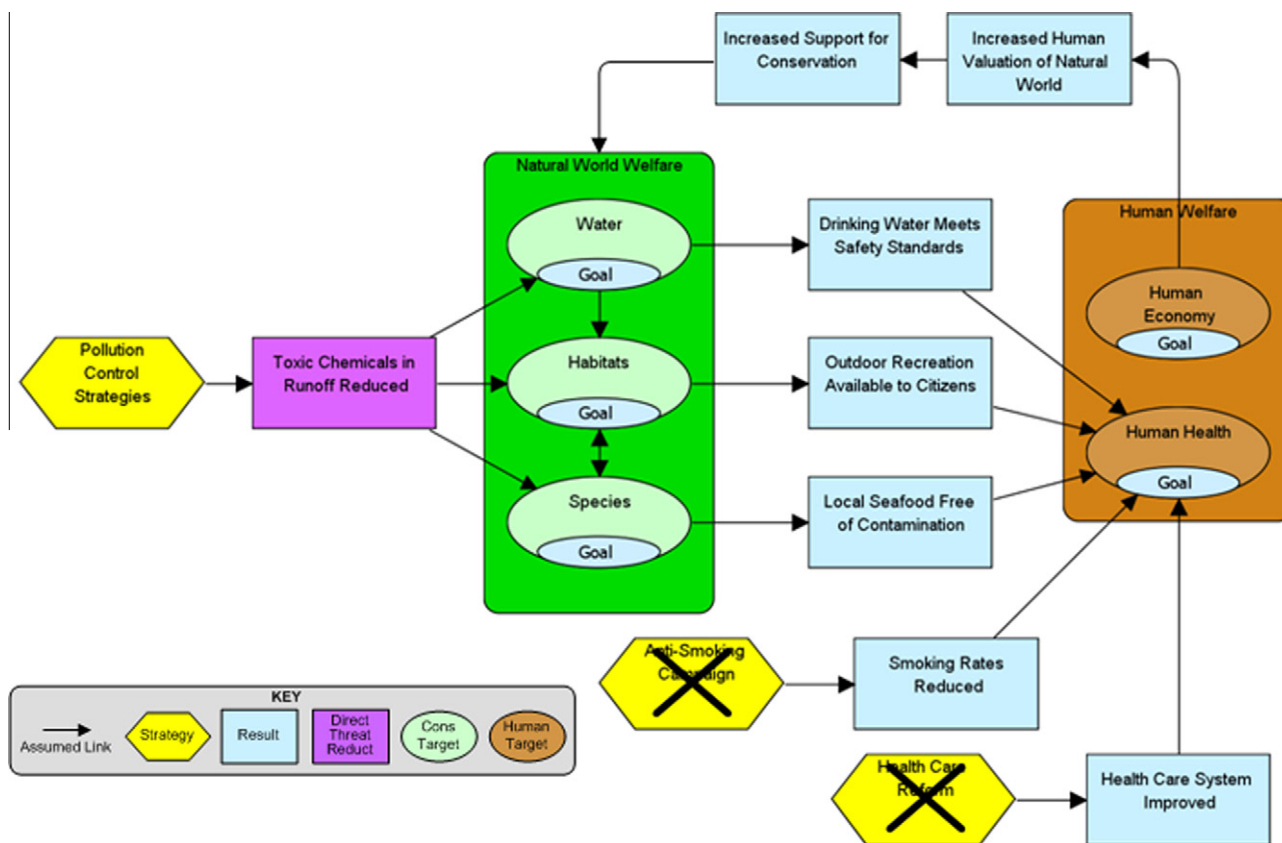
Fig. 6. Option #3: Explicitly linking conservation and development ends. See text for description.

stead explicitly explore, understand, and make use of the links between human and natural welfare needs. To do so, we need to put these human ends into our project models in a way that we can make sense of the tradeoffs.

Fig. 6 shows an example of such an approach that has been adapted from ongoing efforts to manage a very large coastal area and its surrounding watershed in the United States. This work was put into motion by enabling state legislation that specified three sets of high-level ends for the project: protection of species and their habitats, provision of clean abundant water, and improvements to human health and economic wellbeing. The challenge facing the implementing agencies and organizations on the project team is to translate these legislative ends into meaningful operational goals and then to develop appropriate strategies and performance metrics.

Using the *Open Standards for the Practice of Conservation* (CMP, 2007), the project team is laying out the relationship between human and natural world welfare goals as shown in Fig. 6. The key insight is that rather than mix these goals in one linear column (i.e., following Option #1), they are instead putting the goals in relationship to each other (Option #3). In this case, they can show that human health (one component of human welfare) ultimately depends on having healthy species and habitat and clean abundant water. As a result, a pollution abatement strategy can be a conservation action – but also contributes to human welfare. But the project team can also decide and then show that they are not going to address all aspects of human health. For example, as shown in the diagram the team will not tackle smoking or fixing the health care system – these important tasks are the responsibility of other sectors of society. And if there are conflicts, then the appropriate politically accountable authorities can weigh the tradeoffs and make whatever decisions are required. Creating this explicit diagram

thus becomes a way of understanding not just where win–win situations exist, but also where these goals are in conflict with one another. It also gives the political decision makers more and better information to make decisions regarding these tradeoffs.

Perhaps most interestingly, although most of Fig. 6 shows how conservation ends are in service of development ends, the recursive loop at the top also conveys the inverse relationship. In this case, if humans become more aware of the value of the natural world to their own welfare, they may be willing to expand the resources and willpower available for conservation ends. This is the core model being proposed by advocates of the "social ecology" approach for resource management (Sarkar and Montoya, this volume).

5. One immediate practical application of these options

One immediate and practical application of the issues discussed in this paper is in the development of Miradi Software (2010) which is being used to help implement the Conservation Measures Partnership's *Open Standards*, and to create the results chain diagrams shown in this paper. When the Miradi development team initially designed the software, we only allowed conservation targets/goals in models of conservation projects. After receiving many user requests to add the ability to show human welfare targets/goals, we had to decide whether to allow them, and whether we should influence where they are put in the diagrams either through hard-wired restrictions (the software will not allow certain configurations), or in the default layout (the software initially places the targets/goals in a specific location). Our three options were:

Option A. Allow practitioners to mix human welfare and ecological targets/goals as they choose.

Option B. Not allow human welfare targets and only allow ecological/goals targets.

Option C. Allow human welfare targets/goals, but restrict them to being spatially placed only to the left or the right of ecological goals/targets (i.e., not in the same vertical column as the ecological targets).

Hopefully at this point these options should look familiar. Based in large part on the logic presented in this paper, we decided to allow human welfare targets as an optional factor in conceptual model and results chain diagrams. Furthermore, although we have not hard-wired their position in the diagram, we have also have them initially appear to the far right of the ecological targets and developed the capacity to show how they relate to the ecological targets/goals as shown in Fig. 6. It will be interesting to see how practitioners use these tools and whether these rules make sense.

6. Conclusions

At the start of this essay, I proposed three options for conservation project teams seeking to integrate development into their work.

Option #1. Have an integrated mix of conservation and development ends.

Option #2. Use development means in service of strict conservation ends.

Option #3. Explicitly link the project's conservation ends to broader development ends.

Although Option #1 seems like the obvious compromise, I hope it is now clear why it is actually the worst choice, at least in its purest form. If we conservationists blindly mix conservation and development ends, we are going to end up with a mean end to conservation. Option #2 is probably the best way for conservationists to truly spend the resources with which society has entrusted us. However, where we need to develop more support for conservation or to address real tradeoffs, Option #3 is also a useful alternative. The key is to make our values more explicit (Miller et al., this volume). If we maintain our conservation goals and take care to understand how they interact with human factors and needs, we can use development as a means to a conservation end.

Acknowledgements

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Sarkar and Montoya, this volume.

Glossary

These terms are adapted from definitions in the Conservation Measures Partnership's Open Standards (CMP, 2007).

Conceptual model: A diagram that shows the current status of the system.

Conservation practitioners: Individuals that implement or otherwise support conservation projects.

Direct threat: The proximate human activities or processes that have caused, are causing, or may cause the destruction, degradation, and/or impairment of biodiversity targets.

Goal: A formal statement detailing a desired end or impact of a project, often associated with a long-term date. Goals are usually attached to *focal targets*.

Project: Any set of actions undertaken by a group of people and/or organizations to achieve defined goals and objectives. Projects can range in scale and complexity from one individual's efforts to manage a small pond to a program or agency's efforts to manage a chain of lakes, to an international effort to manage an entire ocean.

Project team: The practitioners responsible for designing, managing, and monitoring a project.

Result: A factor in a results chain that describes a specific outcome that results from implementing one or more conservation strategies.

Results chain: A results chain is a diagram that shows how a project team believes a particular action it takes will lead to some desired result. More specifically, for conservation projects, a results chain represents a team's assumptions about how project or program strategies will contribute to reducing important threats, leading to the conservation of priority targets. In essence, results chains are diagrams that map out a series of causal statements that link short-, medium-, and long-term results in an "if…then" fashion.

Strategy: A broad course of action that is a means by which a project team achieves desired ends.

(Focal) Target: An element of the system that helps define goals (e.g., ecosystems and species or human health).