



# Fishing for compliments: Legitimate illegality and institutional signaling in the case of recreational fishing in Germany

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## ABSTRACT

Addressing the largely overlooked area of illegal action in geography, this study draws upon an institutional framework to examine how actors of legitimate institutions admit to their actions in the face of conflicting regulations. In recreational fishing, the practice of voluntary ‘catch and release’ (C&R) of fish collides with official regulations in most German federal states. Yet, despite the prohibition by law and the threat of criminal conviction, this is widely legitimized as a conservation practice. Grounded on extensive social media research and interpretive content analysis I qualitatively extract the underlying social practices that unite voluntary C&R anglers into a cohesive group. Building on these findings, I propose the strategy of *institutional signaling* as a means of encoding compliance with common expectations while avoiding explicit acknowledgment of unlawful behavior. In this way, the study sheds light on a relatively unexplored facet of our social fabric, where the realms of legitimacy and illegality intersect.

## 1. Introduction

Although often invisible to the public, illegal practices are a constitutive element of our society (Hudson, 2020). Nevertheless, the study of actions that take place outside the law has been largely neglected in academic research, especially in (economic) geography (Hall et al., 2021; Hudson, 2014, 2020; Inverardi-Ferri, 2021). This is surprising, as a relational view of the intersections between legality and legitimacy reveals various forms of illegality with distinct characteristics (Beckert & Dewey, 2017; Mayntz, 2017). For instance, trafficking in human organs (illegal and socially illegitimate) differs significantly from trafficking in small amounts of marijuana (illegal in most countries but mostly legitimate). In particular, the latter intersections of “legitimate illegality” (Mayntz, 2017, p. 40) and underlying practices offer a valuable starting point for deeper inquiry, as, for example, legitimate practices can provide opportunities for innovation to take root in the face of conflicting laws (Glückler & Eckhardt, 2022) and manifest in rule-circumventing institutions (Glückler & Lenz, 2016). However, situations of clash between regulations and institutions raise the question of how these stable patterns of action and the underlying rules form, stabilize, and sustain themselves (Helmke & Levitsky, 2004). To shed light on the relationship between regulations and institutions, recreational fishing in Germany provides an illustrative example for analyzing precautionary strategies in situations of legitimate illegality and adds to a

growing body of literature on IUU (illegal, unreported, and unregulated) commercial fishing (Petrossian, 2015; Temple et al., 2022), which has recently expanded its focus to include recreational fishing activities (Boubekri et al., 2021). As in most industrialized countries, recreational fishing dominates inland fisheries in Germany (Arlinghaus, Aas, et al., 2021; Brämick & Schiewe, 2023; Cooke et al., 2018; FAO, 2008) and is of high ecological, social, and economic value (Holder et al., 2020; Sbragaglia et al., 2023). However, while this type of leisure activity accounts for more than seven times the amount (15,357 t) of the commercial harvest (2,106 t) in Germany’s freshwater fishing (Brämick & Schiewe, 2023), not all of the caught fish are harvested. Rather, up to 60 % are released back into the waters (Arlinghaus, Lucas, et al., 2021). This practice is based on legal requirements mandating the obligatory release of fishes, along with social norms that encourage voluntary release (e.g., Arlinghaus et al., 2007, 2019; Cooke et al., 2013; Ferter, Borch, et al., 2013; Stensland & Aas, 2014). The German case is particularly intriguing in this context due to its exceptionally stringent fishing regulations, which rank among the most rigorous globally (Aas et al., 2002; Arlinghaus, Aas, et al., 2021). With few exceptions (e.g., protected species, undercutting a minimum size, closed season), it is prohibited to release fish, once caught, back into the waters. Essentially, German fishery laws only allow fishing for a valid reason (§1 TierSchG), which is defined as killing the fish for the purpose of later consumption (Arlinghaus et al., 2007; Kunzmann, 2019, p. 450). As a result,

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recreational fishers often find themselves in a paradoxical situation where adhering to the social norm of releasing fish voluntarily for conservation purposes can result in legal penalties. It is precisely this conflict that drives my research question: How can actors of legitimate institutions admit to their actions in the face of opposing regulations? Drawing on the framework of the institutional context (Glückler & Bathelt, 2017), I unpack the underlying admittance strategies in German recreational fishing. This approach provides a precise comprehension of the connection between behavioral patterns and regulatory constraints. Grounded in extensive research in the social media of the German recreational fishing community, I summarize the findings and propose the concept of institutional signaling as a strategy to highlight one's commitment to a legitimate, but illegal institution. As such, the article i) adds to the social science knowledge of the case under study, because "[f]or too long, the considerable importance and impacts of recreational fisheries have been ignored" (Arlinghaus et al., 2019, p. 5209) ii) opens up a research perspective to gain a better understanding of practices outside the legal sphere (Hudson, 2014; Inverardi-Ferri, 2021), as "[e]conomic geographers have traditionally been reluctant to extend their analysis to illegal markets" (Hall et al., 2021, p. 283), and iii) sharpens the understanding of institutional dynamics and the interplay of institutions and regulations (Glückler & Eckhardt, 2022; Glückler & Lenz, 2016; Mena & Suddaby, 2016). The article proceeds as follows. In section 2, I will outline the theoretical background of the institutional context to narrow the empirical case and develop the theoretical foundation of institutional signaling. I will then map out the methodological approach of social media research and interpretive content analysis, before illustrating the institutional context of the case. The next section outlines the intersections of legality and legitimacy in recreational fishing in Germany and shows how actors demonstrate their compliance with an illegal practice through institutional signaling. The final part summarizes the findings and concludes that the strategy of institutional

signaling aids in navigating situations of legitimate illegality.

## 2. Theory

### 2.1. Intersections of legality and legitimacy

While legality refers to the conformity of actions to official regulations and is defined by law (Beckert & Wehinger, 2013), legitimacy "is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995, p. 574). The two concepts are interrelated and influence each other, not only because legal constraints shape behavior, but also because perceptions of legitimacy strongly influence legal compliance (Sunshine & Tyler, 2003), even leading to situations where divergent legitimate practices can substitute for formal rules (Helmke and Levitsky, 2004). Recent research underscores the value of distinguishing between legitimacy and legality as a starting point for further investigation. For example, Glückler & Eckhardt (2022) highlight the institutionalization of a legitimate practice despite conflicting legal provisions and theorize the legitimization strategies employed for an illegal innovation. Taking this into account, the conceptual distinction between these two dimensions allows to examine their different modes of relationship. Cross-tabulating legitimacy and legality yields a four-field matrix with distinctive modes of action: absolute compliance, absolute taboo, illegitimate legality, and legitimate illegality (Fig. 1). Since legitimacy is a social construct and the degree of (il)legality can vary depending on the geographical and social context (Glückler & Lenz, 2016), the positioning within the matrix may change, depending on the circumstances.

In mutual reinforcement of the two dimensions, *absolute compliance* refers to a mode in which one's behavior conforms to the rules in force. This can be seen, for example, in the case of standardized two-way

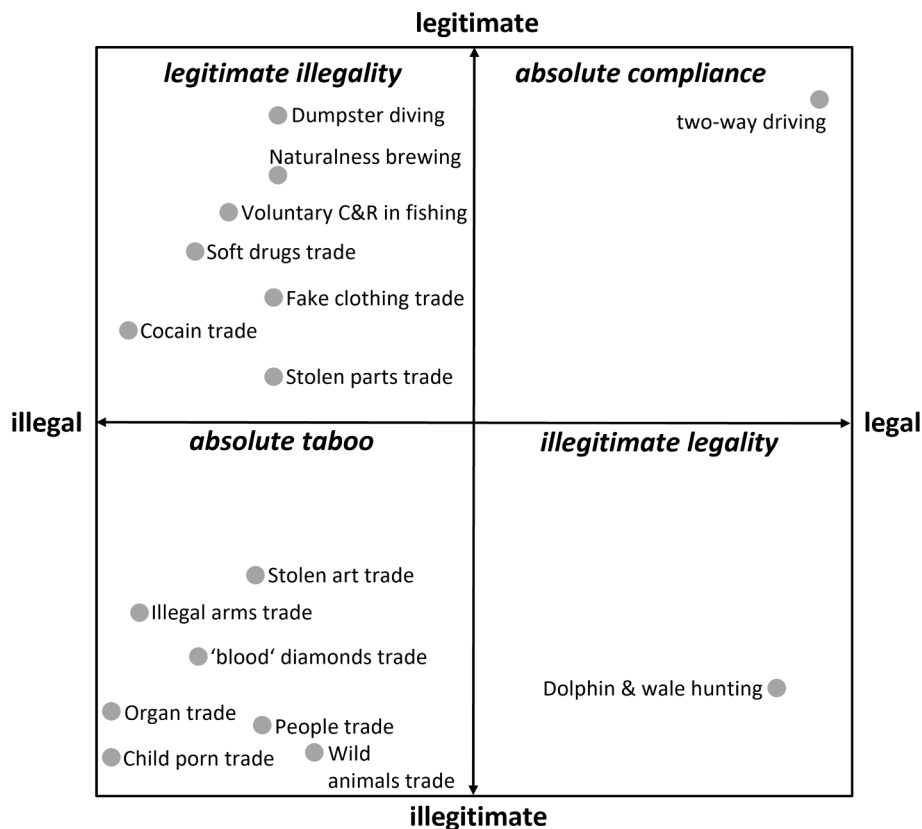


Fig. 1. Intersections of legality and legitimacy with context-dependent matrix positioning (adjusted and extended illustration based on Beckert & Dewey, 2017, p. 13).

driving on (public) roads (Watson, 1999) where the law defines which side of the road to drive on. Because potential deviations from the law may result in life-threatening consequences, conforming behavior is not only legally desired but also socially legitimized. The realm of *absolute taboo* defines a situation in which the dimensions of illegality and illegitimacy converge so that actions violate the law and are socially undesirable, inappropriate, and inconsistent with a society's value compass. Take, for example, the illegal trade in human organs. In an ethnographic study, Moniruzzamam (2012) shows how wealthy buyers illegally induce poor Bangladeshis to sell their organs. He describes this trade practice as “bioviolence” and “exploitative and unethical”, making it highly illegitimate and illegal at the same time (Moniruzzaman, 2012, p. 69). The third interdependence refers to *illegitimate legality*, where improper actions meet legal conformity. The whale hunt in the Faroe Islands provides a vivid example. The practice of grindadráp (meaning pilot whale (grind) killing (dráp)) is an open-sea drift hunt in which whales and dolphins are herded together in shallow bays to be killed (Olsen & Bogadóttir, 2017). This centuries-old hunting technique for food procurement is permitted by law (Kwai, 2021; Svanberg, 2021), but its social legitimacy is increasingly fading. For example, in a single weekend, over 1,400 white-sided dolphins were killed in the 2021 hunt and “graphic images and video[s] showing the beached dolphins being dragged up in bloody waters” (Kwai, 2021) went around the world. A New York Times article titled “Faroe Islands’ Killings Of Dolphins Denounced” highlights that “even some supporters of the hunts were upset” (Kwai, 2021) indicating that this practice is no longer in line with social norms. The last mode of action, *legitimate illegality*, forms the conceptual basis for the comprehensive examination presented in this article. When there is a conflict between perceptions of legitimacy and legal provisions, it leads to tensions between what is legally admissible and/or socially desirable. This can be observed, for example, in the case of dumpster diving. In most European countries dumpster diving is a legal act (Malkus, 2020). Under French law, garbage is considered an “abandoned” or “void” object, so its appropriation does not constitute an act of theft. The same applies to the Netherlands, where dumpster diving is not an illegal act from a criminal law perspective (Research Services of the German Federal Parliament, 2022, p. 11f.). In Germany, however, the situation is different. While more than 80 % of the population opposes the criminalization of dumpster diving or supports its legalization (Malkus, 2020; Statista, 2020), in 2020 the Federal Constitutional Court upheld the conviction of two women for joint theft. The defendants, who engaged in dumpster diving and collected food from a supermarket garbage can designated for disposal, were legally found guilty according to the court's ruling (BVerfG, 2020). The extensive media attention surrounding this case sparked the emergence of new legislative proposals that called for revisions to the guidelines, aiming to explore opportunities for discontinuing criminal charges and fines (Federal Ministry of Justice, 2023).

## 2.2. Institutional context and institutional signaling

In order to unpack the “black box” (Rodríguez-Pose, 2020, p. 378) of institutional mechanisms and underlying strategies, I will apply the institutional context (Glückler & Bathelt, 2017) to frame this research (Table 1) and analyze the dynamics between legitimacy and legality. The institutional context consists of three interdependent pillars: regulations (formal rules), institutional actors (individuals and collective actors), and institutions as stable patterns of social interaction based on mutual legitimate expectations (Glückler, 2020).

*Regulations* are the ‘rules of the game’ (North, 1990) and frame the legal constitution of social activities. When examining the intersection of legality and legitimacy, they establish the legal framework that encompasses social action, either within or beyond its boundaries. And when enforced, they influence the rights and obligations of actors. In the case of recreational fishing in Germany, regulations include, for example, fishing laws at the federal and state level, such as the German

**Table 1**

Pillars of the institutional context in the field of recreational fishing in Germany.

Pillars of the institutional context	Description	Examples in the case of German recreational fishing
Regulations (‘rules of the game’)	Set of legally enforceable laws, regulations, or policies that affect collective actions	German Constitution (Grundgesetz); German Animal Welfare Act (TierSchG); federal state fisheries acts, etc.
Institutional actors (‘players of the game’)	People and organizational actors whose actions are geared towards common goals	Public authorities; animal rights organizations; fishing clubs; social online groups, etc.
Institutions (‘how the game is actually played’)	(Relatively) stable pattern of social interaction based on shared legitimate expectations that are sanctioned when violated	Institution of catch & keep (C&K); institution of voluntary catch and release (voluntary C&R)

Animal Welfare Act or the state fisheries acts, as well as individual local water regulations. *Institutional actors* represent the ‘players of the game’ (North, 1990), and encompass individuals and organizations collaborating and pooling resources to achieve shared objectives (Glückler & Bathelt, 2017). They are guided by regulations and institutions and can act as change agents when it comes to the reshaping the institutional context (Crawford et al., 2023; Lawrence & Phillips, 2004). In addition to public authorities responsible for monitoring compliance, institutional actors of relevance to this paper include private entities such as animal welfare organizations, fishing clubs, and online social groups. The third pillar of the institutional context consists of *institutions*. Based on expectations of legitimate actions in recurring situations, they form relatively stable patterns of social interactions (Barley & Tolbert, 1997; Bathelt & Glückler, 2014) and mirror real-life interactions of ‘how the game is actually played’ (Glückler & Lenz, 2016, p. 260). If the interaction harms the mutually shared expectations, sanctions are imposed. It is particularly worthwhile to focus the analysis on institutions because they reflect actual social action that may deviate from, substitute for, or conflict with formal structures such as regulations (Saka-Helmhout et al., 2020). In sections four and five I will elaborate the institutional context of recreational fishing in Germany and touch upon the institutions of catch and keep (C&K) respectively voluntary catch and release (voluntary C&R) in detail.

Since the public expression of meeting the expectations of others in situations of legitimate illegality can lead to legal punishment, actors must choose a circumvention strategy to remain unpunished while showing accordance to the institution taking place in the illegal sphere. Therefore, I conceive the strategy of *institutional signaling* as a specific strategy to navigate in such a situation of ambiguity. This strategy draws on the analogy of signaling theory, which describes actions to transmit actual qualities of an item in the presence of information asymmetries (Spence, 1973). Here, the focus lies in the signals of senders that transmit information, as well as the interpretation of this information by the receivers, with the goal of enabling the parties to make more informed decisions (Connelly et al., 2011). I borrow the term “signaling” to describe a course of action that allows to indicate the membership in a community whose unity bases on unlawful, but legitimate institution. The strategy of institutional signaling encompasses the utilization of signals as “secret codes” facilitating the recognition of membership in these communities by those who are knowledgeable. In doing so, this strategy exploits the inherent interpretative ambiguity of communication, allowing multiple interpretations to be derived from the signal (Johansen & Rausand, 2015, p. 244f.), thus making legal prosecution more difficult. One can look back, for example, to the time of ancient Rome, when the fish symbol was particularly important to the early Christians. As the acronym of individual letters of the Greek word for fish (ΙΧΘΥ) stands for “Jesus Christ, Son of God, Saviour” (Rasimus, 2012, p. 327), the fish symbol was used to signal membership in the

Christian community (Kant, 1993). At the same time, the ambiguity of the sign’s interpretation (e.g., the original meaning of a fish versus belonging to a forbidden association) allowed it to symbolize being a Christian while avoiding persecution by the Roman authorities (Jowett et al., 2012, p. 64). In sum, the distinction between regulations, institutional actors, and institutions as separate entities allows for a clear analysis of their empirical relationships and the study of their interdependent influences. I define institutions as legitimate orders of interaction that emphasize the enactment of social patterns and can be distinct from the prescriptions of norms, directives, laws, and statutes, which I consider “not-yet institutions” (Bathelt & Glückler, 2014). In this context, the concept of institutional signaling is deeply intertwined with the conflicts between expectations created by social norms, formal legislation, and de facto courses of action. It provides a strategy for institutional actors to reveal and reinforce their commitment to shared norms of acceptable behavior on which they base their actions, even when they violate the law.

3. Methodology

3.1. Research design and field access

To answer the research question of how actors of legitimate institutions can admit to their actions in the face of opposing regulations, I designed a qualitative case study. Prior to the actual data collection, I conducted preliminary research to gain a comprehensive understanding of the field of recreational fishing in Germany. This included examining subject specific, peer-reviewed literature as well as gray literature such as fishing media, reports or online fisheries blogs and NGO websites.<sup>1</sup> I also benefited from knowledge I gained during my own training to obtain a state fishing license and through informal conversations with members of the field. From the information acquired, I created a list of keywords related to institutional signaling in recreational fishing that I could use further in the social media research process. Applying social media analysis meets the demand of Stensland & Aas’ (2014) call for qualitative approaches and consideration of social media channels to gain deeper insights into social norms and informal practices in recreational fishing. It also adds to the emerging literature on recreational fishing using online and social media data (Allison et al., 2023; Lennox et al., 2022). The innovative study design contributes to answering the research question in two specific ways: First, social media is now one of the most important platforms for sharing about social life, leaving a rich data trail of social interactions (Guidi et al., 2020; R. E. Wilson et al., 2012). Second, most large groups on social networks (e.g., on Facebook) consist of people who have never met before and are held together by converging interests or goals (Guidi et al., 2020, p. 33605). In order to assess the alignment of interests, expectations, and behavioral patterns with fellow members of the online community, individuals are required to articulate their own practices and expectations. The data collected in the form of these expressions are utilized to inform the analysis presented in this paper.

3.2. Data collection

Three of the largest German-language fishing groups on Facebook provide the basis for the data gathering (Table 2). The groups were founded between 2010 and 2018 and count between 15,000 and 50,000 group members. In these virtual places, members can share experiences and knowledge, show pictures and videos of their catches, or ask questions. In addition, sharing content on social media aims to provoke favorable responses or commendations, seeking to attain self-validation

<sup>1</sup> This includes for example: Fishing media Blinker or Fisch & Fang; reports of the UN Food and Agriculture Organization; fishing blogs [netzwerk-angeln.de](http://netzwerk-angeln.de) or [barsch-alarm.de](http://barsch-alarm.de); NGO websites of [PETA.de](http://PETA.de) or [Tierschutzbund.de](http://Tierschutzbund.de).

**Table 2**  
Anonymized Facebook groups under investigation (by 31.05.2023).

	Angel Fish Group	Bass Fish group	Carp Fish Group
Founding year	2014	2018	2011
No. of members	> 50.000	> 35.000	> 15.000
No. of extracted posts	60	17	63
Identifier	A <sub>1-60</sub>	B <sub>1-17</sub>	C <sub>1-63</sub>

and admiration (Maíz-Arévalo & García-Gómez, 2013; van Dijck, 2013). Despite being private, the Facebook groups under investigation can be accessed by any user upon request, thus allowing the general public to join without encountering significant obstacles. However, measures have been implemented to safeguard the anonymity of group members (Wellman, 2021, p. 3562). I have pseudonymized the group names, anonymized the posts, alienated the photos and omitted personally identifiable details for presentation in this paper so that no re-identification of content creators is possible (Zimmer, 2010).

As a member of the groups, I had access to the posts and conducted a passive collection of the information by performing a keyword search (Franz et al., 2019). The search was based on terms I identified in the preliminary research process and was iteratively expanded during the data collection.<sup>2</sup> Contributions that referred to C&R practices were then systematically secured for further analysis through manual extraction (ibid.). Adhering to the principle of theoretical saturation (Glaser and Strauss, 1967), I continued to differentiate the keywords and associated data collection until no new information emerged to further enhance my understanding of the strategies that underlie institutional signaling. The data collection phase took place in May 2023 and resulted in the extraction of 140 items, most of which consist of a photograph, written description, and comments. These contributions are specifically relevant to the German context, not only because they are written in German but also because some posts indicate specific fishing locations (e.g., Kiel Canal (A50), the Lippe river in North Rhine-Westphalia (B17), or Berlin (C6)). Additionally, the nature of the posts suggests that the contributors are subject to German regulations. During the month of data collection, group members posted between 40 times (Angling Fishing Group) and 600 times (Carp Fishing Group). A majority of the posts forming the basis of the analysis were made in recent years: 8 posts in 2023 (up to the end of May), 31 posts in 2022, 24 posts in 2021, and 11 posts each in 2020 and 2019. Originating from a diverse pool of contributors – 112 individuals in total – the posts are not limited to a small, homogeneous group, but rather occur across a broad spectrum of individuals. To facilitate referencing and validate the evidence, the downloaded posts were assigned identifiers (A<sub>1-60</sub>; B<sub>1-17</sub> and C<sub>1-63</sub>) to link the following discussion to the data and validate my evidence (Drisko & Maschi, 2016).

3.3. Coding and interpretive content analysis

Since legal circumstances do not allow for direct communication when voluntary releasing fish in Germany, actors make use of institutional signals to share common interests in situations of legitimate illegality, pushing communicative ambiguity. Here, the use of interpretive content analysis helps to make sense of the extracted material because each contribution “means something to someone, it is produced by someone to have meanings for someone else” (Krippendorff, 2018, p. 25). The approach extends other evaluation processes by comprehensively taking the context – in this case possible legal prosecution in the event of misconduct – into account. As such, it enables for a dissection of the intersections of (il)legality and (il)legitimacy and allows for

<sup>2</sup> Keywords for data collection (English translation): “release”, “back”, “hand”, “of course”, “by accident”, “accidentally”, “fell”, “slipped”, “unfortunately”, “swims”, “slippery”, “squidgy”.



uncovering of strategies of institutional signaling. All extracted items were transferred to MAXQDA (VERBI Software, 2019) for coding and subsequent interpretation. The coding procedure was iterative, involving continuous review and categorization of all imported posts. Through the process of inductive category formation (Mayring, 2004), categories were developed through the interplay between the empirical material and the theoretical framework. The openness of the coding allowed for an exploratory momentum, for example, to discover certain discursive features (e.g. ‘anticipatory disarmament’; see section 5.1) that could be theorized from the material obtained. Although data analysis occasionally revealed instances where participants posted situations without actively using institutional signals, these few instances underscore the prevalence of the theorized mechanism of institutional signaling. To infer the intentions of the Facebook posts (Drisko & Maschi, 2016), I relied on my knowledge of the organizational field as well as on the represented literature on institutions. In particular, the use of emojis, which serve as an emotional substitute for face-to-face interaction (Franz et al., 2019; Ganster et al., 2012), plays a crucial role in the interpretation (Bai et al., 2019). They serve to “reduce any potential ambiguity associated with the transmitted discourse” (Kaye et al., 2016, p. 465) and provide clarity to the target audience about how to interpret the statements. To verify the quality of the findings, I applied triangulation as a validation strategy (Flick, 2004; Jick, 1979). After coding the data, I presented the extracted posts to five independent fishermen who hold fishing licenses in Germany to check the quality of my interpretations. They were asked to interpret the presented material in order to check the reliability of my work (Krippendorff, 2018). The results were consistent with my findings and justify the interpretations presented. In addition, I verified the identified mechanisms in smaller angling related Facebook groups that specifically associate fishing activities with certain German federal states to ensure that the observed mechanisms are prevalent in the study context of German recreational fishing.

4. The institutional context of recreational fishing in Germany

4.1. Regulatory pillar: (Anti-)angling regulations in Germany

The debate on recreational fishing and C&R is closely linked to environmental ethics, conservation concerns and the recreational enjoyment of fishing (Arlinghaus et al., 2007; Huntingford et al., 2006). The German example illustrates a middle ground where subsistence-like recreational fishing is allowed, C&R is mandatory for protected fish species and sizes, and voluntary C&R for non-protected fish is prohibited (Arlinghaus et al., 2007). However, the German regulation is exceptionally complex and can be regarded as one of the “most pervasive and restrictive anti-angling regulations to recreational fishing” (Arlinghaus, Aas, et al., 2021, p. 78) worldwide. In general, two official permits are required for private fishing activities in Germany: A fishing license and the permit to fish on the particular water body of interest. The fishing license is issued after an official state examination that certifies sufficient knowledge of fish and aquatic science, fishing practice and water and animal disease law (Steffens & Winkel, 2002). This license enables the acquisition of the fishing permit – the authorization to fish on a specific water. Fishing without a permit constitutes a criminal offense and can be punished by two years’ imprisonment or a fine (§293 StGB). Other legal regulations related to recreational fishing in Germany have a multi-level structure due to the federal system in Germany (Table 3).

The entire body of fisheries legislation is rooted in the German constitution, which ensures special protection for animals (Art 20a GG). As fellow creatures, “no person is permitted to cause pain, suffering, or harm to an animal without proper reason“ (§1 TierSchG). The ‘proper reason’ in recreational fishing refers to the act of catching fish with the intention of consuming them at a later time (Arlinghaus, 2007; Kunzmann, 2019). A violation of this law constitutes cruelty to animals and can lead to a prison sentence of up to three years or a fine (§17

Table 3  
Excerpts from German fishing-related laws (own translation).

German Constitution (GG)	German Animal Welfare Act (TierSchG)	Fisheries law (e.g. for Bavaria)	Waters Regulations (e.g. fishing club Altdorf)
Art 20a GG Mindful also of its responsibility towards future generations, the state shall protect the natural foundations of life and animals by legislation and, in accordance with law and justice, by executive and judicial action, all within the framework of the constitutional order.	§1 TierSchG No person is permitted to cause pain, suffering, or harm to an animal without proper reason.  §17 TierSchG: A penalty of up to three years’ imprisonment or a fine may be imposed on anyone who kills a vertebrate animal without proper reason or inflicts substantial pain or suffering, or prolonged or repeated substantial pain or suffering on a vertebrate in brutality.	§11 AVBayFiG (3) Captured fish may only be harvested from the water if they have reached the minimum landing size. (9) Captured fish of species other than those listed in the Appendix may not be rereleased.	It is only allowed to fish with artificial bait and hand fishing rods.  To protect undersized fish, only barbless hooks are allowed when using treble hooks. Pike and eel have neither closed season nor closed measure.

TierSchG). The regulations at the federal level provide further legal entities (Pawson et al., 2008). They specify which fish species may be caught at all and whether there are minimum sizes or closed seasons for certain fish (e.g., §11 AVBayFiG; appendix to AVBayFiG).<sup>3</sup> Consequently, fishermen must return fishes back into the water that are caught during the closed season or that fall below the minimum size (mandatory C&R). At the same time, the regulation indicates that it is illegal to release fish that do not enjoy protection by the law (voluntary C&R), since only the goal of eating the fish justifies recreational fishing.

4.2. Institutional actors: Strong players in the field

The German angling environment is strongly shaped through its organizational actors. Germany is home to more than 1.67 million recreational anglers holding an official fishing license. More than half of them are members of one of the 7,981 local fishing clubs (Brämick & Schiewe, 2023). Aligned with their overarching association (German Angler Association), these fishing clubs form complex social-ecological systems. They are tasked with the sustainable management of fisheries and responsible for maintaining water bodies, organizing preparation courses, and conducting training programs for the official fishing examination (Aminpour et al., 2020; Pitcher & Hollingworth, 2002, p. 131). There are also documented cases where allegations of misconduct both within a single angling club and between different angling clubs have led to reports to the police (Arlinghaus, 2007). One of the ‘antagonists’ of the fishing clubs and recreational anglers practicing (voluntary) C&R include animal rights movements (Arlinghaus, 2007; Arlinghaus & Cooke, 2009). They advocate animal welfare, condemn angling and (voluntary) C&R, and provide ‘tips against anglers’ (e.g. PETA, 2019). They are also an important actor when it comes to monitoring compliance with the regulations, as their members are obliged to watch for misconduct and notify the police if necessary (ibid.). Eventually, ensuring that fishing practices comply with legal

<sup>3</sup> Alongside the establishment of a lower limit, the federal states of Hamburg and Hesse have recently introduced an upper boundary for the permissible size of harvested fish (HFischV, 2023; HmbFANGDVO, 2019).

regulations and initiating potential legal proceedings is the responsibility of the police and fishery wardens. However, the digital realm introduces additional influential actors that shape the institutional landscape. Notably, German-language YouTube channels, some of which boasting over 295,000 subscribers and 98 million views, as well as the aforementioned Facebook groups with over 50,000 members, hold significance in representing and disseminating the legitimacy of social actions in recreational fishing (Nisbet et al., 2003).

#### 4.3. The rule-reinforcing institution of catch and keep

The practice of catch and keep (C&K) refers to a rule-enforcing institution and a stable pattern of interaction based on the legal framework (Glückler & Lenz, 2016). It represents a situation of *absolute compliance*, which serves to maintain and stabilize established rules. When a conforming fish is caught and killed, it signifies adherence to the laws. In case of misconduct, institutional actors monitoring the compliance lodge a complaint. This is what took place following a newspaper publication about the voluntary release of a substantial fish. The matter was taken to court and at the trial, the judges determined that the fishing activity was driven by self-expression and personal ‘sporting’ ambitions, rather than for nutrition. This violated the Animal Welfare Act, leading to a fine of 60 daily penalty units (Public Prosecutor’s Office of Detmold, 2011). Moreover, animal welfare organizations regularly report deviant behavior of voluntary C&R to the attention of the courts through video or visual footage,<sup>4</sup> which often results in convictions. For example, an angler had to pay a fine of 5,000 euros after a video showed him putting a carp back into the water (Spiegel, 2018). In the course of preserving evidence following a complaint against an angler, the police even conducted a house search to seize compromising footage on the computer. The fisherman had posted a picture of a zander on the internet, indicating that he had released the fish back into the water even though it exceeded the minimum size (Jendrusch & Niehaus, 2007, p. 746). These examples show that, at first glance, the German fishing landscape is characterized by a situation of *absolute compliance*. It is shaped by the rule-enforcing institution (Glückler & Lenz, 2016) of C&K as an institution that fosters a culture of compliant behavior and sanctions in case of deviant behavior.

### 5. Legitimate illegality

#### 5.1. The rule circumventing institution of voluntary C&R

In high-income countries, the significance of capturing fish for private consumption as a means of food security and nutrition has diminished (Embke et al., 2022; FAO, 2022). As a result, private angling has transformed into a recreational pursuit. The emphasis is primarily on the overall experience rather than the act of harvesting fish (Arlinghaus, 2006), which can involve targeting exceptionally large or rare fish as prized trophies (Silwal et al., 2023). In this context, the institution of voluntary C&R has been established as a conservation practice (Blyth & Rönnbäck, 2022; Brownscombe et al., 2017; Sbragaglia et al., 2023). In Germany, the counter-institution to C&K is characterized by the practice of releasing live fish despite the obligation to harvest them (Arlinghaus et al., 2007; FAO, 2008). This development reflects a general tendency, where the practice of voluntary C&R has gained widespread acceptance (Sass & Shaw, 2020). It is recognized for its “intrinsic value” in recent years (Cevenini et al., 2023, p. 8) and has become increasingly common,

<sup>4</sup> For example: “Animal rights activists file charges against rapper Sido” (Berliner Morgenpost, 2020); “PETA filed criminal complaint: Offense against the animal protection law – Angler from Oberhausen legally condemned for Catch and release fishing” (St. Anne Stiftung, 2020), “Animal rights activists report angler after catch near Dinslaken” (RP Online, 2019); “PETA denounces catch-and-release angler from Magdeburg” (Focus Online regional, 2018).

with some instances where more than half of the caught fish are voluntarily released (Aas et al., 2002; Arlinghaus, Lucas, et al., 2021; Blyth & Rönnbäck, 2022; Cooke et al., 2018; Ferter, Weltersbach, et al., 2013). Despite its contradiction to official regulations, it “is well known that many German anglers practice v[oluntary]C&R” (Arlinghaus, 2007, p. 165) and the majority of the public does not view voluntary C&R as negative (Arlinghaus, Aas, et al., 2021, p. 79). One of the primary justifications for voluntary C&R is the conservation of fish populations and the reduction of fishing’s impact on the ecosystem (Aas et al., 2002; Koemle et al., 2022; Pitcher & Hollingworth, 2002). Research underlines that this extra-legal practice can protect resources and aid in the recovery of overfished stocks (Cooke et al., 2013; Sass & Shaw, 2020). As a result, there can be a strong expectation within the fishing community for recreational fishers to refrain from harvesting their catch (Arlinghaus, 2007), making voluntary C&R a desirable, appropriate, and legitimate, action within the socially constructed norm system. This is supported by research indicating that specific groups of anglers, such as trophy anglers, exhibit a stronger inclination to voluntarily release the fish rather than keeping it (Silwal et al., 2023; Stensland & Aas, 2014). The consequent social pressure can lead to reinforcement of behaviors that violate official regulations resulting in situations of *legitimate illegality* (Chapman et al., 2018; Cooke et al., 2013). In the present case, social sanctions are imposed when voluntary C&R expectations are violated. There are discernible (at times aggressive) reactions to behavior that complies with the law but contradicts the expectations of voluntary C&R. For example, Europe’s largest fishing magazine *Blinker* (2022) reported a ‘record catch’ in a post on Facebook. The accompanying picture showed a fish that was no longer alive. A majority of the comments under the article condemned the (rightful) killing of the fish with statements such as “The fish needs to be released, not killed” or “What a son of a bitch. Why would anyone slaughter a fish like that 😡”. Social sanctioning also becomes visible in the form of responses to a Facebook post shared by a law-abiding elderly man. He showcased a 1.10-meter pike just before it was cooked. Within a brief period, the post accumulated over 100 comments several of which condemned the exploitation of the fish; including “You old bag, maybe we should fillet you too” (Blinker, 2021).

In the process of analyzing the data underlying the study, I theorized a discursive feature, which I will call *anticipatory disarmament*. Here, the members of the Facebook groups under investigation foresee social sanctions when acting against the institution of voluntary C&R (e.g., “And yes, I kept the fish. I’ll probably get destroyed” (A<sub>46</sub>)) and actively defend their actions, even though they act legally. One user admits, “At home I always hear ‘we finally want meatballs again’. So I got over myself to take the fish 🐟” (C<sub>20</sub>). To take the wind out of the sails of critics, people are attaching apologies to their Facebook posts to explain why the fish were not released back into the water. Under a post showing a full-grown edible fish, one group member describes why he had to kill it:

“After I took the fish out of the water, I realized that the chance of survival was zero. The hook stuck in the gullet and the fish was bleeding. I had no choice but to kill the fish. My heart was bleeding, but what could I do? [...] In principle, I release a fish of this size.” (B<sub>16</sub>)

The post even includes a picture of how much the hook hurt the fish to prove the angler’s point. Although the legal obligation would be to keep the fish, these examples show<sup>5</sup> that the counter-institution of voluntary C&R is fully institutionalized (Holm, 1995). The fishermen’s interaction is based on the expectation not to retain fish that must be harvested by law. Violation of this expectation leads to social sanctions

<sup>5</sup> Further proof can be found in A<sub>11</sub>, A<sub>12</sub> A<sub>13</sub>, A<sub>14</sub>, A<sub>17</sub>, A<sub>18</sub>, A<sub>22</sub>, A<sub>35</sub>, A<sub>46</sub>, A<sub>47</sub>, A<sub>48</sub>, B<sub>1</sub>, B<sub>5</sub>, B<sub>6</sub>, B<sub>8</sub>, B<sub>9</sub>, B<sub>16</sub>, C<sub>6</sub>, C<sub>7</sub>, C<sub>8</sub>, C<sub>20</sub>, C<sub>29</sub>, C<sub>30</sub>, C<sub>32</sub>, C<sub>54</sub>, C<sub>60</sub>, etc.



in the form of public criticism or insults. In this sense, voluntary C&R is a vivid example of a social pattern of behavior caught in the dynamic interplay between legality and perceptions of what action is desirable and appropriate, and therefore legitimate.

## 5.2. Institutional signaling and voluntary C&R

Studies show that social media platforms can be places for posing and self-promotion, where users create a self-image to receive compliments and positive responses (Kim & Yang, 2017; van Dijck, 2013). Recreational fishing proved the showily character in social media, where “trophy, iconic, or emblematic species were more inclined” (Vitale et al., 2021, p. 1) to be posted than ‘regular’ catches. But in the German context, fishermen find themselves in a situation of legitimate illegality when showing their catches online. On one hand, there is the possibility of facing legal sanctions for releasing fish that should have been harvested. On the other hand, the large voluntary C&R-community expects the fish to be released, which can aid in conserving these valuable resources. Caught in the precarious situation of potential legal punishment and social sanctions, fishermen employ the circumvention strategy of institutional signaling to evade punishment while showing accordance to the institution of voluntary C&R. They exploit the inherent ambiguity of language and combine written statements and pictures of the fish in a specific way to signal their adherence to the underlying expectations of voluntary C&R, while making legal prosecution more difficult. Fig. 2 presents examples from the social media analysis, showcasing

(alienated) user posts containing pictures along with accompanying written descriptions. Within this context, distinct features emerge, creating a gap between the images and the accompanying text (Drescher, 1997).

In various instances, the group members share pictures of fish held securely in grab or landing nets, some taken away from the water (e.g., A<sub>24</sub>, B<sub>4</sub>, C<sub>59</sub>). Nevertheless, the accompanying statements stress that these fish were released back into their natural habitat, as indicated by the wording in the post descriptions. The fishermen emphasize that the fish “accidentally”, “by chance” (e.g., A<sub>10</sub>, C<sub>16</sub>, C<sub>27</sub>) or “unfortunately” (e.g., A<sub>16</sub>, A<sub>26</sub>, A<sub>2</sub>, C<sub>14</sub>, C<sub>17</sub>) “fell” or “slipped” back into the water (e.g., A<sub>1</sub>, A<sub>24</sub>, A<sub>3</sub>, B<sub>10</sub>, B<sub>4</sub>, C<sub>15</sub>); which from a legal point of view does not imply intention, but rather negligence. In addition, statements such as “Accidentally, of course” (A<sub>24</sub>) or the use of quotation marks enclosing “‘accidentally’” (A<sub>10</sub>) indicate that the release was not an accidental slip, but a deliberate action. To signal the ‘real’ message of their posts, the fishermen make systematic use of emojis. They serve to reduce ambiguity in discourse (Bai et al., 2019; Kaye et al., 2016) and facilitate understanding of written sarcasm (Garcia et al., 2022). For instance, the ‘winking face’ emoji (😉; A<sub>4</sub>, C<sub>16</sub>, C<sub>21</sub>, C<sub>25</sub>, C<sub>38</sub>, etc.) and “😏” (‘winking face with tongue’; C<sub>36</sub>) indicate sarcastic intent and add a touch of humor, conveying that the message should not be taken too seriously (Garcia et al., 2022). Similarly, the ‘see-no-evil monkey’ (🙈; C<sub>13</sub>) symbolizes embarrassment and the act of closing one’s eyes to the truth (Waltorp, 2016), while the emoji ‘rolling on the floor laughing’ (😂; A<sub>24</sub>) conveys hysterical laughter, highlighting the comedic aspect

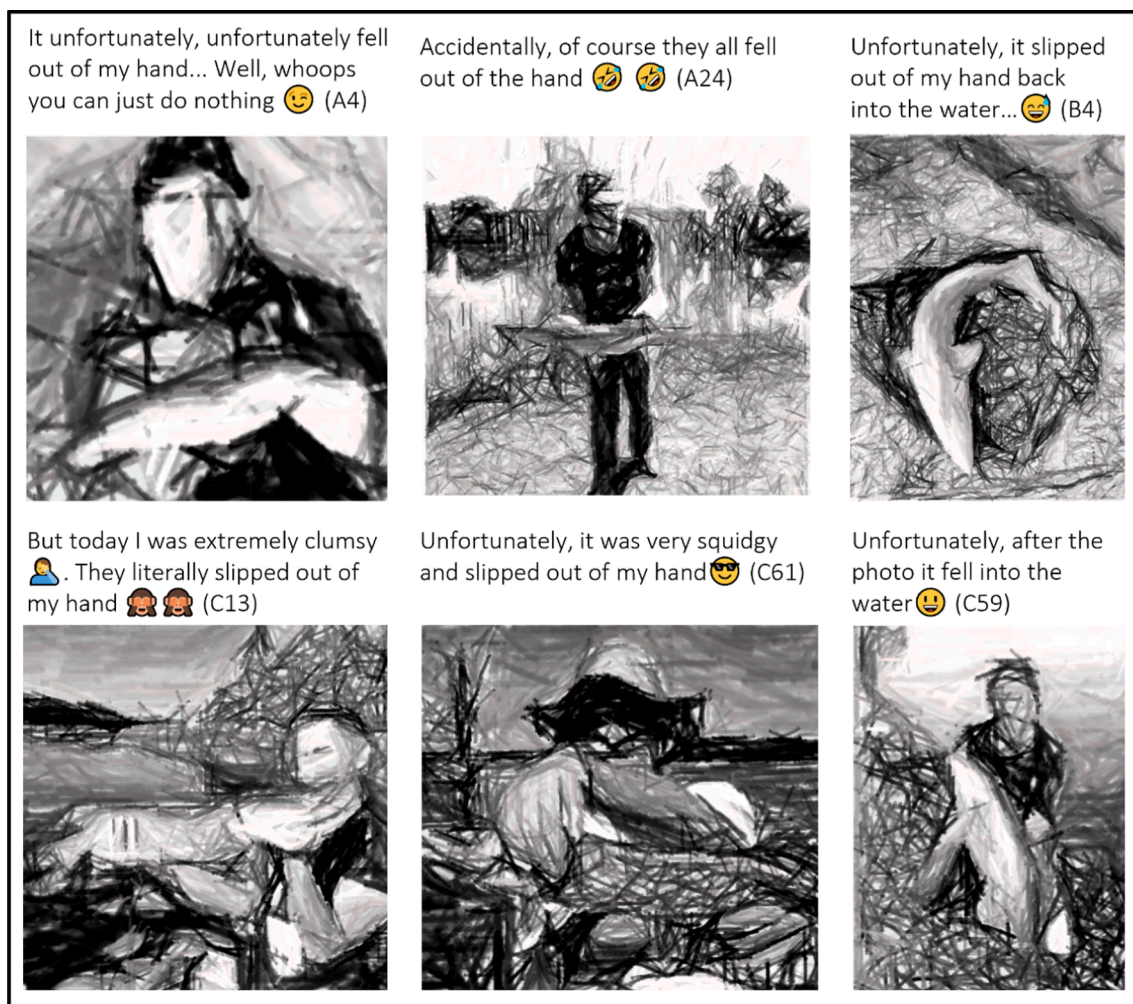


Fig. 2. Examples of institutional signaling (anonymized, alienated and translated).

of the situation (Sampietro, 2021). Examining the interplay between the visuals and the related descriptions including the emojis suggests that the release of the fish is not a result of the anglers' clumsiness but rather an intentional action embedded in the social context. Because of the information gaps between the authors of the posts and other members of the online group, who cannot see the fish release in the pictures, the use of written image descriptions and emojis as institutional signals emphasizes the voluntary release of the fish. The efficacy of such a communicative modality becomes evident through an examination of the responses elicited by the posts, wherein fellow members of the group substantiate the observed behavior through their corresponding comments, exemplifying this reinforcement process: "the last also slipped out of my hand" (A29), "Congratulations! Unfortunately, this also happens to me often", or "I know, that happens to me all the time!" (C21). As such, the signals, consisting of the written statements, help to maneuver through the situation and reduce uncertainty. In the light of legal wrongdoing the actors skillfully leverage the inherent interpretative ambiguity of communication, employing their descriptions as secret codes. Through adopting this strategy, anglers demonstrate membership in the community and compliance with the audience's expectations within the Facebook groups, without explicitly acknowledging unlawful behavior and avoiding persecution.

## 6. Discussion and conclusion

In conclusion, this research paper makes contributions to the realm of social science by delving into the often-overlooked context of recreational fishing in Germany. This particular case holds significant value, not just because of its central importance in the wider fishing context and its critical implications for species conservation and the sustainable management of our ecosystem, but also owing to its profound social impact, underpinned by the institutions shaping the behaviors of the involved actors (Arlinghaus, Aas, et al., 2021; Cooke et al., 2013; Crawford et al., 2023; Eden, 2012). Voluntary C&R in recreational fishing has been practiced for centuries (Policansky, 2002) and is currently the subject of numerous controversies that include fish welfare issues (Fertter et al., 2020), ethical and social considerations (Fertter et al., 2020; Arlinghaus et al., 2007), and its effectiveness as a method of conserving fish populations (Brownscombe et al., 2017; Sass & Shaw, 2020). In this regard, perceptions of what is considered a legitimate angling practice vary culturally, historically, and even within different segments of the angling community in the same country (Arlinghaus, 2007; Arlinghaus, Aas, et al., 2021). This study provides empirical evidence within the context of Germany, a highly developed and urbanized nation where the public majority does not view recreational fishing as animal cruelty and considers it reasonable and beneficial (Arlinghaus, Aas, et al., 2021, p. 78). However, Germany also has some of the most stringent anti-angling regulations that restrict recreational fishing globally (Aas et al., 2002; Arlinghaus, Aas, et al., 2021). In this light I unveil a novel research perspective by investigating legitimate practices that extend beyond the confines of legality, thereby enhancing our understanding of the underexplored realm of legitimate illegality in geographical research. Employing qualitative social media research, this study unveils the disjunction between established regulations and the societal perception of legitimacy (Glückler & Eckhardt, 2022; Webb et al., 2009). Alongside the rule-reinforcing institution of catch and keep (C&K), overseen by official authorities, exists the counter-institution of voluntary catch and release (voluntary C&R). This institution operates on the expectation of unlawful behavior and institutional actors impose sanctions in the event of violations. The analysis elucidates the institutionalized nature of these socially patterned behaviors, even to the extent of *anticipatory disarmament*, where individuals proactively express remorse for demonstrating behavior that complies with the law. Within this context, the paper also enriches our comprehension of institutional strategies in the intricate interplay between institutions and regulations. The utilization of interpretive content analysis facilitated

the interpretation of posts within three of the largest German Facebook fishing groups. The findings indicate that individuals exploit the inherent ambiguity of language, skillfully combining written statements and images to display their adherence to the underlying expectations of the rule-circumventing institutions, thereby complicating legal prosecution. This specific strategy of *institutional signaling* aids individuals in navigating the realm of legitimate illegality, indicating their affiliation with a particular social group, even when the behavioral patterns are prohibited by law. Considering that the socially constructed nature of legitimacy and the degree of (il)legality can fluctuate based on geographical contexts and techniques of governing (A. Wilson & McConnell, 2015), it is crucial for future research to delve deeper into these contextual variations. Bearing this in mind, addressing the implications of these findings is essential for policymakers and practitioners. Awareness of the dynamic nature of legitimacy and legality can inform the development of more adaptable and context-specific governance strategies. Policymakers should consider the local perceptions of legitimacy to enhance the acceptance and effectiveness of their policies and initiatives. Moreover, promoting transparency, accountability, and inclusivity in governance practices can contribute to strengthening legitimacy, thereby fostering social cohesion and sustainable conservation practices.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Data availability

The data that has been used is confidential.

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