



Can Deliberative Democracy Favor a Flourishing Relationship Between Humans and Carnivores?

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There is considerable interest in improving participatory governance in decision-making processes for the conservation of biodiversity and management of conflicts between humans and wildlife. Among the various modes of participatory governance, deliberative democracy has received virtually no attention for decisions focused on conserving biodiversity. This is surprising given that deliberative democracy is an important branch of democratic theory and is associated with decision-making processes that have been successfully applied to a wide range of complicated decisions across diverse cultural settings. Moreover, deliberative democracy has several distinctive properties that would seem to make it well-suited for many conservation decisions. First, deliberative democracy is better-designed than other processes to handle cases where the object of conservation appears to be insufficiently valued by those who have the most detrimental impacts on its conservation. Second, deliberative democracy engenders a rich kind of representation and impartiality that is nearly impossible to achieve with participatory governance focused on managing conflicts among hyper-engaged stakeholders. Here, we review the principles of deliberative democracy, outline procedures for its application to carnivore conservation, and consider its likelihood to favor carnivore conservation.

Keywords: carnivore conservation, collaborative governance, deliberative democracy, environmental governance, participatory governance

SUMMARY

Carnivores are emblematic of many challenges in conservation for being insufficiently valued to reverse their dismal and deteriorating conservation status. Carnivore conservation is also like many conservation challenges in that the costs and benefits of conservation are often experienced unequally among the members of society. These circumstances represent problems for participatory governance, which tends to court participation by those already deeply committed for or against conservation. While such engagement is appropriate, there is also a need for processes that have broader representation and are more likely to elicit non-prejudicial judgments about conservation-related policies and decisions. Here, we outline a process, known as deliberative democracy, that explicitly aims to handle these concerns. This process is well-known among political theorists and has been applied to many complicated cases. Yet, it has received little attention among those interested in decision-making and governance that pertains to the conservation of biodiversity.

INTRODUCTION

Governance and decision-making in conservation take various forms that may be characterized as being situated along a spectrum, with one end representing decisions by government officials with little citizen involvement and the other end representing decisions with extensive involvement of citizens. One end of the spectrum is sometimes referred to as top-down or autocratic. The other end of the spectrum is sometimes referred to (often interchangeably) as bottom-up, participatory, or collaborative. Cases have been made that collaborative decision-making is preferable because it is more likely to produce decisions that are more fair and durable over time (e.g., Redpath et al., 2017).

Yet, the tendency for participatory governance to yield adequate conservation is not well-understood (Koontz and Thomas, 2006; Bodin, 2017), the factors that favor and disfavor adequate community-led conservation are not fully understood (Brooks et al., 2012), and criteria for judging adequate conservation are not widely agreed upon (Vucetich et al., 2021). Because the very meaning of conservation varies among authors, there is value in specifying our usage. Specifically, we use “conservation” to refer to the maintenance and restoration of species across large portions of their native, historic range at population densities that allow for the manifestation of their ecological functions (Soulé et al., 2003; Vucetich et al., 2006, 2018). With that framing, conservation is difficult, in part, because the costs and benefits of conservation are often experienced unequally among the members of society.

Collaborative forms of conservation decision-making come in a variety of forms, such as conflict transformation (Madden and McQuinn, 2014), collaborative learning (Daniels and Walker, 2001), community-based conservation (Otto et al., 2013), structured decision-making (Gregory et al., 2012), and governance of environmental commons (Ostrom, 1990; Wilson et al., 2013). Deliberative democracy is an especially important form of participatory governance, represents the dominant form of democratic theory among political theorists (Bächtiger et al., 2018), and has been applied to many complicated decisions administered in a wide range of cultural settings (Center for Deliberative Democracy, 2021a). However, deliberative democracy has received virtually no attention with respect to the conservation of biodiversity.

Here we explore the potential for deliberative democracy to result in adequate decisions for the conservation of carnivores. The value of doing so is most readily appreciated by highlighting two concerns that routinely arise with existing forms of collaborative governance and then examining how deliberative democracy approaches these concerns in a different manner. For broader treatments of deliberative democracy, see, for example, Bohman (1998), Dryzek (2000), and Fishkin (2018).

One Concern

This first concern is well-illustrated by the principles of governing environmental commons (Ostrom, 1990; Wilson et al., 2013), which indicate that sustainable use of a natural resource is possible through self-governance at a local scale if certain

conditions hold. One condition is especially salient: the resource being considered is sufficiently valuable to those using the resource (Wilson et al., 2013). An archetypal example is a group of people who understand that overexploiting a certain species of fish will importantly diminish their well-being in the foreseeable future.

The concern with this condition for governing environmental commons is that many aspects of biodiversity are in desperate need of conservation, but are not viewed as sufficiently valuable by the people who most impact that aspect of biodiversity. Examples from WEIRD nations include:

- People, often associated with hunting and ranching in the United States, who tend not to sufficiently value the existence of wolves in their native range (Nie, 2003; Carlson et al., 2020).
- People associated with hunting red grouse in the United Kingdom, who tend not to sufficiently value the existence of raptors on their native range (Thirgood and Redpath, 2008).
- People, often associated with oil and gas exploration in the United States, who tend not to sufficiently value the existence of sage grouse on their native range (Tobias, 2019).

Examples from non-WEIRD nations include:

- People, often associated with fishing in the Amazon, Yangtze, and Ganges rivers, who tend not to sufficiently value river dolphins (e.g., Kelkar et al., 2010; Alves et al., 2012).
- People, often associated with timber harvesting in tropical forests, who tend not to sufficiently value the biodiversity that is adversely impacted (Giam, 2017).

We use the phrases “people” and “sufficiently value...” in a particular manner. The word “people” is not intended to indicate that all people place low value on particular species. Rather, we use the word to indicate that groups of people living in a geopolitical community (such as, but not limited to, a state, province or nation) often do not *collectively* place sufficient value on certain species to result in such species being adequately conserved.

Situations like those listed above are common, in part, because the cost and benefits of conservation are routinely experienced differently by different agents within a community. If the biodiversity crisis is to be stemmed, there is a need for a decision-making framework that is substantively collaborative with citizens, yet is not unduly dependent on the species of conservation concern being seen as sufficiently valuable to those who threaten the species’ conservation. Particular aspects of deliberative democracy have the potential to fulfill this need.

This concern is not limited to governing environmental commons. Essentially the same concern is present across participatory forms of decision-making and manifest as the difficulty of designing participatory processes with appropriate representation, i.e., without over-representing the interests of a few who do not sufficiently value the species of conservation concern (López-Bao et al., 2017).

Highlighting the importance of insufficient valuation of species does not imply that all conservation problems are usefully

characterized (or that any conservation problem is completely characterized) as such.

A Second Concern

A second concern common to many participatory processes rises from the tendency to focus on participation by citizens who are hyper-engaged with advancing or limiting conservation. These participants tend to see their personal and social identities as deeply entwined with particular outcomes of the decision-making process. Those circumstances can become obstacles to deliberating or compromising over the decision. The decisions resulting from these processes tend to be unduly influenced by power dynamics. Some collaborative processes aim to overcome these concerns by focusing on them. An important example of such an approach is conflict transformation (Madden and McQuinn, 2014). While there is a vital need to effectively tend the interests of the hyper-engaged, there is also a need for decision-making processes that better represent the interests of broader groups of stakeholders. Again, particular aspects of deliberative democracy have the potential to fulfill this need.

The disposition of this essay is not to argue that deliberative democracy is unqualifiedly better than other forms of collaborative decision making. Rather the point is to enlarge conservation decision-makers' repertoire of decision-making processes so that the most appropriate procedures can be applied to each particular situation.

LARGE CARNIVORES

While deliberative democracy can be applied to any kind of conservation decision, its distinctive strengths may be best appreciated with decisions about biodiversity in great need of conservation, but not viewed as sufficiently valuable by the humans who most impact those aspects of biodiversity. While many aspects of biodiversity match this circumstance, large carnivore species match the circumstance particularly well. Hereafter, we use large carnivore conservation to illustrate principles of deliberative democracy, though the ideas are readily transferred to other cases.

Of the planet's large (>15 kg) carnivore species, 60% are classified as vulnerable, endangered, or critically endangered by the International Union for the Conservation of Nature (IUCN). More than three-quarters of the planet's large carnivores are in decline. And, the average loss of historic range among large carnivores is ~50% (Wolf and Ripple, 2017). The most common threats to carnivores include high rates of human-caused mortality, degradation and loss of habitat, and depletion of prey (Macdonald, 2019).

Many humans value carnivores in various ways and for a variety of reasons, including:

- the acknowledgment of carnivores' intrinsic value (*sensu*, Vucetich et al., 2015))
- the attribution of existence value to carnivores (*sensu*, Atfield, 1998).
- the ecosystem services that carnivores provide via the direct and indirect effects of predation (e.g., Weiss et al., 2007).

- the opportunity for non-consumptive uses, such as photography and eco-tourism (e.g., Duffield et al., 2006).
- the opportunity for consumptive uses, such as hunting.

The last of those values (hunting) is controversial. Some argue that well-designed and well-implemented hunts can favor—or are even essential for—carnivore conservation (Dickman et al., 2019). As such, hunting might be an expression of the positive valuation of predators. Other are concerned that carnivore hunting tends to be an expression of the negative valuation of carnivores (Downes, 2013; Vucetich et al., 2017; Chicago Tribune, 2021), and that hunting too often works against conservation due to the apparent difficulty of reliably implementing a well-designed hunt (Creel et al., 2016, see also Vucetich et al., 2019). Regardless of concerns associated with valuing carnivores for the opportunity to hunt them (or other consumptive valuations, e.g., Coals et al., 2019a,b), the sum total positive valuation of carnivores has been insufficient to reverse their dismal and deteriorating state.

The positive valuation of carnivores is more than offset by two competing valuations of carnivores. First, some humans intensely disvalue carnivores for various reasons, including real or perceived threats to human safety, threats to livestock, and competition for opportunities to hunt wild ungulates (Vucetich and Macdonald, 2017). Second, many humans do not disvalue carnivores, but place greater positive valuation on endeavors that compete with carnivores. One of many such examples is the advocates for palm oil plantations, given the adverse impact of that endeavor on the habitat of several species of endangered felids (Macdonald et al., 2018).

In summary, carnivores represent the general circumstance outlined in the *Introduction*. That is, carnivores are among the aspects of biodiversity in desperate need of conservation, but not sufficiently valuable to the humans who most affect their conservation.

Focusing participatory governance on carnivore conservation is also apropos because large carnivores tend to engender considerable emotional valence (both positive and negative) among already-engaged stakeholders in a manner likely to compound the difficulty of deliberative decision-making (Slagle et al., 2012; Flykt et al., 2013). Finally, another reason to focus on carnivores is that they are also often umbrella species—meaning that effective conservation of carnivores often leads to the effective conservation of many other kinds of biodiversity (Burnham et al., 2012).

DELIBERATIVE DEMOCRACY AND MINI-PUBLICS

Deliberative democracy is an important branch of democratic theory (Bächtiger et al., 2018). There is no precise, compact definition for deliberative democracy. Rather, it is a diffuse set of ideas centering around the idea that deliberation by a representative set of citizens is essential for good governance. Many models of deliberative democracy include a substantive role for a deliberative mini-public (Setälä and Smith, 2018). What distinguishes most forms of collaborative decision-making from

deliberative democracy are mini-publics—both their constitution and mode of conduct. For now, it suffices to consider a mini-public to be a representative group of deliberating citizens. In this essay, we focus on mini-publics, what they are, how they operate, and what challenges to governance they aim to overcome.

In particular, public decisions benefit from public deliberation—i.e., impartial and informed weighing of reasons for and against various choices. Yet, not all members of a large community can substantively deliberate all the public decisions that merit deliberation. Consequently, deliberation might be held by various bodies within a community—committees of legislators, panels of technocrats charged by an executive branch of government, or a mini-public of representative citizens.

Deliberation by legislators is important; but is often compromised by partisanship, tribalism and deference to special interests, all of which are often associated with undue interest in being reelected. Deliberation by technocrats is important, but lacks sufficient legitimacy when a decision depends on normative (non-empirical) considerations that vary or remain unsettled across the community at large or when technocrats do not share the values of constituents (e.g., Evans and Hargittai, 2020).

A critical and distinctive feature of a mini-public is the process by which members are selected, and the consequences of that selection process on the quality of deliberation with respect to representativeness and impartiality. The details of selecting members of a mini-public are important and outlined below. But there is heuristic value with a slightly over-simplified notion that members of a mini-public are selected at random from the population of citizens. If the mini-public is selected with reasonable care, its properties include:

- If the mini-public is large enough it will, by statistical laws of sampling, be *representative* in two regards, as the idea applies to democratic theory and with respect to the range of normative views that characterize the larger population (Dryzek, 2000, p. 172; Goodin, 2004; Brown, 2018). See below for caveats.
- Members of a mini-public are far less likely to have been hyper-engaged in the subject matter of the decision, thereby greatly reducing members' tendency to pre-judge the decision, leading to their being more open to deliberation (Polletta and Gardner, 2018; Strandberg et al., 2019).
- Members of a mini-public are likely under-informed about salient facts and consequences of the decision. A critical part of the deliberative process is for the mini-public to become sufficiently informed. Again, details below.

These properties of a mini-public are not theoretical or merely aspirational. Extensive research demonstrate that: a properly assembled mini-public is importantly representative (Brown, 2018), many members of a mini-public tend to exhibit reasonable levels of deliberation (e.g., Himmelroos, 2017; Gerber et al., 2018), deliberation tends to lessen polarization and dogmatism (e.g., Grönlund et al., 2015; Herne et al., 2019), well-implemented deliberation tends to be associated with the adequate acquisition of salient facts (e.g., Barabas, 2004; Andersen and Hansen, 2007; Farrar et al., 2010; Esterling et al., 2011), and members often to change their minds in response to deliberation (e.g., Setälä et al.,

2010; Himmelroos and Christensen, 2014). No less important, an adequately implemented mini-public includes the assessment and documentation of these features for that mini-public (e.g., Isernia and Fishkin, 2014).

The distinctive capacities of a mini-public are not a reason to dissuade genuine deliberation among legislators or technocrats, nor is it a reason to leave unattended the deep or volatile conflicts among hyper-engaged stakeholders. Rather, the capacities of a mini-public make it another essential facet of good decision-making.

The collective views of a mini-public that has deliberated on an issue are typically not binding on the authorities charged with making a decision. Rather, their views tend to be advisory, as is common to many participatory processes. The mini-public's views are also publicly available—which can aid in circumstances where the insights of the mini-public were not given due consideration or influence by decision-makers.

Deliberative democracy has been implemented with a wide range of cultures, spanning six continents (Center for Deliberative Democracy, 2021a), including cultures with low education and rates of literacy (Fishkin et al., 2017) and cultures not particularly well-characterized as democratic (Fishkin et al., 2010). Deliberative democracy has also been applied to a wide range of cases, from local decisions about urban planning (Beauvais and Warren, 2019) to multi-national issues, such as climate change mitigation and immigration policy for the European Union (Isernia and Fishkin, 2014).

As with many forms of collaborative decision-making, positive outcomes depend on numerous critical, and sometimes seemingly nuanced, details. We address many of these details in the sections that follow. The following sections are organized according to these topics:

- Specifying the subjects of deliberation for carnivore conservation
- The product of deliberation
- Selecting members of a mini-public
- Enabling deliberators' knowledge
- The venue for and structure of deliberation
- Pre- and post- deliberation surveys
- The legitimacy of a mini-public
- Is deliberative democracy likely to favor carnivore conservation?

THE SUBJECT OF DELIBERATION

Deliberation can focus on any aspect of carnivore conservation or human-carnivore relationship for which a decision or judgment is sought. At smaller scales, a local or regional government might, for example, aim to better manage compensation to citizens who have lost livestock to predators or, more generally, mitigate the unequal costs and benefits of carnivore conservation among members of the community. For such topics the scope of the community (and composition of the mini-public) can be defined judiciously and creatively. Perhaps by pairing a rural community that experiences most of the challenges of carnivore conservation

with another (non-rural) community who does not experience those challenges.

Deliberation might focus on judging the circumstances for which lethal control or hunting is allowable. Knowing the views of a representative and impartial mini-public on such issues can be just as informative as knowing the results of discourse among hyper-engaged stakeholders on the same issues.

Carnivore conservation will fail without changes at larger political and ecological scales, including new decisions by nations and groups of nations. At this scale, many issues surrounding carnivore conservation are importantly generalizable. What follows is a list of three ideas that broadly outline the scope of subjects that merit deliberation at larger geopolitical scales (in addition to smaller political and ecological scales):

1. [CARNIVORE SPECIES] living in [NAMED REGION] should be afforded *special protections* until they are *sufficiently recovered* from the threats that give rise to concern for their conservation,

where the bracketed phrases would be replaced with a specific carnivore species living in a specific region and the focus of deliberation is elucidation of the italicized phrases “special protections” and “sufficiently recovered.”

2. To what extent should government proactively pursue progress toward recovery (e.g., reintroductions, habitat restoration)? Or be more limited and passive, focusing mainly on actions that merely limit further deterioration?

and

3. Should those adversely impacted by conservation be compensated (e.g., lost livestock, opportunity costs from prohibition on habitat loss)? If so, how?

Without favorable changes on these subjects, carnivore conservation will fail. Consequently, much insight would follow from knowing the views of a deliberative mini-public on these issues. These subjects are also general enough to apply to virtually all cases and readily adapted to handle the specifics of any particular case. For example, conservation of lions in Tanzania would include a strong focus on lion hunting, and conservation of clouded leopards in Malaysia would include a strong focus on habitat protection. More specific topics for deliberation can be identified in collaboration with decision makers and advocates for various positions that pertain to conservation.

With respect to idea (1), elucidating the phrase “sufficiently recovered” is meant to include (not necessarily limited to) questions about what portion of a species’ historic range it should be allowed to inhabit. This consideration corresponds to a basic feature of the biodiversity crisis, which is species’ loss of geographic range (Ceballos et al., 2017; Wolf and Ripple, 2017; see also *Introduction*) and has a role to play in legal-political discourse (Vucetich et al., 2006).

Acknowledging the need for deliberation on idea (1) is a remarkable acknowledgment that society has yet to develop a common response to the questions, “What is an endangered species and what do we owe endangered species?” The

normative dimensions of these concerns are too great to be decided exclusively by technocrats and scientists. Additional considerations on this subject may be found in Vucetich et al. (2006), Bruskotter et al. (2014), and Vucetich and Nelson (2018).

Idea (1) sets the normative obligations and aspirations, and ideas (2) and (3) focus on the trade-offs that must be negotiated to make good on the obligations. In some cases, carnivore conservation will result in win-win outcomes, where all stakeholders are satisfied with the outcome (Redpath et al., 2013). However, there is considerable evidence that much conservation involves inescapable (and sometimes steep) trade-offs (Bowen et al., 2017; Pradhan et al., 2017; Vucetich et al., 2021), where at least one party will feel as though their interests have been unduly decided against. Where such win-lose outcomes are likely, the deliberative views of an impartial and representative mini-public are likely key for understanding the least unfair resolution.

THE PRODUCT OF A DELIBERATING MINI-PUBLIC

A mini-public may be enlisted to generate various kinds of insight, such as clarifying aspects of a difficult decision or exploring new solutions to pernicious challenges. Here, we focus on using a mini-public to better understand the views of an informed citizenry on matters of direct relevance to the policy of concern and why citizens hold those views.

These understandings are derived from responses to a survey administered to members of the mini-public before and after they deliberate. This process is also known as deliberative polling (Fishkin and Luskin, 2005). Some deliberative polling designs include polling a control group, i.e., a representative sample of those who are not part of the deliberative process. For details, see O’Malley et al. (2020).

The insights of such polling include understanding how policy-relevant attitudes are affected by knowledge of pertinent facts, normative values, deliberation, and empathy for citizens belonging to other social groups. Another important product is a report written by impartial moderators of the deliberation that summarizes the content of deliberations. This report is an additional basis (of qualitative information) for understanding the views of the mini-public.

The survey results and report are provided to decision-makers as a substantive source of insight for decision-making. As such, decision-makers and other stakeholders should be consulted about the survey design to favor eliciting the kinds of views that would be most useful to decision making.

These products of deliberation would also be provided to the general public. Doing so allows anyone to compare the attitudes of a representative group of deliberating citizens to the attitudes (or perceived attitudes) of any citizen-group within the larger community. Such comparisons can be politically significant, especially with respect to defending or criticizing subsequent decisions.

While the results of deliberation are not typically binding on decision-makers, deliberators’ motivation for effortful deliberate

may depend on their belief that decision-makers will take the results seriously.

SELECTING DELIBERATORS

For heuristic value, consider an idealization where members of a mini-public are selected at random from the community. The key properties of such a mini-public would be:

- Maximization of an important principle of democracy, i.e., political equality, because every citizen has an equal chance of being selected (Fishkin and Luskin, 2005).
- If the mini-public is large enough to overcome vagarious outcomes of random sampling, then it will be demonstrably representative, within a quantifiable margin of error and with respect to key socio-demographic and ethical dispositions (Mini-publics are commonly comprised of 100 to 300 members).
- Most or all of the deliberators will not have previously engaged the subject matter to be deliberated (carnivore conservation) to any significant depth. Consequently, the identities of deliberators are not prejudicially bound to particular policy positions. As a result, members of the mini-public are more likely to possess traits essential for deliberation, i.e., greater impartiality and less partisan behavior.

In reality, perfect random selection is partially limited by (i) being unable to identify every community member to whom invitations would be randomly issued and (ii) some socio-demographic groups may be more or less likely to accept an invitation to participate.

One mitigative action for this concern is to augment the selection process with some form of quota or random sampling that is stratified according to specified socio-demography traits. Regardless of selection method, basic socio-demographic traits by which representation might be judged include: gender, race, ethnicity, religion, age, affluence, education and political orientation. For the particular case of deliberating carnivore conservation, living environment (urban, rural, suburban) may also be a salient socio-demographic trait, given that rural people are often differently affected by carnivore conservation.

To mitigate unequal rates of accepting invitations, deliberators are often offered compensation for expenses incurred by their participation (travel, lodging) and given an honorarium to at least partially compensate for the opportunity cost of participation.

Regardless of how deliberators are invited, it is important to survey members of a mini-public so that its socio-demographic composition is known. Such knowledge is a pre-requisite for taking subsequent account of any socio-demographic-based bias that may exist within a mini-public.

ENABLING DELIBERATORS' KNOWLEDGE

An essential element of deliberation is enabling deliberators to be informed of both salient facts and normative policy perspectives. An important means of doing so is to prepare a briefing booklet

and make it available to deliberators prior to deliberation. Topics covered in the briefing booklet would include:

Salient Facts

This information would focus on the conservation status of the carnivore species and conflicts that arise in efforts to conserve them. Decision-makers and special interest groups should be consulted to evaluate whether all of the salient facts have been included and expressed appropriately. Uncertainties about factual claims, if present, should be communicated. Beliefs without an objective factual basis should not be presented as factual claims. Such beliefs can be presented (see below), but they should be portrayed as value-based beliefs, rather than as facts. The sometimes difficulty of distinguishing factual claims from normative views (Putnam, 2002) does not obviate the importance of making such distinctions. Failure to adequately navigate this distinction can impair the process's legitimacy (see below).

Subjects of Deliberation

The subject of deliberation should be identified as precisely as necessary to aid decision-makers. For example, deliberating about whether people should have positive attitudes about carnivores is probably too vague to be of incisive value to most real-world conservation decisions. Examples of subjects that are likely to be usefully precise include, for example, whether a particular carnivore population should be hunted, whether/how owners of depredated livestock are compensated for their losses, whether/how a landowner should be compensated if habitat protection prevents the landowner from using their land as they otherwise might have.

Appropriately Representative Range of Policy Perspectives

Policy perspectives are overtly normative. A policy perspective may align with some values and be antithetical to other values; they may favor or disfavor carnivore conservation. A policy position may be a general (e.g., making a case for the general importance of this carnivore) or specific (e.g., making a case for why and how certain stakeholders should be compensated for harms caused by carnivore conservation). The most useful expressions of a policy position go well-beyond mere assertion and include a carefully-constructed argument (e.g., Coals et al., 2019a,b; Vucetich et al., 2019).

Decisions about what policy perspectives to include should be made in close consultation with special interest groups concerned with the issue. Policy perspectives should be expressed to the satisfaction of community leaders who advocate a particular position. A critical limit on this satisfaction is that a policy position cannot be deceptive or supported by ideas presented as factual claims but lack sufficient objective factual basis.

Representation, Revisited

The composition of the mini-public is only one of two vital means through which representation is achieved. No less important to representation is the set of policy perspectives presented and details of their expression. Failure to adequately account for

this aspect of representation can impair the process's legitimacy (see below).

Limitations

Endeavoring to enable deliberators' knowledge should not be conflated with knowledge playing its hoped-for role in deliberation. One concern is that hyper-engaged stakeholders often presuppose knowledge somewhat independently of whether that knowledge is accurate. As discussed earlier in this essay, this concern tends to be mitigated when mini-publics are comprised of persons with little prior exposure to the subject being deliberated.

Furthermore, post-deliberation surveys (discussed below) should be used to assess deliberators' knowledge and its influence on their attitudes. Many published accounts of deliberative democracy report that participants tend to be adequately informed of salient facts as well as have a common understanding of salient facts (e.g., Luskin et al., 2002; Muhlberger and Weber, 2006; Grönlund and Himmelroos, 2009). Regardless, decision-makers should take account of those results when considering the views of a mini-public. Their facility in doing so would likely affect the process's legitimacy (discussed below). In any case, deliberation is fundamentally influenced by deliberators' understanding of facts, epistemic uncertainty surrounding particular factual claims, and the boundary between facts and values.

Finally, there is a perennial concern that some deliberators unduly persuade fellow deliberations, at least in part, because of their socio-economic status, communication skills, and their exercising particular ways of knowing while neglecting other ways of knowing. This concern is common to many forms of collaborative governance. For those interested to learn more about managing these concerns in the application of deliberative democracy, we recommend Beauvais (2018), Polletta and Gardner (2018), and Benson (2019).

To gain a more concrete sense for the content of briefing booklets, see Center for Deliberative Democracy (2021b).

VENUES FOR AND STRUCTURE OF DELIBERATION

Deliberation may be conducted, for example, by convening deliberators to a meeting hall for a week-end long meeting or a series of shorter meetings held over a longer period. Deliberation may also be conducted through on-line venues. On-line deliberation favors a series of shorter meetings spread over several weeks or perhaps a couple of months. While face-to-face deliberation has obvious value, so too does on-line deliberation. First, carnivore conservation is typically not afforded enough financial resources to fund face-to-face meetings. Second, the effectiveness of on-line deliberation is at least promising (Janssen and Kies, 2005; Coleman and Moss, 2012; Friess and Eilders, 2015). Third, internet-based conferencing software capable of delivering all the services required for deliberation has recently become more accessible. Fourth, the global COVID-19 pandemic has given new value to virtual meetings.

Regardless of the venue, key features of deliberation include: Preliminaries

- Distribute briefing booklet and administer pre-deliberation survey.
- Preliminary interactions among deliberators for the primary purpose of building trust and open-mindedness.
- Succinct presentations by experts to review the background (factual) information with ample opportunity for deliberators to ask questions of experts.
- Succinct presentations by advocates for the policy positions with ample opportunity for deliberators to ask questions of the advocates.
- These presentations are intended to be reiterative of material presented in the briefing booklet and reinforce the learning of that material.

Deliberations

- Deliberation would be organized into a series of meetings with each focused on a particular topic or set of topics, such as the topics outlined in *The Subject of Deliberation*.
- The structure of each meeting might include:
 - Before meeting, remind deliberators of meeting's topic and most pertinent portions of the briefing booklet.
 - Begin meeting with a brief orientation by a meeting organizer.
 - Much of the meeting (perhaps 60 min) is for deliberation in small groups (perhaps 6–10 people) with a moderator, where ideas can be deliberated with care and an even exchange of listening and responding. The moderators' role is to make sure that deliberators stay on topic and maintain civil and inclusive discourse. These meetings are recorded. Members of small groups are selected at random from the mini-public for each meeting.
 - Some provision should be made for small groups to report the nature of their deliberations back to the entire mini-public.
 - Organizers also record new questions as they arise throughout the deliberative process. These questions would be answered as soon as possible by appropriate experts or advocates.

This outline is intended to offer a general sense for guiding participants through deliberation, not to serve as a precise planning document. For more on the implementation of a deliberative mini-public, see Grönlund et al., 2014.

Deliberations need to be led by moderators with sufficient expertise to mitigate the undue influence of unequal power dynamics among deliberators. This need is not particular to deliberative democracy; rather it is a common concern for all collaborative governance processes. As such, much has been written about the manifestations and mitigation of such power (Kadlec and Friedman, 2007; Mansbridge et al., 2010; Purdy, 2012; Choi and Robertson, 2014; Polletta and Gardner, 2018). Anyone planning to implement a deliberative process should plan accordingly.

Furthermore, in cultures with low rates of literacy and heterogeneous levels of education, much attention must be given to creating a process where existing political inequalities are mitigated, not reinforced. To this end, a fair participatory process (deliberative democracy or otherwise) requires an environment where participants can feasibly (i) become sufficiently knowledgeable of the issue and (ii) express themselves without being dominated by others. The quality of process is directly tied to these conditions. This condition turns out to be of great concern in any culture (Agarwal, 2001; Hickey and Mohan, 2004; Morales and Harris, 2014), not only cultures with low rates of literacy and heterogeneous levels of education.

Similarly, the quality of a process like that described depends on selection of appropriate subject-matter experts. Such selection should not be taken for granted. Furthermore, this concern is not particular to mini-public deliberation, but is common to many processes of collaborative governance. Little has been written about this topic; one of the few such treatments is Roberts et al. (2020). Other considerations for selection and functioning of subject-matter experts are implied by papers such as Williams (2001), Lavin et al. (2007), Rice-Bailey (2016), and Tangney (2017).

PRE- AND POST-DELIBERATION SURVEYS

Pre- and post-deliberation surveys are designed to elicit deliberators' attitudes about the subject of deliberation, as well as knowledge of salient facts and other information that may be useful in explaining heterogeneity among deliberators' attitudes. Other information might include socio-demographic traits or more basic beliefs about conservation and justice (e.g., Hülle et al., 2018; Vucetich et al., 2021).

Some survey items can be asked once (before deliberation), such as socio-demographic traits that do not change with deliberation. Some survey items can be asked twice (before and after deliberation), for cases where there is value in knowing how attitudes or knowledge of salient facts changed as a result of deliberation.

Prior research on deliberative democracy indicates that:

- Enough deliberators tend to become appropriately knowledgeable of salient facts to assess the influence of knowledge on policy-relevant attitudes (e.g., Barabas, 2004; Andersen and Hansen, 2007; Farrar et al., 2010; Esterling et al., 2011).
- Much variation in attitude change is attributable to gains in the deliberators' knowledge of salient facts (Fishkin and Luskin, 2005).
- Much of the variation in policy attitudes that remains after deliberation likely is attributable to variation in deliberators' basic beliefs (Fishkin and Luskin, 2005).
- Deliberation has illuminating effects on the tendency for some deliberators to moderate their views and others to adopt more extreme views (e.g., Wojcieszak, 2012; Lindell et al., 2017).
- Individuals who deliberate tend to display single-peaked preferences, which is a technical, but important concept in social choice theory, whereby an individual has a most preferred option and preference for alternatives decreases as

the alternative is less like the preferred option (List et al., 2013, List, 2018). That condition greatly facilitates aggregation of individual preferences into a social choice that is rational. That condition should not be taken for granted.

Finally, these surveys also indicate the overall prevalence of particular attitudes for a representative sample of deliberating citizens. Prior research into deliberative democracy gives strong indication that deliberative democracy is, at least, valuable for providing a distinctively valuable understanding the human dimensions of carnivore conservation.

LEGITIMACY

Because the results of a deliberating mini-public are typically considered advisory (not binding) to decision-makers, it is important for decision-makers to take sincere and adequate account of the advice. Such accounting requires decision makers seeing the entire process as politically legitimate—from preparing the briefing booklet, to selection of deliberators, to execution of the deliberation, including the selection of subject-matter experts and advocates. An important means for evaluating political legitimacy is to ask decision-makers their views on the matter through, for example, structured interviews that account for each step of the process. For emphasis, what is to be evaluated is the legitimacy of the process without regard for the outcome of the process, before the process is executed.

Assessing political legitimacy from the perspective of the general public is also valuable. If, for example, decision-makers neglect the results of deliberation, but the general public indicates that the process is politically legitimate, then members of the general public may use the results of deliberation to pressure decision-makers or appeal to the general public.

Special interests' views on the political legitimacy of the process is also likely important to assess. For example, an influential special interest can obstruct decision-makers in applying the results of deliberation. If, however, a special interest acknowledged the political legitimacy of the deliberative process in advance of knowing its result; then the special interest would, at least, have less public justification for being obstructionist.

Successful deliberation requires deliberators to be motivated to do the demanding work of deliberation. That motivation is favored by deliberators' belief that the results of their work will be taken seriously. That belief can be fostered by acknowledgments of the process's political legitimacy.

Finally, political legitimacy is a broad and complex topic for political science in general, as well as more specific domains such as environmental governance and deliberative democracy. Readers unfamiliar with this literature can find access to it through papers such as Buchanan (2002), Parkinson (2003), Hogg et al. (2012), and Fabienne (2017).

WOULD DELIBERATIVE DEMOCRACY FAVOR CARNIVORE CONSERVATION?

Deliberative democracy is distinctive among various modes of collaborative environmental governance. First, deliberative

democracy is better-designed than other processes to handle cases where the object of conservation (carnivores) is not sufficiently valued by those who are most detrimental to its conservation. Carnivore conservation is, of course, emblematic of such cases. Second, deliberative democracy engenders a rich kind of representation and impartiality that is far more difficult to achieve through processes that focus on managing conflicts among hyper-engaged stakeholders. Deliberative democracy also has a track record of being successfully applied to complicated issues across a wide range of cultural settings, including within deeply divided societies (e.g., Luskin et al., 2014).

While deliberative democracy is appreciated for its positive features—most generally its claims to being representative and deliberative—it does draw criticism. Two criticisms of general importance and relevant to conserving biodiversity are (Dryzek, 2000; Young, 2001): First, the conditions for genuine representation and deliberation are too difficult to reliably achieve in most real-world settings. Second, while an adequately implemented mini-public will claim to favor—as a matter of principle—a *procedurally just* outcome; there is no assurance that it will result in a *just outcome* as perceived by any particular group (Vucetich et al., 2018). For additional limitations on the role of deliberation in the environmental space, see Flynn (2009).

Returning to the specifics of carnivore conservation, two questions merit attention:

1. Under what conditions, if any, is a large diverse community represented by a deliberative mini-public likely to favor carnivore conservation, even when doing so is against the expressed interest of some members of the larger community?
2. If the views of a deliberative mini-public are not binding, what influences might prevent those views from being manifest?

The second question is likely easier to answer than the first. The views of a mini-public may be disregarded if the process's legitimacy was not established and (or) if a special interest uses its power to obstruct the decision-making process. The undue influence of special interests (and corruption) in conservation politics extends far beyond concerns particular to deliberative democracy. In the United States, for example, there is strong support for the Endangered Species Act (ESA), regardless of political orientation (Bruskotter et al., 2018b; Offer-Westort et al., 2020). Yet, special interests have maintained consistent pressure on Republican lawmakers to dismantle the Endangered Species Act (ESA) and Democratic presidential administrations to weaken the ESA (Vucetich and Nelson, 2014; Center for Biological Diversity, 2015; Bruskotter et al., 2018a).

With respect to the first question, it is important to acknowledge that most conservation challenges are multifaceted, requiring multiple approaches. As such, we do not suppose that simply inserting a mini-public into a governance process would be sufficient by itself to solve hardly any conservation problem. Nor do we suppose that a mini-public is the critical missing tool for every conservation problem. Rather we suppose that it may be especially useful for cases, and where (i) those who most harm a species are politically overrepresented, as discussed in *One Concern*, and (ii) hyper-engaged stakeholders obstruct sought-after levels representation and impartiality, as discussed

in *A Second Concern*. Where conservation cannot be advanced without, for example, better enabling a government to more effectively manifest citizens' will, then employment of a mini-public by itself would be insufficient.

While those concerns are common to many conservation problems, they are not the limiting obstacle to all conservation problems. For example, some cases are limited by governments that are willing to enact conservation supported by democratic processes, but unable to do so due to limited power (e.g., as in the presence of certain instances of transnational crime). We expect mini-public to be useful to the extent that a particular conservation case is limited by the two above-mentioned concerns.

That first question—about conditions under which deliberative democracy is likely to be successful—raised other considerations and difficult questions. In particular, existing research suggests that representative samples of citizens tend to be supportive of carnivore conservation (Williams et al., 2002; Bruskotter et al., 2018b) and sensitive to the needs of those whose physical and financial well-being is genuinely impacted by conservation (Vaske et al., 2013; Slagle et al., 2017). If those judgments are even approximately accurate, then it also seems plausible that the views of a mini-public will favor carnivore conservation when the details of the case represent a win-win scenario (*sensu*, Redpath et al., 2013).

Far less certain, it seems, would be cases that involve win-lose outcomes, where at least one party within the larger community believes that certain outcomes would leave their interests (or carnivores' interests) unduly overridden. One concern with such cases is the difficulty of reliably distinguishing win-win and win-lose scenarios, and distinguishing outcomes that involve a "loss" from those that are unfair.

Furthermore, views on fair and just adjudication of conflicts between humans and nature vary widely among writers (e.g., Vucetich et al., 2018; Washington et al., 2018; Treves et al., 2019), but little is known about the prevalence of such views among the planet's citizens. While much is known about the social psychology of social justice—which is concerned with adjudicating conflicts that include only human interests (e.g., Miller, 1999), very little is known about the social psychology pertaining to the fair and just adjudication of conflicts between humans and nature (but see Vucetich et al., 2021).

These connections to justice are useful for another reason. Specifically, justice may be evaluated according to the procedure that led to an outcome and (or) the outcome itself. If the deliberations of a mini-public are properly executed, then there is an arguable (not indisputable) sense by which the outcome is procedurally just. The question, without a broadly agreed upon answer, is, "What does outcome justice look like when adjudicating the myriad ways for which the interests of humans and non-human nature conflict?"

The general failure of carnivore conservation allows for the possibility that deliberative democracy, which has not to our knowledge ever been applied to carnivore conservation, is essential (if not sufficient) for realizing procedural justice and outcome justice—a condition that might be called the flourishing coexistence between carnivores and humans. And,

even if deliberative democracy failed, the nature of the failure would be richly insightful. In any case, the broad failure of current carnivore conservation cries for the need to try something different. To that end, deliberative mini-publics stands out.

DATA AVAILABILITY STATEMENT

The original contributions generated for the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author/s.

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AUTHOR CONTRIBUTIONS

JV led the development of the manuscript. DM and JB contributed to conceptual refinement and writing. All authors contributed to the article and approved the submitted version.

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