Conservation Biology

*Essay*

# Adapting participatory processes to fine-tune conservation approaches in multiactor decision settings

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**Abstract:** Conservation decisions are typically made in complex, dynamic, and uncertain settings, where multiple actors raise diverse and potentially conflicting claims, champion different and sometimes contradictory values, and enjoy varying degrees of freedom and power to act and influence collective decisions. Therefore, effective conservation actions require conservation scientists and practitioners to take into account the complexity of multiactor settings. We devised a framework to help conservation biologists and practitioners in this task. Institutional economic theories, which are insufficiently cited in the conservation literature, contain useful insights for conservation. Among these theories, the economies of worth can significantly contribute to conservation because it can be used to classify the types of values peoples or groups refer to when they interact during the elaboration and implementation of conservation projects. Refining this approach, we designed a framework to help conservation professionals grasp the relevant differences among settings in which decisions related to conservation actions are to be made, so that they can adapt their approaches to the features of the settings they encounter. This framework distinguishes 6 types of agreements and disagreements that can occur between actors involved in a conservation project (harmony, stricto sensu arrangement, deliberated arrangement, unilateral and reciprocal compromise, and locked-in), depending on whether they disagree on values or on their applications and on whether they can converge toward common values by working together. We identified key questions that conservationists should answer to adapt their strategy to the disagreements they encounter and identified relevant participatory processes to complete the adaptation.

**Keywords:** conservation action, decision making, deliberation, institutional economics, justification, participation, value pluralism

Adaptación de los Procesos Participativos para Ajustar las Estrategias de Conservación en Entornos con Decisiones de Actores Múltiples

**Resumen:** Típicamente, las decisiones de conservación se toman en entornos complejos, dinámicos e inciertos. En estos entornos, los diferentes actores presentan alegaciones diversas y potencialmente conflictivas, defienden valores diferentes y a veces contradictorios y gozan de grados variantes de libertad y poder para actuar e influir sobre las decisiones colectivas. Por lo tanto, las acciones efectivas de conservación requieren que los científicos y practicantes de la conservación consideren la complejidad de los entornos con actores múltiples. Diseñamos un marco de trabajo para ayudar a los biólogos de la conservación y a los practicantes de la conservación con esta tarea. Las teorías de la economía institucional, las cuales están citadas de manera insuficiente en la literatura de la conservación, contienen conocimientos útiles para la conservación. Entre estas teorías, las de economía del valor pueden contribuir significativamente a la conservación porque pueden usarse para clasificar los tipos de

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valores, personas o grupos a los que se refieren cuando interactúan durante la elaboración e implementación de los proyectos de conservación. Con el refinado de esta estrategia diseñamos un marco de trabajo para ayudar a los profesionales de la conservación a entender las diferencias relevantes entre los entornos en los cuales se deben tomar decisiones relacionadas con las acciones de conservación, de tal manera que puedan adaptar sus estrategias a los rasgos de los entornos con los que se encuentren. Este marco de trabajo distingue seis tipos de acuerdos y desacuerdos que pueden ocurrir entre los actores involucrados en un proyecto de conservación (harmonía, acuerdo *stricto sensu*, acuerdo deliberado, compromiso unilateral y recíproco, y bloqueado), dependiendo de si hay discrepancias en torno a los valores o sus aplicaciones y si pueden converger hacia valores comunes mediante el trabajo conjunto. Identificamos preguntas clave que los conservacionistas deberían responder para adaptar su estrategia a los desacuerdos que encuentren e identificamos procesos relevantes de participación para completar esta adaptación.

**Palabras Clave:** acción de conservación, deliberación, economía institucional, justificación, participación, pluralismo de valores, toma de decisiones

## Participation and Disagreement Healing in Conservation

Conservation actions taken and planning decisions made typically occur in complex, dynamic, and uncertain settings (Schwartz et al. 2018), where multiple, sometimes powerful actors (Manfredo et al. 2017) raise diverse claims and champion different and sometimes contradictory values (Estévez et al. 2015; Tadaki & Sinner 2017; Chapman et al. 2019). In such conditions, major theoretical and practical frameworks, such as structured decision making (Gregory et al. 2012; Runge & McDonald-Madden 2018), promote the inclusion of stakeholders in environmental decision processes. Many regulatory frameworks, such as European Directives, also mandate stakeholder involvement in environmental decision making.

This generalized call for participation has led to the burgeoning of participatory processes in conservation settings. In these processes, stakeholders are variously solicited to contribute to making a collective diagnosis, through discussions of the diverse representations of the issues at hand; articulating objectives; enlisting management options; expressing preferences regarding these options; and discussing implementation, monitoring, and evaluation (Daniell et al. 2010).

Numerous conservation scientists and practitioners (hereafter conservationists) now spend a considerable amount of time orchestrating such participatory processes. This is the case of consultants elaborating conservation action plans and conservationists supervising their implementation or facilitating discussions among stakeholders. Others involved in such processes have a more peripheral role, but have a stake in the outcome, such as representatives of conservation nongovernmental organizations or conservation scientists developing research programs in collaboration with practitioners. Forced to organize their work around these participatory processes, conservationists unavoidably have to ask themselves what the point of these processes is and which role they should play in them.

A disturbing fact that should concern conservationists in this regard is that, in many situations, due to economic, social, or administrative inequalities, elite actors are in a position to skew or even engineer participatory processes to their advantage. Accordingly, a large literature explores the preconditions for meaningful participatory processes, which are mainly a matter of empowering marginalized actors (Honneth 1996; Turnhout et al. 2010, 2020). Unless conservationists pay attention to these preconditions and make sure they are fulfilled, they are bound to become instruments of elite actors.

Admitting the importance of preconditions for meaningful participation leaves open the question of the role participation is expected to play in conservation. The prominent answer echoes the philosophy of deliberative democracy, which claims that inclusive deliberations lead to everyone accepting the "constraint-free force of the better argument" (Habermas 1992). This means participation is a way for conservationists to ensure that conservation is legitimate (because it allows for democratic participation), rational (because stakeholders can bring in ideas that conservationists might not have), and efficient (because it promotes trust between practitioners and the public) (Reed 2008). Some authors believe deliberation plays this role because it is conducive to consensus (Wilson & Howarth 2002). However, most authors believe participatory processes should rather encourage contestation and dissent. The latter "agonistic" (Mouffe 2013) approach suggests that the role of conservationists in participatory settings should be to foster exchanges of arguments concerning values, facts, and uncertainties because they are valuable in themselves and are key to make decisions that will be understood and adhered to (Gregory et al. 2012; Johansson et al. 2018).

Such discussions can, however, unearth disagreements among actors, or at least bring disagreements to the table, which should be seen as a large risk by conservationists because the literature on human–wildlife conflicts highlights that disagreements can hinder conservation. Given that participatory processes are commendable

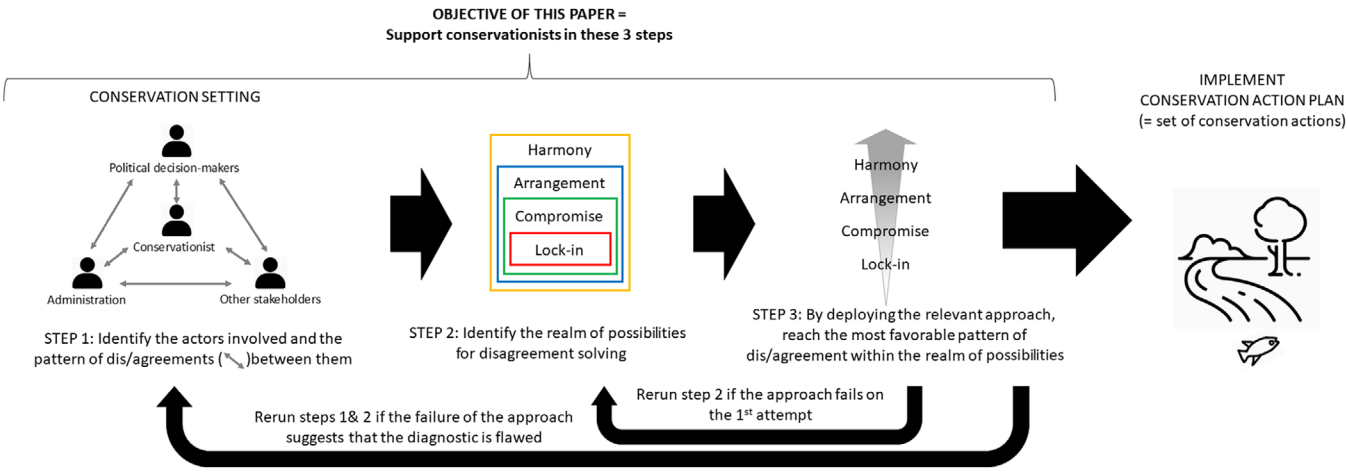


*Figure 1. Outline of the process to unfold to adapt conservation approaches to different kinds of pluralist settings.*

(and, in any case, often unavoidable for regulatory reasons) in pluralist conservation settings, we investigated the role conservationists can play in healing the disagreements that participation can bring to the surface.

The literature on human–wildlife conflicts barely addresses this question. It is mainly concerned with understanding the diversity of the perceptions and attitudes underlying conflicts (e.g., Bruskotter et al. 2019; Gosling et al. 2019). When explicitly tackling disagreements, most researchers explore means to avoid rather than to resolve them (e.g., Fang et al. 2019; Muntifering et al. 2019), thereby paralleling the attitude of many practitioners (Arpin 2019). Most studies addressing situations in which conflicts are unavoidable propose concrete solutions of local relevance (e.g., Dhungan et al. 2016; Oelrichs et al. 2016) or study opinions on the local relevance of specific solutions (Lute et al. 2018).

Our purpose was to make up for this lacuna (Fig. 1). To do so, we took advantage of insights from a specific branch of institutional economics to develop a framework that allows conservationists to understand disagreements among actors and to strive to heal them.

## Tools from Institutional Economics

Economic approaches have long provided decision support for conservationists (Scharks & Masuda 2016), largely due to the link between standard economic theory and widespread economic decision methods such as cost–benefit analysis. However, in pluralist settings, the usefulness of such tools and theories is questionable because by focusing on a single (often monetary) value scale (Buchs et al. 2020), they ignore the diversity of values that the actors involved hold. While retaining the distinctive economic ambition to buttress decision support, institutional economic approaches differ in that they emphasize the importance and implications of value pluralism.

Institutional economics emerged at the turn of the 20th century (Veblen 1898; Commons 1931) as an alternative to the dominant so-called neoclassical economic models, anchored in the implausible assumption that agents are perfectly rational agents and markets are self-regulated. Since the 1980s, institutional economic thinking has gained prominence in its emphasis on the importance of understanding the dynamics and functioning of institutions (encompassing both systems of formal rules, such as law, and informal rules, such as representations) (North 1994). There are 3 main branches of institutional economics (Nielsen 2001): historical, rational choice, and sociological.

Historical institutionalism explores how past power relations mold economic functioning and social relationships (Zuindeau 2007). Rational choice institutionalism analyzes how actors use institutions to reduce uncertainty (North 1990; Williamson 2000). Sociological (or pragmatic) institutionalism, whose central contribution is the economies-of-worth framework (Boltanski & Thévenot 2006), explores how institutions reflect actors' representations, beliefs, and aims (Dequech 2002).

The third branch is of particular interest in the study of disagreements in pluralist contexts. The economies-of-worth framework distinguishes 2 types of institutions: rules in use and regimes of justification. Rules in use regulate behaviors in concrete situations through constraints and permissions (Ostrom 1990). In contrast, regimes of justification are shared cognitive models actors use to understand the world, evaluate beliefs and resources, and articulate arguments. Coordination is a matter, for actors seen as *Homo interpretans*, of reaching (explicit or implicit) agreements by referring to regimes of justification (Favereau 2011; Diaz-Bone 2017) that are socially and historically situated and therefore plural. Boltanski and Thévenot (2006) distinguish 6 such regimes, each corresponding to a specific value attached to a specific, targeted "common good" (Walzer 1983).

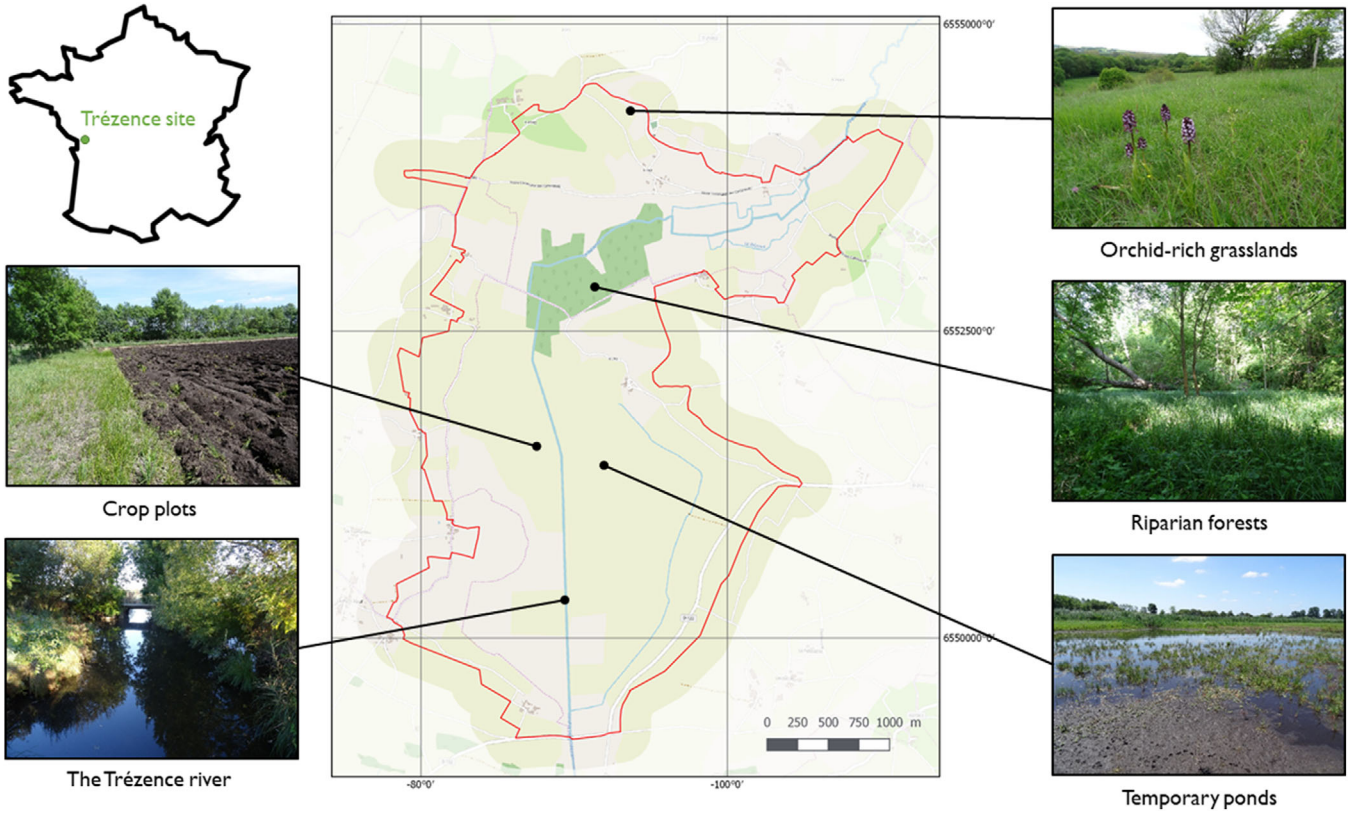


*Figure 2. The Trézence site.*

Because this third branch of institutional economics is specifically devoted to exploring how various actors refer to different values and how their interactions are orchestrated by these references to values, it provides a relevant basis for analysis of the disagreements among actors that conservationists can face and the means they can heal some of these disagreements.

We tested this framework to see how it might help conservationists working in pluralist settings, and we devised an improved framework designed to render the economies-of-worth approach more practical and relevant for conservationists in the field. We applied the framework to 2 illustrative cases. We then drew on this literature to propose a relevant typology of agreements and disagreements and to show how conservationists can identify the kinds of agreement they hope to achieve by working with actors in each case. We considered the role conservationists can play in different contexts.

## Imports and Limits of the Economies-of-Worth Framework in 2 Case Studies

The economies-of-worth framework can be used to explain how the diversity of interpretations that various actors have of an issue affects the way they respond to it (Thévenot et al. 2000; Hassenforder et al. 2016) because different justifications articulate competing and incommensurable "languages of valuation" (i.e., different ways of conceiving of the value of various items or issues and of expressing that value) (Centemeri 2015). Table 1 lists the kinds of justifications characterized by Boltanski and Thévenot (2006). The third column in Table 1 shows Boisvert and Vivien's (2012) application of this approach to conservation.

To illustrate the usefulness of this approach in more concrete terms, we considered 2 case studies and examined how the economies-of-worth framework helps structure their analysis (Table 1, fourth column summarizes this application).

The first case concerns the Trézence Valley (Fig. 2), France (Lelièvre et al. 2018). This seminatural site of roughly 1000 ha encompasses a large wetland occupied by humid grasslands, ponds, and reed beds through which the river Trézence flows and is bordered by semiarid calcareous hillsides. It is almost exclusively owned by the local administration (Conseil Départemental [CD]). Since 2003 the CD has carried out a number of conservation actions on the hillsides and has rented the wetland plots to farmers exploiting grasslands or crops. In 2017 the CD decided to elaborate a conservation plan that identified areas within the site that would be designated for intensive farming, protection, extensive management, or restoration. One of us (Y.M.) was involved in

**Table 1. Six main kinds of justification and their implications for conservation issues.**

| *Kind of justification* | *Common good targeted* | *Translation in conservation terms (Boisvert & Vivien 2012)* | *Application to the Trézence Valley* | *Application to the Fribourg Water policy* |
|---|---|---|---|---|
| Civic | Equity | Nature must be accessible to free and equal citizens. Sovereignty over biological resources, which is enshrined in the Convention on Biological Diversity, conforms to this principle. Laws tend to solve legitimacy claims. | Various actors emphasize that conservation plans should not infringe exceedingly on the possibility for different groups to access the site and engage in activities they value. | Fribourg's municipalities invoke patrimonial arguments to defend their water and land-use prerogatives through the principle of whoever pays orders to reject cantonal funds. |
| Domestic | Tradition | Emphasis is on kinship and respect for tradition. The qualification of biodiversity or of some species as natural heritage or heirloom varieties, the notion of terroir, but also the scientific accounts of evolution in terms of families or legacies come under this order of worth. | Numerous actors champion the preservation of traditional activities in the site and the value of its traditional identity. | |
| Inspired | Outpouring of inspiration (grace) | Worth is viewed as an immediate relationship to an external source. The corresponding representation of biodiversity is that of a nature beyond human experience and out of reach. Environmental ethics or religious approaches to biodiversity and, to some extent, legal principles can convey such a picture. | Environmental activists and naturalist associations champion the richness of the semiarid grasslands surrounding the wetlands and the currently underestimated patrimonial value of the wetlands. | |
| Opinion based | Fame | Biodiversity can be recognized only through its impact in the media or social networks. The protection of emblematic species and the media exposure of indigenous leaders or leading scientists come under this category. | Political decision makers want to showcase the importance they give to the interest of all their constituencies. | |
| Industrial | Efficiency | Value and worth of biodiversity is expressed in reference to its organized, measurable, and functional dimensions (see ecosystem services and ecological functions). This requires professional and technical capabilities. | Ecosystems provide services that have to be identified and typified. The Water Agency invokes its expertise to manage the project. Specialists must be relied on to address these questions. | Cantonal administration invokes its ability to cope with complex issues related to water management (human and environmental safety, economic and technical issues related to infrastructures, etc.). Specialists must be relied on to address these questions. |
| Market based | Competition and richness | Biodiversity is a bundle of scarce goods, a commodity. Markets should help coordinate conservation approaches (signal price). | Farmers want to maximize their revenues by planting crops in the wetlands. | |

the process as a consultant and thereby witnessed how stakeholders expressed and then managed to resolve disagreements.

This setting was characterized by a marked imbalance of power. The CD, which owns the entire area, could have sovereignly defined the objectives. It chose instead to launch a participatory process. In October 2017, a large group of stakeholders, including farmers, local elected representatives, naturalist associations, associations devoted to protect archaeological sites, federations of anglers and hunters, local water authorities, local inhabitants, and authorities in charge of cycle touring and hiking, participated in a series of workshops to discuss farming, other local socioeconomic activities, water resources, and biodiversity. The same actors discussed management objectives in April 2018 and then worked on concrete tasks to be included in the action plan in November 2018. The content of the discussion showed that, although different stakeholders started with divergent views on the value of the site and on the activities that should be encouraged, as the process unfolded, farmers managed to convince other stakeholders that farming activities should be preserved because they were an integral part of the perennial identity of the territory. Although interpreting such discussions is delicate and hidden power relations may have played an invisible role, the content of the arguments we witnessed suggests farmers wielded the constraint-free force of the better argument.

A strikingly different setting is illustrated by the renewal of the Swiss Canton of Fribourg's Water Act, aimed at devising an integrated water regime consistent with the federal Water Protection Act and including hydrosystems conservation (Mauch & Reynard 2004). The canton of Fribourg is located mainly in the Rhine catchment area, and its most important river, the Sarine, is characterized by an alpine nival regime (Milano et al. 2015).

The Water Protection Act was adopted in 2009, implemented in 2011, and supplemented by a delimitation of watersheds in 2014. Its enactment involved an iterative process through which bills were drafted by the cantonal administration, submitted for public consultation, and adjusted on this basis. One of us (A.B.) reconstructed this process based on records collected throughout the process (Buchs 2018) and thereby transcribed arguments used by the parties and their expressed disagreements. The picture that emerged was one of enduring opposition, lasting for 10 years, between the 2 main actors: the cantonal services responsible for drafting and implementing the law (mainly the Department of Land Planning, Environment, and Constructions) and the Association of Fribourg municipalities (AFM).

Buchs (2018) identified 6 main stages in this process by comparing the various drafts of the act and showed that the AFM iteratively criticized (even rejected) them by championing its own interests, particularly communal autonomy (Fig. 3). The interactions witnessed between the disagreeing parties consisted of a trial of force rather than discussions involving the critical scrutiny of arguments. Funding issues (the law included funds managed at the cantonal level) and the delineation of watersheds (the 8 watersheds delineated thanks to hydrological criteria in 2001 were replaced in 2014 by 15 watersheds partly determined by administrative and infrastructural criteria) were the main bones of contention. Our analysis in this case is an ex post reconstruction and thus, by definition, limited by the written evidence available. With all due caution when using this approach, we determined in this case that disagreements were resolved by a trial of force, irrespective of the constraint-free force of the better argument.

When analyzing settings like those in our 2 case studies, the economies-of-worth framework can be useful to characterize a diversity of actors and identify bones of contention among actors. In our Trézence case study, this framework emphasizes that, although environmental associations focused on the intrinsic value of rare species and habitats (inspired justification based on patrimonial arguments), the Water Agency mainly valued ecosystem services provided by the river and associated habitats (industrial justification based on technical efficiency) and representatives of farmers mainly valued the economic revenues accruing from crops (market-based justification). The Fribourg example highlights that the AFM considered the independence of municipalities unquestionable (civic justification based on equity and democratic arguments), whereas the cantonal administration considered that the benefits expected from a coherent watershed-scale management outweighed local prerogatives (industrial justification based on technical efficiency).

However, in such analyses, the economies-of-worth framework identifies only 2 main kinds of disagreement that can occur because various people refer to different values. The first kind is that all actors have the same values, but they disagree about how these values should be realized. This type of disagreement is called a *discord*. The second type of disagreement is called a *clash*, and it emerges when differences in values lead only to a compromise that may be unstable or temporary. This logic indiscriminately lumps together as compromises emerging from clashes the agreements achieved in our 2 cases, despite their profound differences. This suggests there is a need to improve this framework by developing a more fine-grained typology of disagreements.

## The Diversity of Agreements and Disagreements

The differences between the 2 cases we explored, which echo theoretical debates on the import and limits of participatory processes, suggest that a relevant typology of disagreements should reflect not only

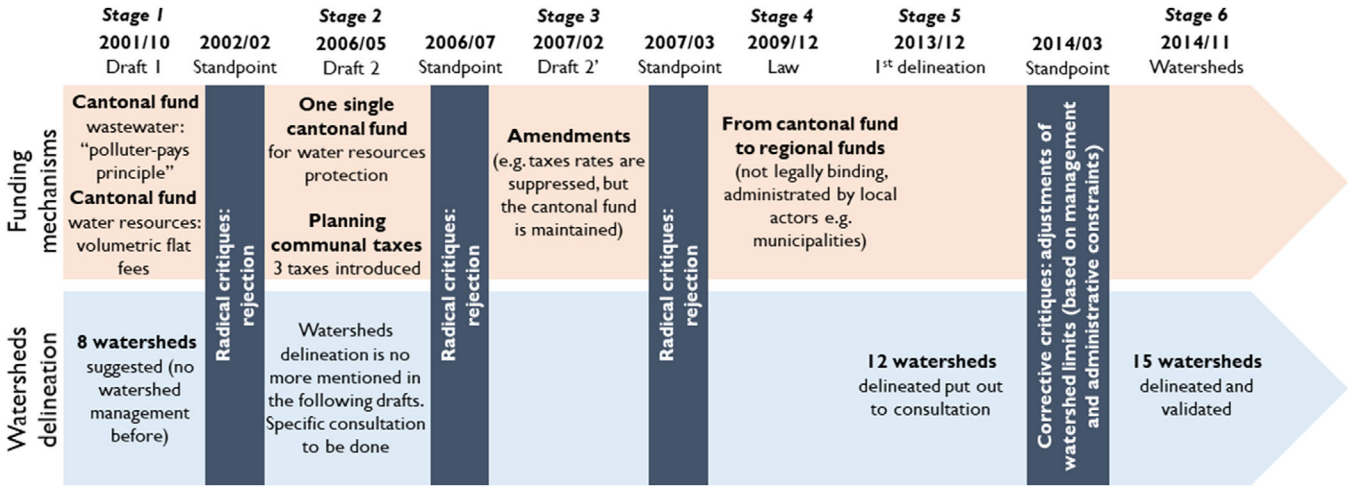


*Figure 3. The renewal of the Swiss Canton of Fribourg's Water Act: A 6-stage process.*

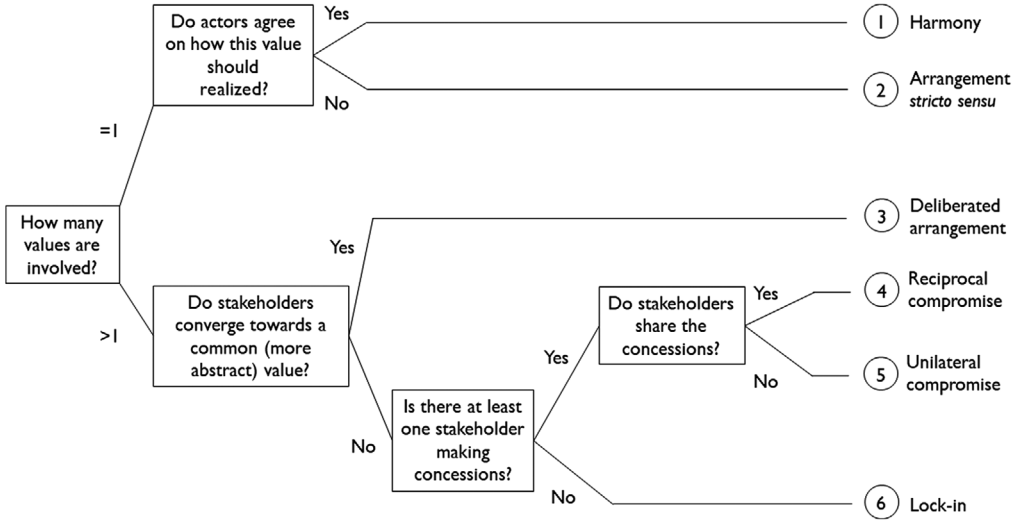


*Figure 4. Six kinds of agreements and disagreements among actors in pluralist settings.*

agreements and disagreements on values, but also the possibility that disagreeing actors may converge. Combining these 2 aspects, we propose the following 6-item typology (Fig. 4) composed of harmony, stricto sensu arrangement, deliberated arrangement, 2 types of compromises, and locked-in.

Harmony occurs when all actors share a common justification and agree on how to apply it. Such settings are rare, but examples can be found in local-scale settings where a group of people who share the same values and have worked together for a long time have all the decision power. This can be the case, for example, in small-scale natural reserves owned by local associations. It is important to differentiate harmony with situations in which stakeholders seem to agree because a dominant actor managed to silence all discordant voices.

A stricto sensu arrangement occurs when actors share common values, but disagree on how they should be realized. Such cases occur when a group of people sharing the same values work together but still have to work out applicative disagreements because they have only just started working together. This can happen, for instance, in emerging projects of natural reserve management.

A deliberated arrangement occurs when initial disagreements that result from conflicting values are overridden because actors manage to converge by identifying a more abstract shared value. This kind of convergence toward common, more abstract values by different actors who otherwise have different justifications is illustrated by our Trézence case and the convergence around the value of the perennial identity of the territory. Here, we use the term *abstract* because actors managed to identify this value by abstracting from some aspects of the justification they usually refer to.

A compromise occurs when actors make concessions because they think they irredeemably disagree and have

**Table 2. Suggested tools to deploy at various stages of the participatory process, depending on the envisioned agreement.**

| | *Goal* | *Tool* |
|---|---|---|
| Values mapping (required in all cases) | inventory and characterize people's values | individual interviews<br>questionnaire based surveys<br>meetings and workshops encouraging the expression of individuals' and groups' values and stances |
| Arrangement facilitation | help people who share values to apply them to reach harmony or an arrangement stricto sensu | diffusion of scientific information and experimental feedback<br>workshops encouraging exchanges of information (e.g., to reveal that disagreement was not on the value itself, but on the way to put it into practice) |
| Deliberation | help people who disagree identify abstract values they may share to reach a deliberated arrangement | role-playing exercises<br>elaboration and tests of models of deliberative judgment (Cailloux & Meinard 2019)<br>workshops encouraging participants to articulate abstract justifications and discuss different abstract justifications |
| Mediation | help people who cannot heal their disagreement make headway nonetheless to reach a compromise and avoid intractable situations | workshops and meetings designed to motivate stakeholders to make steps forward, for example, by emphasizing their common emotional attachment to the site |

engaged in tests of strength. This is illustrated by our Fribourg case. A compromise can be unilateral when the power is too unbalanced or reciprocal when all actors agree to make concessions.

A locked-in occurs when stakeholders think they irredeemably disagree and refuse to make concessions. Examples are intractable controversies, as illustrated by conflicts between Natura 2000 directives and local practices (Arts et al. 2017).

Harmony and stricto sensu arrangement are not pluralist because all the actors share the same values, and locked-in is an irredeemable disagreement. Deliberated arrangement and compromise, illustrated, respectively, by our Trézence and Fribourg case studies, exemplified the 2 kinds of agreements that can be achieved in pluralist situations.

## Key Questions and Strategies to Adapt Conservation Approaches

Some disagreements are intractable, but fortunately, some disagreements can also be healed if conservationists devise and deploy wisely chosen approaches. In some cases, compromises can occur just because some actors involved failed to accurately express their stance or recognize that they share common values. In our Trézence case, although a deliberated arrangement was reachable, collective action could have collapsed in a compromise or even a locked-in. The success of conservation initiatives hence largely hinges on conservationists' capacity to identify the best achievable agreement and to work with actors to ensure it will be reached.

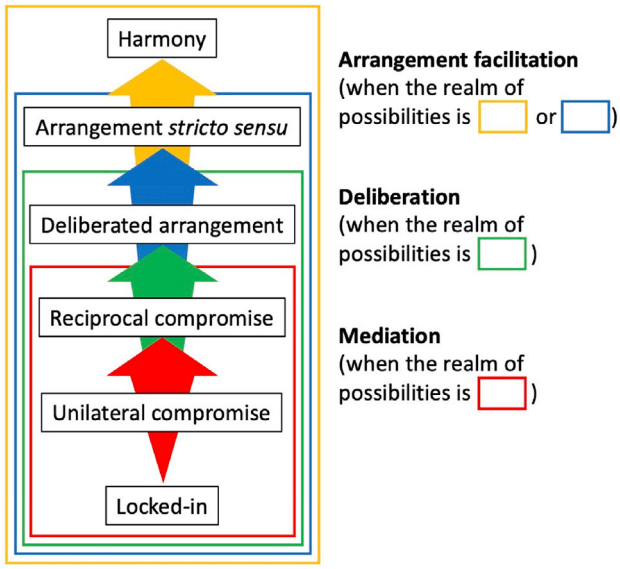


*Figure 5. Realms of possibilities characterizing different settings and the corresponding relevant approaches.*

The task for conservationists is hence 2-fold: identify the realm of possibilities (i.e., the kind of agreement achievable by working with the actors) and choose the relevant approach depending on this realm of possibilities (Fig. 5). At best, current studies providing management recommendations limit themselves to the first step. An example is the experimental game Concert'Eau created to help participants managing the Lentilla River (Richard-Ferroudji & Barreteau 2012). The game considers different water management logics, corresponding

to domestic, industrial, civic, and green justifications. Having participants endorse these different justifications enabled them to move away from their usual justification linked to their roles as users. Such approaches usefully highlight value pluralism. However, they proceed blindly for lack of a dedicated analysis of the kind of disagreements between actors and the kind of agreement achievable, which can lead to a waste of time, money, and energy trying to heal intractable disagreements or lost opportunities to heal tractable ones.

Conservationists can overcome such limitations by adapting their strategy (Table 2) to the specifics of their situation.

In any conservation setting, conservationists should first carefully identify and map the values of actors (Table 2, line 1). Arts et al. (2017) provide an example of how to map arguments and positions. Value mapping allows conservationists to answer a first key question: How many values are involved in the conservation setting?

If all actors have the same value, then the situation is not pluralist and the realm of possibilities encompasses all the kinds of agreements and disagreements mentioned above. In such cases, arrangement facilitation is the kind of approach to implement. Due to divergences in the way they think the value should be realized, or simply because they fail to realize that they share the same value, actors may express disagreements concerning the process, the actors in charge, the scope of the project, and so on. In such cases, in which corrective critiques (Boltanski & Thévenot 2006:219–225; Boltanski & Chiapello 2007:32–35) are voiced, conservationists need to take on the role of facilitator by collecting new data, rephrasing arguments, modifying steps within the process, and explaining nuances of positions (Table 2). One example of such an endeavor is management of rivers in the Annaz watershed, France (Meinard et al. 2018). There, all the actors converged in considering that controlling biological invasions should be a structuring management orientation. Representatives of fishers argued that management actions should focus on animal species, such as signal crayfishes (*Pacifastacus leniusculus*), whereas the local administration deemed it more important to focus on plant species, such as Canadian goldenrod (*Solidago canadensis*). Arrangement facilitation consists of smoothing out such differences by organizing collective discussions aimed at identifying the target species for which management actions better reflect the values all actors bestow on biological control actions.

In cases where actors have different values, one enters the domain of pluralism, and the question becomes: can stakeholders converge towards a common (more abstract) value? Answering this question requires launching deliberative processes (Table 2). When deploying such deliberative processes, the objective is obviously not to convince stakeholders that a specific abstract value is good but to give them sufficient elements so that they can deliberate in an informed way. To the best of our knowledge, there is currently no commonly accepted framework to rationalize the unfolding of this procedure (see, however, the formal apparatus proposed by Cailloux and Meinard [2019]). This is an important research frontier for the literature on participative techniques. Currently, this issue is tackled informally in the field.

If the implementation of deliberative techniques indicates that actors are liable to converge toward a common abstract value, a deliberated arrangement can be reached by pursuing the deliberative exercise (table 2). Conservationists then need to supervise the deliberation process to reach a deliberated arrangement. The task is more difficult than the one used to secure an arrangement stricto sensu because even once a common abstract value has been identified, divergences among actors on how to apply it are likely. This task is illustrated by the work of Lelièvre et al. (2018) in the Trézence Valley, in particular the participatory workshops through which representatives of various groups of stakeholders progressively converged toward recognizing the identity of the site as a common shared value and collectively decided how encouraging various activities on different parts of the site could do justice to this shared value.

By contrast, if the implementation of deliberative techniques indicates that actors are not liable to converge toward common abstract values because actors only exchange radical critiques (Boltanski & Thévenot 2006:219–225; Boltanski & Chiapello 2007:32–35), as in the Fribourg case study, then one cannot hope to achieve harmony or an arrangement stricto sensu. A further question is then: "Is there at least one stakeholder willing to make concessions?" If no stakeholder is willing to make concessions, the compromise is unilateral, unbalanced. This is the case when the state imposes a specific action.

By contrast, if at least 1 actor is willing to make concessions, then a more or less reciprocal compromise can be reached. In such cases, conservationists may adopt an approach based on mediation: emotional or empathic resources can prove more useful. An example is given by the management of Raymond Island, France, where consultants managed to unlock disagreements blocking an environment management blueprint by showing stakeholders pictures of unexpected species present in the site (Meinard & Quétier 2014). The use of devices, such as games or models, can also help develop stakeholders' empathy, to put them in the role of their opponents, and to facilitate the necessary integration of various knowledge forms and perspectives (Varjopuro et al. 2008).

In the Trézence case, because values were mapped, it was clear that harmony and arrangement stricto sensu were unachievable. Had the map not been drawn, consultants would have lost time and money trying to make sense of discussions framed using diverging values. Launching a deliberation process showed that a deliberative arrangement was achievable, and it was

secured. Had the deliberative process not been launched, some participants would have been forced to make unnecessary concessions. In the Fribourg case study, the fact that actors referred to different values was self-evident from the start, and harmony and arrangement stricto sensu were also evidently unachievable. But because no value-mapping and no deliberative processes were launched, no one knew whether a deliberated arrangement was achievable. Thus, opportunities to heal disagreements were lost and there were several years of tests of strength (Fig. 3).

## The Role of Conservationists in Participation and Beyond

This article is based on the idea that conservationists have a role to play in healing disagreements in conservation decision processes. Exploring what lies behind this assumption is useful to identify the limits of our framework and situate it in the broader debate on participation and conservation.

Pielke (2007) famously argued that, as soon as a diversity of values is involved in decision contexts, scientists can play 2 kinds of roles: issue advocates, who use their knowledge to promote the decision they favor or honest brokers of policy alternatives, who expand "the scope of choice … in a way that allows for the decision maker to [choose] based on his or her own preferences and values" (pp. 2–3). The role of issue advocates, striving to promote conservation, sometimes at the cost of creating conflicts, might seem particularly fit to conservation conceived as a self-avowedly normative endeavor. However, limiting themselves to playing issue advocates would mean conservationists would give up any hope of influencing decisions, except in the presumably rare cases in which conservationist values have the upper hand. Studies in which conservation knowledge was used to identify ways to avoid wildlife–human conflicts (e.g., Muntifering et al. 2019) exemplify the work of honest brokers fostering conservation in more complex pluralist settings.

Pielke's dichotomy is, however, typical of a broader tendency in the decision science literature to assume that decision makers are clear about the values they hold (Meinard & Cailloux 2020). Meinard and Cailloux (2020) suggest a third possible role for scientists: helping decision makers identify their own values and proceed to making decisions on this basis. The role that our framework assigns to conservationists in pluralist settings exemplifies this approach.

The risk, for a conservationist endorsing such an approach, is to lapse into what Pielke (2007) calls stealth issue advocacy. To prevent this risk, Meinard and Cailloux (2020) propose that scientists should structure their discussions with decision makers around the active elicitation of criticisms of values and their application, including the active search for criticisms that can be voiced by people or groups de facto excluded from participation. Structuring discussions around criticisms in this way can provide a partial answer to the concern that participatory decision processes can hide unequal power relations among participants or depoliticize decision making by ignoring certain political differences (Turnhout et al. 2020). However, further studies are needed to clarify how to apply this idea in the field, in particular in the case of conservation decisions that we focus on here, and to determine how efficient it can be in mitigating power imbalances and depoliticization.

Power imbalances are bound to remain problematic at least in some cases, and applications of our approach should be limited to situations in which such power imbalances are not too problematic, but at this stage we have to concede that we cannot refine this criterion, let alone in quantitative terms. In such cases, more fundamental changes in the organization of human–wildlife interactions, such as those explored by Büscher and Fletcher (2019), are prerequisite to implement an approach like ours. Similarly, situations in which decision makers take advantage of the ambiguity of decision problems by deploying strategies oversimplifying problems or distorting them, as analyzed by Hisschmöller and Hoppe (2001), are beyond the scope of our work here.

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