The Power of Specialization: NGO Advocacy in Global Conservation Governance

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Abstract

Organizational ecology has attracted growing interest in global governance research in recent years. As a structural theory, however, organizational ecology has overlooked how organizations may shape the organizational environment by their own choices. Bridging the insights of organizational ecology and the study of nongovernmental organizations (NGOs), I argue that the organizational choice of specialism (as opposed to generalism) increases the power of NGOs to influence an environmental condition—issue salience—by targeting a small but engaged segment of the public. Focusing on wildlife conservation governance, I collected new comprehensive data on NGOs and issue characteristics (2008–2015). My empirical analysis shows that specialist NGO density is strongly associated with issue salience. I further examined causal processes in the case of pangolin conservation advocacy, in which specialist NGOs first raised issue salience and generalist NGOs followed. The findings suggest a division of labor among NGOs and challenge a conventional view that the power of NGOs is concentrated in a small number of prominent organizations.

Author's note: For valuable feedback, I thank the editors and reviewers of ISQ, Liam Beiser-McGrath, Steven Bernstein, Josh Busby, Chris Cochrane, Amy Janzwood, David Lake, Andrea Olive, Woody Powell, Wendy Wong, Bi Zhao and participants of the Stanford PACS Junior Scholar Forum, the University of Toronto Political Behaviour Group, and the 2021 APSA Meeting. The data underlying this article are available on the ISQ Dataverse at https://dataverse.harvard.edu/dataverse/isq.

Introduction

In the past decade, ecological theories of organizations received increasing interest as a way to understand global governance organizations. Global governance scholars use organizational ecology to explain why certain forms of organizations, such as intergovernmental organizations (IGOs) and nongovernmental organizations (NGOs), emerged and became accepted as legitimate forms of governance (Abbott, Green and Keohane 2016; Bush and Hadden 2019; Eilstrup-Sangiovanni 2019; Lake 2020). Organizational ecology is a *structural* theory because the characteristics of organizational populations are determined by the environment within which organizations operate. The "environment" in this context is defined as *a structural condition*—a distribution of economic and social resources that organizations require for survival, such as revenues, supporters, and legitimacy (Freeman and Hannan 1983; Lake 2020). For example, a highly competitive environment decreases the founding rate of generalist organizations (e.g. World Wildlife Fund) and increases that of specialist organizations (e.g. Save the Rhino International) (Bush and Hadden 2019; Hannan and Carroll 1992). However, changes in the environment are exogenous to the choices of organizations.

In this paper, I offer a friendly amendment to the current application of organizational ecology in global governance by explicitly theorizing the feedback effects of organizational choices on the environment. What happens if specialist organizations instead of generalist organizations become a dominant organizational form? What kind of effects do specialist organizations have on the environment? Just like how structural theories alone cannot explain different "cultures of anarchy" (Wendt 1999), organizational ecology is not well-equipped to explain how different configurations of the organizational environment came to exist in the first place.

There are two immediate payoffs in rectifying the structural focus of organizational ecology. First, understanding feedback effects allows us to think about outcomes of ecological dynamics beyond organizations themselves. To date, empirical efforts to adopt organizational ecology in global governance research have focused on the rate of founding between different forms of organizations (Abbott, Green and Keohane 2016; Bush and Hadden 2019; Eilstrup-Sangiovanni 2019). But the emergence of new organizations by itself does not legitimate a rule or policy, which is an output of organizations, not organizations themselves. People evaluate what organizations do and adjust their supply of resources, but this interaction between organizational choices and people who constitute the organizational environment is assumed, rather than empirically examined, in the current use of organizational ecology. Second, organizational ecology highlights the diversity of organizations without reducing power to a small number of actors. Existing research has shown that agents, especially NGOs, can effect changes in international structures (Finnemore and Sikkink 1998; Keck and Sikkink 1998). However, recent research suggests that such transformative power is concentrated on a handful of "leading" NGOs (Carpenter 2014; Stroup and Wong 2017; Wong 2012). As I discuss below, organizational ecology challenges this line of argument and helps us identify unique mechanisms by which different types of NGOs, instead of a few superpowers, influence the organizational environment.

More concretely, I argue that the organizational choice of specialism (as opposed to generalism) increases the power to influence *issue salience*. Issue salience is an environmental condition of global governance and is defined here as the amount of public attention to an issue. Specialism has an advantage over generalism because the former can target a small but engaged segment of the public, the primary source of issue salience. By contrast, generalist NGOs must appeal to a wide

range of groups that may not be interested in the issue at hand.

My argument focuses on NGOs rather than more general categories of organizations, such as governance organizations (Lake 2020) or global governance organizations (Koppell 2010). First, NGOs have been conceptualized as the agents of structural changes in global governance (Hafner-Burton and Pollack 2002; Keck and Sikkink 1998; Wong 2012). Certainly, organizational ecology is applicable to a wide range of sectors from restaurants (Freeman and Hannan 1983) to newspapers (Carroll 1985) to breweries (Carroll and Swaminathan 2000). However, NGOs are at the center of a distinct research program that analyzes how agents affect international normative structures (Finnemore and Sikkink 1998). Second, a focus on NGOs ensures that organizations are comparable and differ on the specialism-generalism dimension. Previous research on NGOs has demonstrated that NGOs operate in ways that are expected in organizational ecology (Bush and Hadden 2019; Eilstrup-Sangiovanni 2019). This gives us secure footing to theorize about the feedback effects of organizational choices.

Empirically, the study of issue salience is prone to the selection bias. Because the issues cannot be observed unless successful advocacy raises issue salience, it has been difficult to systematically observe negative cases (i.e. issues with very low salience). Although existing research typically selects a few positive and negative cases (Carpenter 2014; Wong 2012), selection on the dependent variable could lead to a misplaced inference (Geddes 1990). To remedy this problem, my empirical analysis focuses on the issue area of wildlife conservation. Wildlife conservation offers a research design advantage because NGOs are in effect constrained to advocate for the species that are known to exist. This means that negative cases, such as endangered species that nobody really pays attention to, are observable regardless of advocacy interventions, and thus my observations are not directly influenced by the dependent or independent variable. More concretely, I use the *Red List* of the International Union for Conservation of Nature (IUCN) to identify species that *can* be advocated by NGOs and quantitatively assess the association between specialist NGOs and issue salience. To complement the quantitative analysis, I also conduct a qualitative case study of pangolin (scaly anteater) conservation to illustrate the mechanism of specialist NGO influence.

In what follows, I trace the intellectual tradition of ecological theories and how the study of NGOs provides an exciting venue to think about the consequences of ecological dynamics in global governance. I then theorize why specialist NGOs have an important effect on issue salience. My empirical analysis finds that specialist NGO density is positively associated with issue salience, while the priority of World Wildlife Fund (WWF), which represents generalist NGO priorities, has limited explanatory power. The case study of pangolin conservation also supports that WWF was a follower, rather than a leader, in raising the issue salience of pangolin trafficking in global conservation governance. The findings suggest that specialist and generalist NGOs may have a division of labor between raise-awareness advocacy and conservation implementation and challenge the conventional view that the power of NGOs is monopolized by a small number of "leading" NGOs.

Bridging organizational ecology and NGO research

In organizational ecology, the environment is what we make of it

A point of departure for my theory is to explicitly work with the fact that we as humans are resources in organizational ecology, and it is helpful to first walk through the "natural" version of

ecology. Organizational ecology has developed from the study of evolutionary ecology, which explains why a large variety of species exist in an ecosystem. Hutchinson (1959) introduced the concept of a *niche*, an *n-dimensional resource space* on which a population of species can subsist as long as there is no invasion of new species. Every population has a niche, which is represented by a set of environmental conditions, such as food size and temperature.[1] Some species exploit a narrow niche, meaning that their subsistence depends on a small set of environmental conditions. Others exploit a wide niche, meaning that they can survive under a wide range of environmental conditions. For example, mammals and birds can outlive moderate temperature changes but plankton may die out because the former subsists on a wider niche than the latter (Elton 1958).

Organizational sociologists adopted this ecological perspective to explain the diversity of organizations (Freeman and Hannan 1983). Large firms have an advantage over small firms in scale economy, but the market does not always end up with monopoly by the largest firm. A brilliant innovation in organizational ecology, in my view, was to conceptualize the forms of niche exploitation as organizational choices: *specialism* and *generalism*. These two choices imply crucial trade-offs. Specialist organizations can maximize the exploitation of a narrow niche, but they must accept the risk of environmental changes by which their own niche becomes resource poor (Hannan and Freeman 1977). By contrast, generalism is a risk-hedging strategy, spreading low levels of exploitation on a wide niche.

The co-existence of specialist and generalist organizations creates an interesting market condition called *resource-partitioning* (Carroll 1985; Hannan and Carroll 1992; Peli and Nooteboom 1999). Specialists can outcompete generalists in their own niche because they respond to a particular set of demands more effectively than generalists. In a stable environment, competitive pressure sorts two populations of organizations into different niches such that they no longer have to compete directly against one another. In the context of wildlife conservation, specialist NGOs, such as Sea Shepherd Conservation Society and Project Jonah (marine conservation specialists), are supported by conservation enthusiasts who are generally frustrated by the status-quo (Eilstrup-Sangiovanni 2019; Epstein 2008), while generalist NGOs like WWF attract a wide range of supporters including wealthy businesses (Stroup and Wong 2017). Resource-partitioning is an equilibrium in which different organizational populations tacitly form a symbiotic relationship. It does not, however, explain changes in the organizational environment.

From the very beginning, ecological theories treated environmental changes exogenously, as they primarily aim to find an equilibrium, the rules of co-existence between different types of populations (Pocheville 2015). In the application of organizational ecology in global governance research, the concept of environmental changes was essentially reduced to the density of organizations (Abbott, Green and Keohane 2016; Bush and Hadden 2019; Eilstrup-Sangiovanni 2019). This is an unfortunate reduction because there is a substantial literature on global governance that examines how agentic actions effect environmental changes (Adler 1997; Wendt 1999). Environmental changes in global governance, such as "changes in public attention or attitudes" (Abbott, Green and Keohane 2016, 26), are ultimately a function of human cognition and behaviors. In contrast to the ecology of species, where species subsist on natural resources, the resources that organizations subsist on are *us*—humans. Although what natural resources can "do" to themselves based on changes in species populations is limited to either increase or decrease, humans will have different responses to different organizations and adjust how they supply economic and so-

[1] A niche is a subset of the environment, both of which can be represented by an n-dimensional space.

cial resources in the organizational environment. In short, the environment (in which organizations operate) is what we make of it.

The literature on social movements has engaged with this question of agency and structure by invoking the concept of political opportunity structures (McAdam, Tarrow and Tilly 2001). While the definition of the "political opportunity" varies between studies, it generally points to the changes in structural conditions that allow social movements to succeed (Meyer and Minkoff 2004). An important limitation of this causal argument is that threats and opportunities must be perceived by agents (Tarrow 1998). By embedding the perception of agents into causal processes, we cannot *a priori* identify what might constitute political opportunities and the range of strategies available to agents. To overcome this shortcoming, Minkoff (1997) argues that increases in organizational density open up a political opportunity, because the success of early risers expands a niche by attracting new resources and signal the vulnerability of a target. Although her application of organizational ecology does not explicitly consider specialism or generalism, it shows how organizational ecology can be used to explain structural changes. Since organizational density and the choice of specialism or generalism are generalizable patterns of organizations, organizational ecology allows us to think about generalizable causal processes from agents to structures.

The power NGOs cannot be reduced to household names

To theorize the consequences of organizational choices on the environment, I connect organizational ecology with the study of NGO advocacy in global governance. The study of NGOs is useful because it is a research program that is primarily concerned with how agents effect structural changes (Finnemore and Sikkink 1998; Nadelmann 1990; Price 2003; Sell and Prakash 2004).[2] In particular, scholars have found that NGOs play a key role in raising *issue salience*, the amount of attention given to an issue (Carpenter 2014; Rosert 2019). Issue salience constitutes an important *environmental condition* of global governance, as they provide a focal point for international coordination and contention in an increasingly complex system (Raustiala and Victor 2004).

Early research on NGOs has established a positive relationship between the work of NGOs and structural changes. For example, Hafner-Burton and Pollack (2002) show that NGOs and their allies mainstreamed gender framing in global governance. Bromley, Meyer and Ramirez (2011) also document how global environmental movements spread environmental discourse in school textbooks. Gradually, research has shifted to focus on the characteristics of specific organizations. Wong (2012) argues that the centralized decision-making structure of Amnesty International led to its success in establishing international human rights norms. Similarly, Stroup (2012) analyzes international NGOs, such as Oxfam and Doctors Without Borders, to evaluate the effect of national origins on transnational activism.

Stroup and Wong (2017) find, however, that only a small number of NGOs can be called "leading" NGOs, supported by a wide range of groups like corporations, states, and peer organizations. Differences among NGOs motivated scholars to evaluate the various roles NGOs play in global governance. Most notably, Bob (2005) and Carpenter (2007, 2014) claim that differences among NGOs create a hierarchy, in which a small number of leading NGOs decide what should be considered as "important" advocacy issues. They argue that small NGOs opportunistically bandwagon

[2]That said, structural perspectives on NGOs also contributed to our understanding of global civil society. For example, see Sending and Neumann (2006).

on "important" issues because advocacy success is a non-excludable, public good, for which anyone can claim the credit. Similarly, Murdie (2014) argues that small NGOs free-ride on the public goods (e.g. advocacy success) that leading NGOs provide. In short, existing research claims that small NGOs are *bandwagoners* of a few leading NGOs.

However, reducing the power of NGOs to a handful of organizations overlooks the organizational choice of generalism and specialism.[3] For NGOs to bandwagon, we must assume that all NGOs are generalists, which may alter their advocacy priorities without any serious constraints (Bob 2005; Carpenter 2014). But this assumption is at odds with the expectations of organizational ecology. Because large NGOs have an advantage in scale economy, if all NGOs were generalists, small NGOs would be outcompeted and thus eventually die out. Instead, organizational ecology expects that competitive pressure forces small NGOs to specialize in a narrow niche for their survival. In the market of advocacy NGOs, a niche can be conceptualized as a resource space represented by an *n-number of issues*. Then, specialist NGOs cannot afford to bandwagon because they are tied to their narrow niche—a small set of issues—for something so fundamental as organizational survival. Certainly, *some* NGOs are bandwagoners, but it does not follow that all NGOs are.

The power of specialization

I argue that specialist NGOs have an advantage over generalist NGOs in raising issue salience because their advocacy can target the small segment of the public that primarily generates issue salience. By contrast, generalist NGOs must appeal to a wide range of supporters to draw social and economic resources, so their advocacy cannot meaningfully challenge the pre-existing environment (Stroup and Wong 2017). Recall that generalist and specialist organizations do not compete directly due to resource-partitioning, in which they subsist on different niches or, more precisely, different groups of people (Carroll 1985; Hannan and Carroll 1992; Peli and Nooteboom 1999). The market of NGOs should be no stranger to this partitioning effect. That is, the supporters of specialist and generalist NGOs have different characteristics and may react differently to NGO advocacy.

Drawing on the public opinion literature, I argue that the key difference between the supporters of specialist and generalist NGOs exists in their motivation to learn about an issue. As Converse (1964, 245) puts it, "Different controversies excite different people to the point of real opinion formation." Public opinion scholars call such a group of people who share a common interest and curiosity as the *issue public*. (Henderson 2014; Hutchings 2003; Krosnick 1990). Existing research shows that issue public members are more knowledgeable, opinionated, and likely to be mobilized than the rest of the public (i.e. the mass public) as far as the issue of their interest is concerned (Henderson 2014; Hestres 2014). By contrast, members of the mass public (i.e. non-issue public members) are characterized as "rationally ignorant" (Downs 1957), as they do not actively seek

[3]It is important to note a couple of exceptions in recent years. Bush and Hadden (2019) discuss the dynamics of US-based international NGOs in ecological terms. However, their empirical analysis focuses on the founding rate of NGOs, stopping short of investigating the dichotomy between generalist and specialist NGOs due to the lack of available data. Eilstrup-Sangiovanni (2019) describes the diversity of NGOs based on an ecological framework, which includes the dichotomy of specialism and generalism, but the effect of this choice on the political environment remains an open question.

out knowledge but minimize cognitive efforts by relying on information shortcuts (Converse 1964; Zaller 1992). In this context, it is the issue public, as opposed to the mass public, that primarily generates issue salience in the public sphere.

As issue public members develop stable attention and attitudes, it is advantageous for NGOs to target the issue public in order to raise issue salience—an environmental condition under which all NGOs must operate. Heightened issue salience is an important change in the organizational environment because new resources, such as revenues and legitimacy, will be made available for working on a particular issue. Specialist NGOs can target issue public members because they only occupy a narrow niche for survival. In other words, if specialist NGOs have any supporters, they are almost certainly members of the issue public. By contrast, generalist NGOs cannot target the issue public alone since they require a wide range of supporters to maintain (typically) large organizations. This implies that generalist NGOs must secure the support of mass public members who may not be interested in the issue *per se*. In fact, leading environmental NGOs, such as WWF and The Nature Conservancy (TNC), are often criticized for greenwashing corporate sponsors (Hari 2010; Huismann 2014).

[Figure 1 here]

Figure 1 is a stylized representation of my theoretical argument. Specialist NGOs can target the issue public, the primary source of issue salience. Public opinion scholars find that the interest of issue public members is motivated by three sources: self-interest, social identities, and core values (Howe and Krosnick 2017; Krosnick 1990). Specialist NGOs can exploit these factors, especially social identities and core values, because their niche is narrow and thus exhibits a smaller variation in those ideational terms than the niche of generalist NGOs (i.e. the mass public). By contrast, while generalist NGOs tend to have a superior presence among the mass public (Thrall, Stecula and Sweet 2014), their ability to affect issue salience is mitigated by the attitude instability of the mass public. Careful examination of the linkage between issue salience and global governance outcomes is outside the scope of this paper, but scholars have argued that increasing issue salience is a first step towards norm emergence (Carpenter 2014; Rosert 2019).

Based on the theoretical discussion above, I derive two observable implications. As a setup, we conceptualize the organizational environment of NGOs as represented by an n-number of issues, each of which has a varying level of issue salience. If the theory of NGO bandwagoning is correct, the advocacy priority of generalist NGOs as a whole is *reducible* to the priority of leading NGOs in the same organizational environment.[4] That is, we only need to observe how leading NGOs distribute their advocacy resources in order to learn about the priority of the generalist NGOs. The theory of NGO bandwagoning therefore predicts a positive relationship between the priority of leading NGOs and issue salience. Below, I use the term "priority" to describe a greater distribution of advocacy resources on some issues than others.

H1: *The higher the priority of an issue is for leading NGOs, the salience of that issue will be higher.*

If specialist NGOs can raise issue salience by targeting the issue public, we should expect a positive association between the density of specialist NGOs and issue salience. Following Minkoff (1997),

[4]For empirical observation of shared priority among generalist NGOs, see Carpenter (2014).

I conceptualize specialist NGO density as the number of such NGOs in a given issue. In other words, specialist NGOs are assumed to give full priority to the issues of their specialization, as they are tied to a narrow niche for organizational survival. Although individual specialist NGOs tend to be small, we expect that the population of specialist NGOs should amount to the effect that is comparable to, if not larger than, leading NGOs because of the attention stability of the issue public.

H2: *The higher the density of specialist NGOs in an issue, the salience of that issue will be higher.*

The power of specialist NGOs

Wildlife conservation

To examine my argument, I exploit the unique features of wildlife conservation as an issue area. Introduction discussed how wildlife conservation can mitigate the selection bias. If we conceptualize wildlife conservation as an organizational environment of NGOs, each species represents an issue that has a varying level of issue salience. Because NGOs must advocate for the species that are known to exist, we can observe issue salience independent of advocacy success or failure. Relatedly, each issue can be uniquely identified with a species name like "elephant" and "whale." Having only one word to specify potentially relevant texts from a large amount of documents, such as newspaper articles and NGO mission statements, is useful to data collection.[5]

Moreover, we can use the *Red List* of the IUCN as the basis to identify existing species. The IUCN's *Red List* is a globally recognized, and arguably the most authoritative, data source for biological species. Certainly, the *Red List* is not without a bias. For example, there is a tendency among biologists to study vertebrates, especially mammals and birds (Platnick 1992). However, it offers reliable data on the geographic distribution and conservation status of each species (i.e. endangeredness). As these characteristics of species offer intuitive explanations for issue salience, they will be used as control variables in my subsequent analyses.

Finally, wildlife conservation is a representative case of broader organizational environments in which NGOs represent the interest of marginalized groups in global governance (Rubenstein 2014; Steffek, Kissling and Nanz 2007). To garner international support for marginalized groups, NGOs must market their cause to the people who can provide economic and social resources (Bob 2005; Krause 2014). Wildlife conservation is an extreme scenario, as the "victims" of marginalization have no ability to voice their own concerns. By investigating wildlife conservation, we learn about a more general class of problems, that is, how NGOs might change the organizational environment in their favor by marketing their cause to the public.

The environment and niches

Following the theoretical discussion above, I conceptualize the organizational environment as represented by wildlife conservation issues (i.e. species). Each species is a resource space on which NGOs can potentially subsist. The niche of generalist NGOs *can* include all species, although how

[5]Not all species names are equally unique, however. For example, the word "bear" could be a verb or last name. See Section on how to mitigate this problem.

many issues they actually include is an empirical question. The niche of specialist NGOs is fixed to a subset of all species at the time of organizational birth. The choice of specialization is an organizational commitment, so they cannot easily back off, even if the environment changes.

To mitigate the IUCN's potential bias, I focus on the most studied category of biological species, the mammals (Platnick 1992). The *Red List* categorizes mammalian species at the level of *family*, which differentiates what we colloquially group as the same kind of species. For example, the families of whales include right whales, sperm whales, humpback whales, to name a few. Since NGOs do not always differentiate families in their advocacy either, my analysis uses colloquial labels instead of families. I selected the species that represent the organizational environment as follows. First, I focused on 2,417 mammalian families identified by the *Red List* as experiencing human-caused threats (as of November 4, 2016). That is, any of these families has a *potential* to be advocated as a serious conservation issue, as they are linked to a clearly identifiable perpetrator (Keck and Sikkink 1998). Second, I collapsed 2,417 mammalian families into 203 colloquial labels, such as "elephant" and "whale." These 203 species represent the organizational environment of NGOs (See Appendix A in for the list of species).

For each species, I measured specialist NGO density, the priority of a leading NGO, and issue salience, each of which will be discussed in detail below. As a caveat, there is very little year-to-year variation in specialist NGO density, as the life cycle of organizations spans over many years. Thus, in my quantitative analysis, all observations are pooled between 2008 and 2015. This period corresponds to the major version updates of the *Red List* so that the endangeredness of each species is kept constant. However, this is also a limitation of my research design, as correlational evidence cannot corroborate a causal claim. To compensate this shortcoming, I complemented my quantitative analysis with a qualitative case study. In Section , I demonstrates that specialist NGOs, instead of leading NGOs, successfully raised the salience of pangolin conservation in global governance in the period corresponding to the quantitative analysis (2008–2015).

Dependent variable: Issue salience

The outcome of interest is a variation in the salience of wildlife conservation issues—an *environmental condition* of global conservation governance. Importantly, issue salience is generated by members of the public. My analysis therefore focuses on the public of the *Global North*, where the expansion of cross-border communication activities "could provide the material capacity for transnational public spheres to materialize around certain issue-areas" (Crack 2008, 70–71). More specifically, I collected data from four Northern countries: the United States, the United Kingdom, Japan, and Australia.

The focus on the Global North limits the scope of my empirical analysis, but Northern publics are theoretically important to the success of transnational advocacy. Although the "global public" does not exist as a coherent entity, transnational publics are emerging in issue areas like environmental protection (Grant and Keohane 2005). Keck and Sikkink (1998) show that the mobilization of Northern publics can trigger "boomerang effects" on IGOs and target states. For example, the Jubilee 2000 campaign successfully mobilized Northern publics to pressure their governments to offer developing country debt relief (Busby 2010; Yanacopulos 2009). Moreover, the selection of the four countries offer a useful variation in regulatory and wildlife environments. In terms of NGO regulations, Japan has a relatively restrictive environment, and the United States, the United Kingdom, and Australia have more permissive ones (Bloodgood, Tremblay-Boire and Prakash

2014; Stroup and Murdie 2012). In terms of wildlife, the four countries are geographically distant from one another and thus have a wide variety of species that represent the organizational environment. Despite being a limited sample, the four countries provide a useful test to evaluate the generalizability of my argument.

I measured issue salience based on major newspapers in the four countries. I posit that newspapers are a good proxy for issue salience, as ample evidence supports that news media structures public attention to various issues (McCombs and Shaw 1972; McLeod, Becker and Byrnes 1974; Soroka 2002). The newspapers were selected based on ideological positions and the size of circulation. In each country, I selected one newspaper preferred among intellectuals and experts and the other circulating most widely in the country. Accordingly, The *New York Times* and the *USA Today* were chosen for the United States; the *Guardian* and the *Sun* for the United Kingdom; the *Age* and the *Herald Sun* for Australia; *Asahi Shimbun* and *Yomiuri Shimbun* for Japan. All articles that contain "conservation" *and* any of the species names (for example,"elephant") were collected between 2008 and 2015.[6]

If we simply count the number of articles, however, the measurement will be extremely noisy because many articles discuss species outside the context of wildlife conservation. To reduce the noise, I took the weighted count of newspaper articles. More concretely, I weighted every article in terms of its semantic relevance to wildlife conservation and added them together for each species.[7] This semantic relevance to wildlife conservation was measured by the frequencies of keywords that represent the meaning of wildlife conservation, which will be discussed in detail below. The main advantage of this approach is to give every article a continuous score, rather than a binary count, to closely measure its context.

I devised a four-step approach to generate the list of wildlife conservation keywords. First, I used the feature of *ProQuest* subject headings. The *ProQuest* is a database company that offers a global collection of newspapers. The newspaper archive adds subject headings based on the content of newspaper articles. I collected every article that has the "wildlife conservation" subject heading from the aforementioned newspapers during the period of analysis (2008–2015). We assume that these articles discuss some aspects of wildlife conservation; otherwise, they would have been tagged with other topics. As such, they constitute the gold standard of what is meant by "wildlife conservation." Second, certain types of words were removed from the "wildlife conservation" articles. For example, extremely frequent words, such as "I", "is", and "at", fail to capture the context since they appear across *all* kinds of topics.[8] For the same reason, newspaper specific words, such as "wsj", "new", and "york" were removed. Third, the frequency of every unique word was counted in order to capture the content of the articles. Finding frequent words is one of the most basic yet reliable ways to capture the meaning of texts (Manning, Schütze and Raghavan 2008). Here, thirty most frequent words from two parts of speech—nouns and adjectives—were selected for the keywords. Finally, species names were removed from the keywords to avoid double

[6]In Japanese, "conservation" is translated as *hogo* (保護). Some species (for example, "bear") required additional exclusion terms to avoid double count ("polar bear") and/or irrelevant articles ("Mr. Bear"). All articles were collected from the *ProQuest* database.

[7]A reasonable alternative approach would be to count the articles that are clearly within the context of wildlife conservation. However, it is common for a single article to discuss multiple topics, and excluding every article that does not singularly belong to the topic of interest would lose many meaningful observations.

[8]These words are usually referred to as *stopwords*. I used the python package, `nltk`, to remove them. The list of stopwords is available at https://gist.github.com/sebleier/554280.

count.[9] The list of keywords is available Table 1.[10]

noun	conservation, wildlife, year, government, state, population, habitat, world, land, water, group, way, director, trade, ivory, percent, area, animal, program, agency, country, bird, protection, park, hunting, number, research, law
adjective	federal, wild, environmental, national, small, local, large, public, big, illegal, american, good, polar, recent, endangered, natural, important, great, black, white, little, international, threatened, chinese, native, past, legal, northern

Table 1: Wildlife conservation keywords.

Once the list of keywords is created, I counted the frequency of keyword appearance in each article.[11] In order to standardize the count across all articles, the frequency of keyword appearance was divided by the total number of words in each article. These scores were then totaled for each species (`Salience`). Although this might seem complicated in words, it is straightforward when formally expressed. Issue salience (*S*) for each species ($i = \{1, 2, ..., n\}$) is measured by the *m* number of newspaper articles ($j = \{1_i, 2_i, ..., m_i\}$) that *i* receives:

$$S(i, j) = \sum_{j=1_i}^{m_i} \frac{K_j}{T_j} \tag{1}$$

Where *K* denotes the frequency of keywords in an article (*j*) and *T* denotes the total number of words in the same article (*j*).[12] This measurement has a bias in the sense that it privileges short articles that focus on wildlife conservation over long articles that are tangentially related to the topic, even if the keyword counts are the same. This choice is justified for two reasons. First, readers process the content of each article as a whole as opposed to word by word. Second, issue public members demand information about species, not simply because they like any species that are loosely related to conservation, but because they are concerned about wildlife conservation itself. In validity checks, the keywords successfully discriminated wildlife conservation articles from other topics (see Appendix C for details).

[Figure 2 here]

Figure 2 plots issue salience against endangeredness based on IUCN's *Red List*. Because it is a weighted *count* of newspaper articles, the distribution of issue salience follows a count data distribution, which is typically right skewed (Appendix F). There are three things that immediately stand out. First, the measurement of issue salience is useful, only when the values are compared among different species. In other words, saying elephants have a salience score of 26.2 does not

[9] I used `nltk` for the part-of-speech tagging.

[10] The same procedure was applied to the Japanese newspapers downloaded from *Kikuzo* and *Yomidasu*. Instead of `nltk`, `MeCab` was used for text processing. See Appendix B for the Japanese keywords.

[11] This method is similar to the sentiment analysis, the method to measure emotive expressions in texts (see, Soroka, Young and Balmas 2015; Young and Soroka 2012)

[12] The keywords are counted every time they appear. For example, if the term "conservation" appears 12 times in an article, we count as 12 instead of 1.

make sense by itself. It is meaningful, say, once we know elephants received roughly twice more issue salience than rhinos.

Second, wildlife conservation is not only about "exotic" species but also about non-exotic species, such as deer and bears. These species have substantial wild populations and they are often discussed in the context of wildlife management. For example, deer are frequently discussed as vermin. While one might wonder if vermin fall within the issue area of wildlife conservation, the maintenance of biodiversity depends on the careful balancing of populations between different species. An outsized population of any species could result in a loss of habitat for others in the shared ecological environment. As we see below, many specialist NGOs have a mission to "manage" wild populations of such species.

Finally, there are a few species that require clarifications. Recall that the species considered here are only those facing human-caused threats. For example, while horses may not be typically associated with extinction due to wide spread domestication, the last surviving wild horse, Przewalski's horse, is an endangered species. As a result, the "horse" is considered as endangered. Similarly, the salience of the "cat" is mostly driven by "big cats," which includes lions and leopards. However, these are anomalies rather than a rule. Most species, such as elephants and bear, received unsurprising values that warrant measurement validity.

Specialist NGO density

Pertaining to H2, the key explanatory variable is specialist NGO density, measured by the count of NGOs specialized in each species. I addressed two problems in existing datasets through novel data collection methods. First, measuring NGO density is not as straightforward as it might sound. Global governance research has frequently relied on the *Yearbook of International Organizations* (*Yearbook*) as a go-to dataset (e.g., Hafner-Burton and Tsutsui 2005; Murdie and Davis 2012; Smith et al. 2018), but it vastly under-reports the number of NGOs in global civil society (Bush and Hadden 2019). This under-reporting should be especially acute for specialist NGOs, as their narrow niche makes themselves less visible and thus less likely to be reported to the *Yearbook* than leading, generalist NGOs. Because registered NGOs must file taxes every year, national charity registers and tax records offer more comprehensive data on NGOs (Bloodgood et al. 2022). I used the following data sources: electronic IRS-990 filings on Amazon Web Services for the United States, the Charity Commission for England and Wales for the United Kingdom, the Australian Charities and Not-for-profits Commission for Australia, and *Naikakufu* NPO for Japan.[13] The data were taken from 2016 to 2017, and NGOs that did not exist prior to 2015 were excluded.

Second, specialist NGOs cannot be identified easily, as existing data on NGOs are not fine-grained enough to indicate species-level specialization of conservation NGOs. Specialist NGOs were identified by processing more than 350,000 mission statements with a combination of machine and human reading. First, each mission statement was machine-read to identify whether it mentioned any of the species representing the organizational environment (Appendix A). If it did, then I read the mission statement manually to determine whether the NGO is indeed a specialist conservation NGO. For example, the "Deer Valley Foundation" is an education NGO, not a deer

[13]However, such NGO data still fail to encompass the entire population of NGOs. About 60–65% of all 990 form fillers submit an electronic form in the United States, for example (see https://lecy.github.io/Open-Data-for-Nonprofit-Research/), and many Japanese NGOs simply hold corporate personhood, as opposed to non-profit status, in order to avoid heavy administrative duties (Pekkanen 2004)

conservation NGO, so it was removed from the count. Finally, I tallied specialist NGOs found in each species (`Specialist NGOs`). NGOs were allowed to specialize in multiple species as long as they listed them in their mission statements.

Leading NGO priority

Pertaining to H1, another important explanatory variable is the priority of a leading NGO. Based on the theory of NGO bandwagoning (Bob 2005; Carpenter 2014; Murdie 2014), we assume that generalist NGO priorities are reducible to the priority of a leading NGO in the shared organizational environment. The study of NGOs has traditionally considered WWF as the leading NGO of wildlife conservation, so I examine WWF here. Empirical research shows that WWF subsists on a wide niche and receives support from a variety of groups (Bush and Hadden 2019; Stroup and Wong 2017). WWF holds the largest membership among environmental NGOs (Bosso 2005), and it also has the highest expenditure among them. According to the 2015 US tax record, WWF spent over USD 136 million, whereas the second largest organization, Wildlife Conservation Society, spent a little over USD 98 million. To be sure, other leading NGOs, such as Greenpeace and TNC, also advocate for wildlife conservation, but they do so as a part of broader environmental initiatives.[14] By contrast, WWF's main programs target specific species, more closely in line with the design of this empirical research.[15]

To measure the priority of WWF, I collected all reports from the "Conservation news & stories" on WWF Global's website during the period of analysis (2008–2015). Following the measurement for Amnesty International's naming and shaming tactics (Hendrix and Wong 2013; Ron, Ramos and Rodgers 2005), I used the number of reports on each species as the indicator of WWF priority (`Leading NGO`).[16] Unlike newspaper articles, WWF's reports are not weighted, since we know *a priori* that they discuss wildlife conservation.

Descriptive statistics

Figure 3 plots specialist NGO density and WWF priority. These two variables are positively correlated (r=.697). Many issues simply do not receive advocacy efforts, while salient issues like elephants and whales are advocated by both specialist and generalist NGOs. However, whether such salient issues—issues with high specialist NGO density and high WWF priority—are indicative of NGO bandwagoning is an open question. In my interview-based research, the co-existence of specialist and generalist NGOs is a function of competition rather than bandwagoning. For example, an interviewee from the Tears of African Elephant, an elephant and rhino conservation specialist, explained why she started a new organization:

> The organizations we see today do not have any impact. [...] It's unclear what big conservation organizations are doing. Although they have brand recognition and funding, we are not sure how that funding is being used. This might sound a bit harsh, but

[14] http://www.greenpeace.org/international/en/campaigns and http://www.nature.org/ourinitiatives/urgentissues/index.htm (Accessed: February 7, 2017).

[15] http://wwf.panda.org/our_work/wildlife (Accessed: October 1, 2020).

[16] An animal receives one article if the article mentioned the animal at least once.

> having grown up in Africa, we've seen firsthand the lavish spending of expats from large NGOs (Interview 3011, translated).

In other words, this is a possible case of resource-partitioning, where individual conservationists self-sort into different kinds of NGOs. Members of the issue public who are frustrated by the status-quo may support specialist NGOs, while others may endorse the status-quo oriented approaches of leading NGOs.

[Figure 3 here]

Other issues exhibit relatively clear cases of resource-partitioning. Domestically important issues, such as bats, badgers, and koalas, are advocated by specialist NGOs. By contrast, "exotic" issues, such as leopard, gorilla, and big cats, tend to be prioritized by WWF. Importantly, this pattern does not follow the distinction between endangered and non-endangered species. Although both specialist and generalist NGOs cluster around endangered species, they also ignore critically endangered species. As a result, correlations between endangeredness and NGO variables are low: 0.112 with specialist NGOs and 0.177 with WWF priority (see Appendix E). The summary of descriptive statistics is reported in Appendix D.

Control variables

Several other factors might also influence issue salience. First, scholars have argued that issue characteristics, such as harm and vulnerability, increase issue salience (Büthe, Major and de Mello e Souza 2012; Keck and Sikkink 1998). If the harm and vulnerability of an issue is an underlying cause for NGO advocacy, the correlation between issue salience and NGO variables could be spurious. To control for the vulnerability of the species, I constructed a variable from the IUCN's *Red List*. First, a 1-to-5 scale measure was created based on the *Red List*'s five conservation statuses: Least Concern (1), Near Threatened (2), Vulnerable (3), Endangered (4), Critically Endangered (5).[17] Then, in the process of making colloquial labels (see Section), the average score was taken to indicate the endangeredness of each species (`Endangeredness`).

Second, the geographic location of an issue might affect issue salience since the information attained from firsthand experience could travel through the local networks of individuals (Förster, Mauleon and Vannetelbosch 2016; Watts and Dodds 2007). The theoretical importance of local networks is that they do not presuppose the presence of an authoritative spreader of information, such as NGOs and conservation experts. Watts and Dodds (2007) argue that the likelihood of an information cascade is only modestly greater in the networks that have well-connected actors and that no particular properties of such actors can be identified *a priori*. If so, issue salience may have to do with *where* the issue is located rather than *who* spreads the information about it. The geographic distribution of species is recorded in the *Red List*. If a given species is located in *any* of the four countries above, a dummy variable (`Global North`) takes a value of 1 (otherwise 0).

Finally, culturally embedded issues may become salient beyond the contexts of their origins because they have better "fit" with the underlying social structure (Bernstein 2000; Price 1995). Some species are more culturally embedded than others, and so they may also be seen as important wildlife conservation issues. In their Foucauldian analysis on human-animal relations, Stewart

[17] Extinct, Extinct in Wild, and Data Deficient are removed from analysis.

and Cole (2014) argue that the representations of animals in children's books illustrate (quite literally) how human-animal relations are produced and reproduced through childhood socialization. Indeed, human-animal relations are only a part of broader reproductions of dominant practices (Crane 2012; Pomerleau et al. 1990). Also, species targeted at children tend to be infantilized and cutified, so we can expect that such representations of species are more likely to induce conservation efforts than those that are not "cute." Accordingly, I used children's books to measure the extent to which species are culturally embedded. The cultural salience of a species (`Culture`) was measured by the number of times the species appears on the front page of top 100 books in Amazon's children's book section.[18]

Models and discussions

Recall that the theory of NGO bandwagoning predicts that leading NGOs have a disproportionate influence on issue salience (Bob 2005; Carpenter 2014). Model 1 follows this theory and evaluates the effect of WWF priority (`Leading NGO`), while geography, endangeredness, and the cultural salience of species are controlled. To test my argument about the power of specialization, I added specialist NGO density (`Specialist NGOs`) in Model 2. Also, I disaggregated the geographic distribution of the species (`Global North`) into specific countries (`Country`) to explore if any particular country is influential in raising salience of domestic species (Model 3). Finally, I added a binary variable indicating whether a given species is explicitly listed in the priority list of WWF (`WWF Priority List`) to account for outlier species that are especially prioritized by WWF (Model 4).[19]

I adopted a negative binomial model to work with the skewed distribution of the dependent variable.[20] These models assume that the effects of leading and specialist NGOs are additive rather than interactive, because the resource-partitioning effect of organizational ecology suggests that specialist and generalist NGOs do not directly compete with one another. There may be a tacit division of labor between them, but there are few theoretical justifications for positive interactive effects. Moreover, although networks of NGOs are considered as a source of power (Keck and Sikkink 1998), existing research finds that such networks are quite scarce among the broader population of NGOs (Murdie 2014; Shibaike 2022*a*).[21]

Table 2 reports the results of analysis. The results provide strong support for H2 that specialist NGO density is positively associated with issue salience. Although the effect of WWF is positive and significant in Model 1, the statistical significance of WWF vanishes once specialist NGOs are included in Models 2-4. This finding suggests that existing research may have overestimated the influence of leading NGOs on issue salience by implicitly assuming that all NGOs are generalists

[18] `https://www.amazon.com/` for the United States; `https://www.amazon.co.uk/` for the United Kingdom; `https://www.amazon.com.au/`; and `https://www.amazon.co.jp/` for Japan. The data were collected in February 27, 2018. Although the data of data collection is outside the period of analysis, culture is a slow-moving variable, and we do not expect that human-animal relations had fundamentally changed in the past 10 years.

[19] see Appendix G for the list of species. I also stratified the sample by removing those in the WWF priority list. The effect of specialist NGOs remains robust. See Appendix I.

[20] As the negative binomial model only works for integer dependent variables, I multiplied `Salience` by 1,000 and rounded to generate integers.

[21] That said, interactive effects were considered in robustness checks, where I find a negative effect. See Appendix J. I also run OLS with a logged dependent variable (See Appendix H.)

	Dependent variable:			
	Salience			
	(1)	(2)	(3)	(4)
Specialist NGOs		0.130**	0.118**	0.136***
		(0.040)	(0.043)	(0.039)
Leading NGO (WWF)	0.027***	0.013	0.012	0.004
	(0.007)	(0.007)	(0.007)	(0.007)
Global North	1.319***	1.065***		1.100***
	(0.217)	(0.213)		(0.215)
United States			0.727**	
			(0.253)	
United Kingdom			−0.427	
			(0.494)	
Australia			0.528	
			(0.306)	
Japan			0.758*	
			(0.360)	
Endangeredness	0.052	0.030	0.037	-0.012
	(0.098)	(0.098)	(0.103)	(0.110)
Culture	0.170***	0.145***	0.141***	0.151***
	(0.041)	(0.039)	(0.040)	(0.039)
WWF Priority List				0.849
				(0.441)
Constant	3.736***	3.718***	3.808***	3.778***
	(0.275)	(0.272)	(0.276)	(0.276)
Observations	203	203	203	203
Log Likelihood	−1,135.0	−1127.5	−1,128.7	−1125.4
θ	0.491	0.524	0.518	0.533
Akaike Inf. Crit.	2,282.1	2,269.1	2,277.4	2266.9
Note:	*p<0.05; **p<0.01; ***p<0.001			

Table 2: Results of negative binomial regression.

(i.e. omitting specialist NGOs from the analysis). Although these models do not demonstrate causality, the statistical association between issue salience and specialist NGO density would not have existed if bandwagoning was the dominant strategy among small NGOs. The significance of specialist NGOs is robust in Model 4, in which the species in WWF's priority list are controlled. This means that specialist NGOs can explain the variation in issue salience among the species outside of WWF's high priority, further providing evidence against NGO bandwagoning.

The substantive effect of specialist NGOs is nontrivial. Based on Model 2, the average marginal effects of the explanatory variables that pertain to H1 and H2 (`Leading NGO` and `Specialist NGOs`, respectively) are 11.2 and 168.5.[22] In real-world observations, the maximum of WWF priority was 262 reports, which can be translated into the effect of 17 specialist NGOs working on the same issue. Note that the observed maximum of specialist NGO density (32 organizations) exceeds this total effect size. For example, gorillas are prioritized by WWF fairly well (65 reports), but only seven specialist NGOs work on them. By contrast, bears attract a similar level of WWF priority (57 reports), but 24 specialist NGOs work on them. Although other factors matter too, the fact that bears have roughly twice more salience than gorillas is illustrative of specialist NGO influence.

Moreover, the findings suggest that specialist and generalist NGOs may have formed a tacit division of labor between raise-awareness advocacy and conservation implementation. In other words, when WWF prioritizes a species, it may be spending more resources to implement conservation projects than to raise awareness of the species among the public. As a leading NGO, WWF cannot risk their organizational status by betting on a new issue that *might* become salient, but it can use available resources for large-scale conservation projects once the issue becomes an "important" issue. By contrast, specialist NGOs can focus on raising awareness of an obscure endangered species but often lack the capacity to implement conservation projects with corporations or governments.

Mechanisms of specialist NGO influence

This section investigates pangolin conservation as an ideal-type case of specialist NGO influence in order to complement the correlational evidence presented above (Gerring 2006). The pangolin is a dog-sized, endangered mammal consumed in Asia and Africa for traditional medicine and wildlife meat. Around 2008 when not many people knew about the pangolin, specialist NGOs began to work on the issue of pangolin trafficking. They successfully raised issue salience in the Global North, which resulted in the listing of pangolins in Appendix I, the highest protection category under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 2016. As Figure 4 shows, the salience of pangolin conservation in global news coverage increased dramatically since 2008, when the first pangolin specialist NGOs were founded in the Global North.[23] If the theory of NGO bandwagon was correct, leading NGOs should have had a disproportionate impact on this issue emergence (Bob 2005; Bush and Hadden 2019; Carpenter 2014)

[22]The marginal effect plot of each variable is presented in Appendix K. Due to the scarce observations of highly salient issues, the confidence intervals are large in higher values.

[23]All English-language newspapers in the ProQuest newspaper archive (http://tls.search.proquest.com/titlelist/jsp/list/tlsSingle.jsp?productId=10000246)

[Figure 4 here]

Specialist NGOs

The first movers of pangolin conservation were specialist NGOs. The earliest effort to protect pangolins began in Vietnam, one of the major trade hubs for pangolin trafficking. In 1995, Vietnamese conservationists founded Carnivore & Pangolins Conservation Program (CPCP) to train anti-poaching patrol groups in national parks and raise awareness of pangolins in Vietnam. However, it did not have the capacity to reach out to the issue public in the Global North, and pangolin conservation remained in relative obscurity.

Save Pangolins became the first Northern NGO to specialize in pangolin conservation. The founders of Save Pangolins were motivated by the lack of awareness about pangolins at the global level. When it was established in San Francisco in 2008, pangolin trafficking was receiving little attention even among conservationists (Interview 1030).[24] At the time, TRAFFIC, the wildlife trade monitoring NGO, was publishing reports about large-scale pangolin shipments, but because TRAFFIC regularly published a large number of reports on wildlife trade, the reports themselves did not have an impact on issue salience. In 2008, WWF published just four reports that mentioned pangolins out of 275 reports. Save Pangolins built a website dedicated to pangolins, and at the time it was the only English website where the public could easily learn about pangolins.

In 2012, two British conservationists formed the group called the Pangolin Specialist Group (PSG). The purpose of the PSG was to provide a platform for the network of specialist NGOs dedicated to pangolin conservation, including CPCP and Save Pangolins. The founders of Save Pangolins were invited to serve as Vice-Chairs for the PSG along with the founders of CPCP. The founder of PSG explained:

> If you spoke to conservationists, as I did in Southeast Asia around 2006, 2007, 2008, 2009, there was a growing awareness of the threats that the species was facing, but there was no concerted leadership to try and solve this problem, or really crystallize conservation action on that continental, if not global, level. (interview 1027)

This network of specialist NGOs was successful at disseminating information about pangolins by appealing to the values shared among the issue public (Shibaike 2022*b*). One of the key values underpinning pro-conservation attitudes is mutualism, in which animals are treated as a human-like existence rather than a food source (Manfredo, Teel and Henry 2009). For example, the founders of the PSG created a catchphrase, "the world's most trafficked animal," to emphasize the magnitude of harm experienced by pangolins. They also intentionally used the daylight images of pangolins to present them as relatable to humans (interview 1020). Today, even WWF uses the humanized character of pangolins ("Lin the Pangolin") in its conservation programs.

Generalist NGOs

By the time generalist NGOs joined pangolin conservation campaigns, the issue of pangolin trafficking had already been legitimated at the international level. For example, WWF launched a

[24] See Appendix L for interview methods.

global campaign in 2018 to monitor pangolin trafficking in collaboration with tech giants, such as Google, eBay, and Microsoft,[25] but by then, the pangolin had been listed in Appendix I of CITES. Similarly, when TNC and WildAid jointly started campaigning against pangolin trafficking in 2016, the issue was already discussed at CITES-related international meetings. Greenpeace and the Friends of the Earth were not involved in pangolin advocacy until 2020, when pangolins received global attention as a potential species that carried the pathogen of COVID-19 from wildlife to humans. Although the pangolin has not gained as much public attention as elephants or whales do, it is now supposedly a favorite animal of British Prince William, who chairs the United for Wildlife, the global network of leading conservation NGOs.[26]

Instead of raising issue salience, generalist NGOs focused on providing logistical support in international meetings. At the Range State Meeting in 2015, which provided the basis for the CITES resolution to uplist all pangolin families in Appendix I, leading generalists, such as Humane International and Natural Resources Defense Council, facilitated logistical needs of the Meeting. However, representatives of specialist NGOs led knowledge-intensive areas of the Meeting, including workshops to evaluate pangolin populations and conservation methods. As an interviewee from Save Pangolins mentioned, specialist NGOs used their expertise to inform leading NGOs and other stakeholders on how to best approach the issue of pangolin trafficking in international meetings (interview 1032).

The case of pangolin conservation illustrates the division of labor between specialist and generalist NGOs. Specialist NGOs focused on making new resources available in the organizational environment, such as raising issue salience and establishing a network of NGOs dedicated to pangolin conservation. By targeting the conservation issue public, specialist NGOs influenced *our* understanding of pangolins as endangered, heavily trafficked species that required conservation efforts. Once the issue of pangolin trafficking gained interest at the international level, generalist NGOs began to make an explicit commitment to pangolin conservation. They launched collaborative programs with multinational corporations to stop pangolin trafficking. This would not have been possible for specialist NGOs, whose niche did not include groups outside the issue public. However, the very reason that leading NGOs were able to expand their niche into pangolins was that specialist NGOs effected changes in the organizational environment such that pangolin conservation can be seen as a legitimate conservation project. Contrary to the theory of NGO bandwagoning, "leading" NGOs followed the lead of specialist NGOs.

Conclusion

Organizational ecology is a useful framework to analyze dynamics among global governance organizations. Informed by ecological theories, recent research has brought new insights into why different forms of organizations emerged and gained legitimacy in global governance (Abbott, Green and Keohane 2016; Bush and Hadden 2019; Lake 2020). However, ecological theories lack a framework to explain the consequences of organizational choices back on the organizational environment—a structural condition concerning how *we* distribute economic and social resources. This paper presented a theoretical framework to explain why specialist NGOs have an advantage

[25]https://www.worldwildlife.org/pages/coalition-to-end-wildlife-trafficking-online (Accessed: May 28, 2020)

[26]https://www.dailymail.co.uk/news/article-7985429/The-pangolin-blamed-spreading-coronavirus-critically-endangered.html (Accessed: October 1, 2020)

over generalist NGOs in effecting environmental changes in global governance by bridging the insights of organizational ecology and the study of NGO advocacy. It exploited the unique features of wildlife conservation to empirically evaluate the power of specialization. Due to the lack of cross-national NGO data, however, the quantitative analysis did not provide causal evidence. While the case study of pangolin conservation passes a confirmatory test, more comprehensive longitudinal data, especially with each NGO's issue foci, are needed to establish a robust causal relationship between specialist NGOs and issue salience.

I highlight this paper's three contributions to the study of global governance. First, thinking about the power of specialization can expand the scope of organizational ecology research. Organizational ecology is useful because it captures the diversity of organizations in global governance (Abbott, Green and Keohane 2016; Hannan and Freeman 1977; Lake 2020). This paper is an extension of this research program rather than a counter-argument to it. Taking the diversity of actors seriously, the framework presented here allows us to examine differential effects of specialist and generalist organizations on broader environmental conditions. It offers a wide range of possible applications, as the concepts used in organizational ecology are quite generalizable. For example, my framework can be used to study of authority relations in a regime complex, a system of overlapping institutions governing a single issue area (Raustiala and Victor 2004). Recent research shows that seemingly fragmented regime complexes have an informal hierarchy based on authority relations to resolve jurisdictional conflict and transaction costs (Green 2022; Pratt 2018). Given that NGOs gain governing authority without state delegation (Avant, Finnemore and Sell 2010; Green 2013), the choice of specialism and generalism can shed a new light on the causal process of how actors gain authority without relying exclusively on structural accounts.

Second, this paper highlighted the usefulness of wildlife conservation as a research area. Substantively, conservation is a highly complex area of global governance, in which many IGOs and NGOs attempt to govern (Bush and Hadden 2019; Epstein 2006; Jinnah 2011). Although this paper focused on issue salience as an outcome, conservation efforts continue after endangered species gain international attention. The killing of some species, such as elephants and whales, evolved into a globally prohibitive norm (Epstein 2008; Nadelmann 1990), but many other species face challenges to receive any international attention (Shibaike 2022*b*). Wildlife conservation can be a useful area to further explore the conditions under which issue salience leads to norm emergence or contestation (for weapon norms, see Rosert 2019). Methodologically, species names have useful properties to mitigate the problem of selection bias in observational research. For example, the collection of cross-national NGO data remains to be a challenging task for global governance scholars (Bloodgood et al. 2022; Bush and Hadden 2019). Species names can be exploited as an efficient keyword to target relevant NGOs. Similarly, species names can be used to target relevant texts from large textual data, such as social media and meeting records of IGOs. With the increasing use of text analysis in global governance research (e.g. Green 2022; Pratt 2018), the study of conservation governance can be a useful area to test theoretical implications.

Finally, this paper challenged the dominant view about NGO bandwagoning (c.f. Bob 2005; Carpenter 2014; Murdie 2014). Small NGOs cannot easily become bandwagoners because competitive pressure in the organizational environment forces them to specialize in a narrow niche for survival. Empirical evidence here suggests that specialist and generalist NGOs may have formed a division of labor between raise-awareness advocacy and conservation implementation. In other words, the hierarchy of NGOs in terms of organizational resources does not simply translates into power differentials but into functional differentiation. Although NGO scholars have pointed out

a possible division of labor among NGOs in the past (e.g. Stroup and Wong 2017), systematic evidence has been scarce. This paper offers suggestive evidence of such organizational dynamics and cautions against trivializing the agency of small NGOs in global governance.

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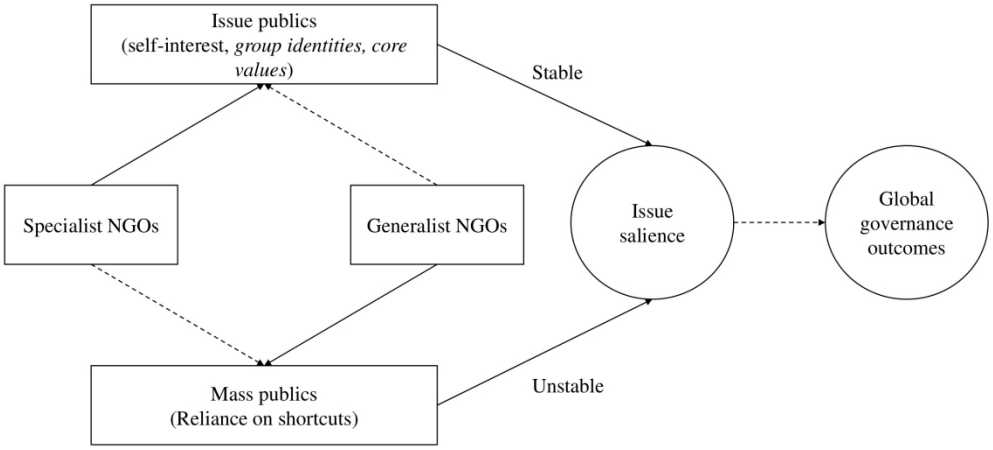

Figure 1: Theory of specialist NGO influence.

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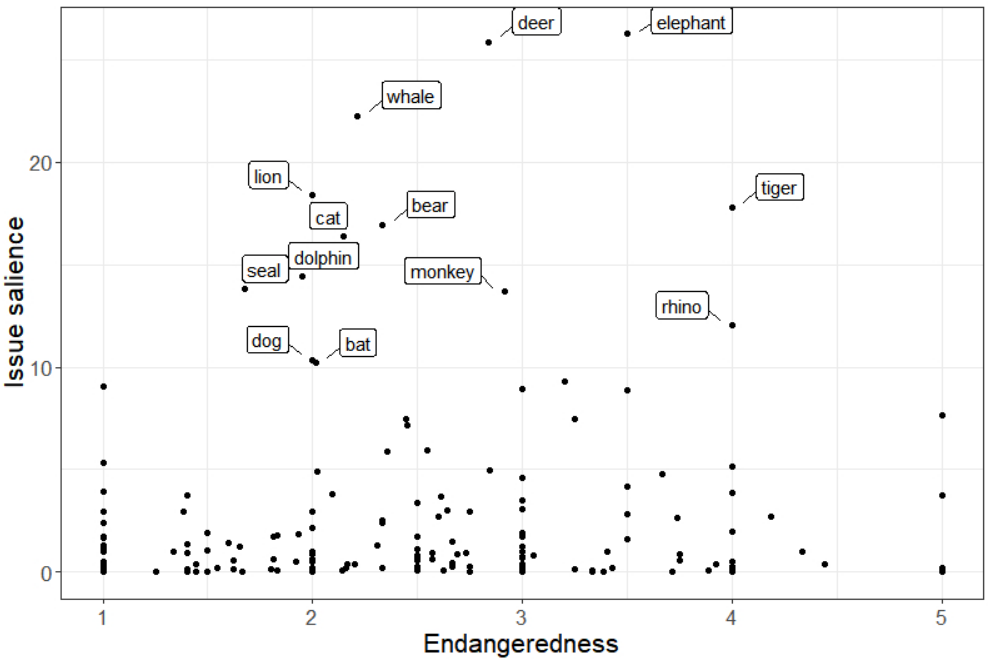

Figure 2: Scatter plot of issue salience in the Global North.

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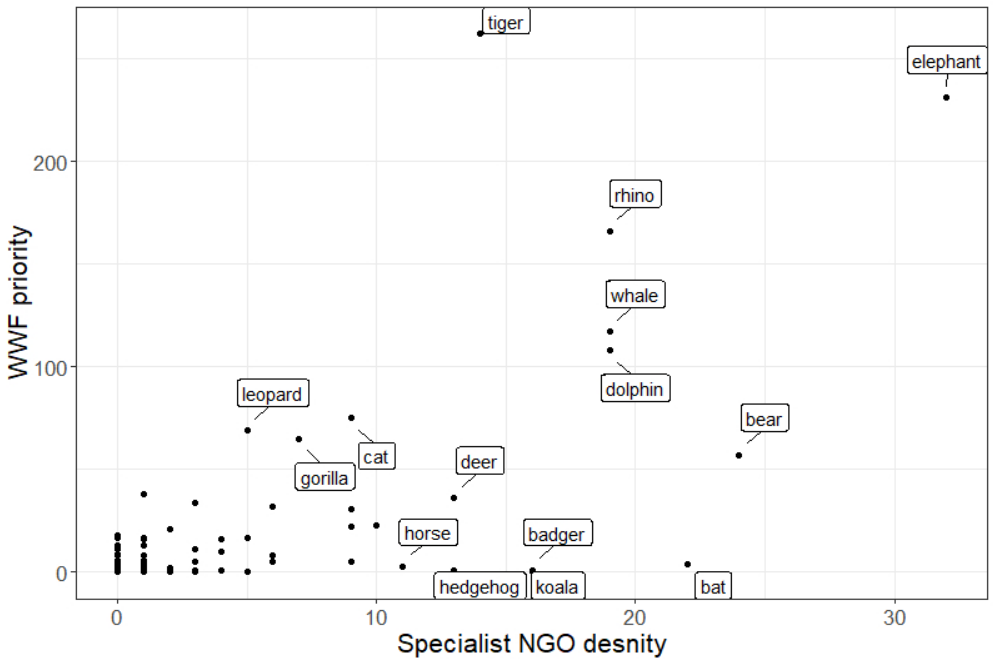

Figure 3: Scatter plot of specialist NGO density (x-axis) and WWF priority (y-axis).

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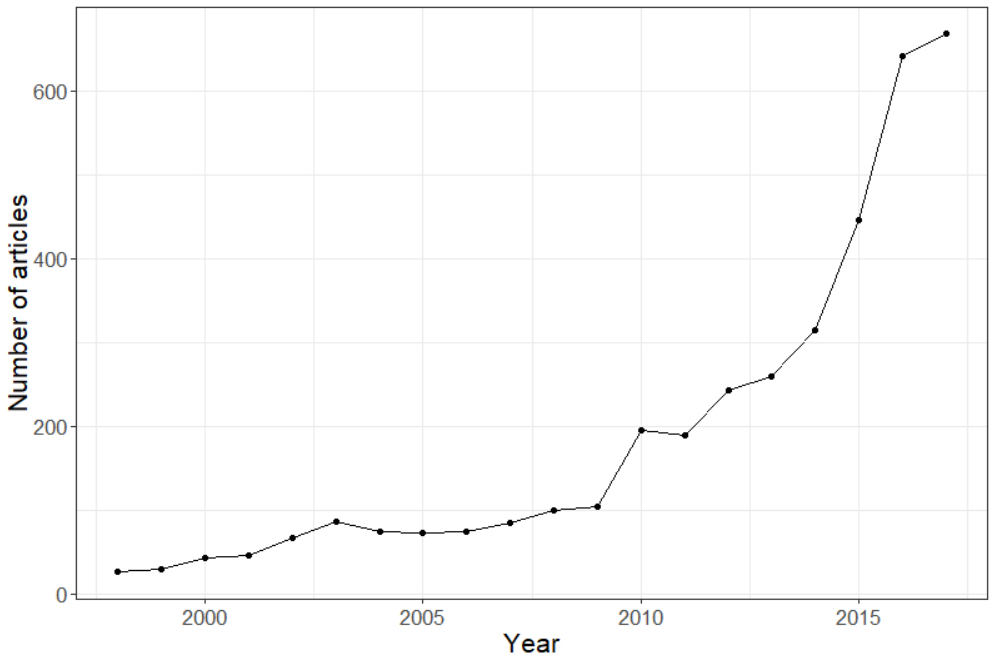

Figure 4: The number of newspaper articles on pangolin (1998-2017).

534x356mm (38 x 38 DPI)