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SYNOPSIS

Defining Flagship Uses is Critical for Flagship Selection: A Critique of the IUCN Climate Change Flagship Fleet

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INTRODUCTION

At the Copenhagen climate change conference in 2009, the International Union for the Conservation of Nature (IUCN) proposed ten additional species to “share the polar bear’s burden” and “illustrate” global effects of climate change (IUCN 2009). Images of polar bears in melting ice have become synonymous with environmentalist climate campaigns (Stirling and Derocher 2007). The IUCN proposal adopts the logic that if one flagship species for global climate change can apparently influence public opinion, a whole fleet of flagships would have an even greater effect. The new IUCN climate change flagship fleet includes staghorn corals, the ringed seal, the leatherback turtle, the emperor penguin, the quiver tree, clownfish, the arctic fox, salmon, the koala, and the beluga whale (IUCN 2009).

The perceived value of flagship species, or “popular charismatic species that serve as symbols and rallying points to stimulate conservation awareness and action” (Heywood 1995), is demonstrated by the regular promotion of new examples. In addition to IUCN’s climate flagships, recent proposals for new flagship species include a species of frog in India (Agrawal 2004), the axolotl in Mexico (Bride et al. 2008) and a chameleon in Madagascar (Gehring et al. 2010). Despite the proliferation of flagships in conservation, their impacts on public attitudes and ability to deliver strategic conservation goals are rarely evaluated (Bride et al. 2008). We argue that critical attention now needs to turn towards how flagships actually work, e.g.

how they are deployed within and perceived by different societies and cultures, and whether this produces the desired conservation outcome. Here, we use the IUCN climate change flagship fleet (CCFF) to illustrate approaches that can be adopted to enhance the impact of flagship development and deployment.

THE USES OF FLAGSHIPS

Conservation scholars have recommended various combinations of ecological, phenotypic, cultural and policy-related traits for selecting flagship species (Dietz et al. 1994; Caro and O’Doherty 1999; Bowen-Jones and Entwistle 2002; Farjon et al. 2004; Home et al. 2009; Verísimo et al. 2009). These selection criteria have not always been linked clearly to the range of strategic socio-economic roles that flagships are intended to perform (Leader-Williams and Dublin 2000; Walpole and Leader-Williams 2002). Flagships have multiple uses (see Table 1). These uses vary in geographical extent and scale, from site-specific to international. A given flagship may be selected to catalyse more than one conservation action, within or between conservation programs. For example, European otters *Lutra lutra* may have fundraising potential to support biodiversity action plans in England (White et al. 1997). In Portugal, protection of European otters has been used to prevent development, and an anthropomorphized otter logo sought to align conservation with resistance to exploitative land tenure (Krauss 2005). Whales have been used for raising awareness about conservation issues and establishing the moral imperative of conservation for an international audience (Kalland 1993), while whale-watching is a form of ecotourism in many areas (e.g. Adrian 2005).

Table 1 Relevant criteria for selecting flagship species according to their intended uses

Criteria	Conservation awareness	Fund raising	Promoting ecotourism	Community-based conservation	Promotion of funded research	Protection of species/habitat	Influencing policy
Geographical location and range	X		X	X		X	
Conservation status and population size	X	X			X	X	X
Umbrella effect					X	X	
Represents other species	X					X	X
Recognisable and easily observed	X	X					
Physical appearance and special characteristics	X	X	X				
Cultural significance and positive associations		X		X			X
Traditional knowledge and common names				X			
Economic value				X			
Scientific value					X		
Charisma	X	X	X				
Existing usage	X						X

The criteria include biological characteristics of the species (first four criteria), and social and cultural characteristics (remaining criteria). The criteria, and their importance for each kind of use, were derived from published recommendations and case studies (key references: Western 1987; Kalland 1993; Ramono et al. 1993; Entwistle 2000; Walpole and Leader-Williams 2002; Ball 2004; Blake and Hedges 2004; Hooker and Gerber 2004; Bride et al. 2008; Caro 2010)

However, different uses of flagships rely on different flagship characteristics and representations. An otter-watching tour would not necessarily establish the moral imperative of conservation. To select flagships for desired uses requires attention to socio-cultural and biological characteristics of species.

SELECTION OF THE IUCN CLIMATE CHANGE FLAGSHIP FLEET

To understand how flagship selection currently reflects intended flagship uses, we examined IUCN's selection of the CCFF (IUCN 2009) through a questionnaire sent to the working group that developed the fleet. In the questionnaire, we asked about the steps in the selection process and the criteria applied to flagship selection. According to our informants, the selection process had three stages. First, 20–30 species were proposed based on group members' ideas of climate change-affected species that should "attract public attention". Personal perceptions of charisma and public recognition were considered. The identified audience was "the global public". Second, a review of academic literature was conducted to verify climate change affects on these species. The final CCFF aimed for a range of climate change impacts, geographic regions, taxonomic groups, and ecosystems. Finally, literature reviews were

sent to specialist groups and experts for fact checking. Effectively the selection process for the fleet prioritized scientific criteria relating to the intensity and type of extinction threat.

This selection process shows several shortcomings. First, specific uses of the flagships were not predefined. The CCFF's intended message is that climate change generates additional threats to endangered species, but the wide variety of examples fails to coalesce. The CCFF lacks a clear, compelling story that would facilitate finding uses for it. Second, the audience for the CCFF is the global public, all IUCN member organizations and the press, which is extremely broad. The effectiveness of a flagship is linked to the charisma it engenders (Lorimer 2007; Home et al. 2009), a trait that is necessarily audience and culture-specific. The absence of a clearly defined audience, and lack of data on species' charisma as an input to the selection process, may handicap the flagships' functionality. Third, it is unclear (i.e. to a potential user of the CCFF) whether these flagships are regionally targeted. Species that are endemic or have narrow ranges may reinforce regional or ethnic allegiance (Bowen-Jones and Entwistle 2002), or influence people's willingness to pay for conservation (Veríssimo et al. 2009). Conversely, flagships with large ranges can promote in situ conservation in global priority regions (Brooks et al. 2006). The scale and extent of intended projects should determine flagship species'

locations and ranges. The CCFF, in including both species with large ranges (e.g. the beluga whale) and relatively small ranges (e.g. the quiver tree) across the oceans but only four of the continents (North America, Africa, Australia and Antarctica), lacks a clear geographical distribution.

FLAGSHIP SELECTION BASED ON INTENDED USES

The CCFF is intended as a global resource. The polar bear does not make everyone care about climate change (Slocum 2004; O'Neill and Hulme 2009), but can the CCFF do better? Do we need new flagships for climate change at all?

To answer this question, we need to ask what the flagships will be used for, and compare this with what they can do. Though Veríssimo et al. (in press) suggest that existing flagships may yield low monetary marginal returns, there are at least two reasons why re-using existing flagships such as the polar bear may be preferable to developing new ones. First, a research team may possess inadequate information or resources to choose novel flagships appropriate to their target audience and intended use. Second, multiple flagships representing identical or similar issues may lead to competing-flagship fatigue. Flagship uses should not conflict (Bowen-Jones and Entwistle 2002). However, perceptions of flagships are manipulable (Veríssimo et al. in press). Conservationists should consider developing complementary uses and representations of existing flagships. Inadequacies of existing flagships can be taken as the starting point for development of alternatives. For example, if polar bears do not resonate with a group of people primarily because of their remoteness, species local to that region should be preferred as potential climate change flagships.

Selection of new flagships should focus on species' cultural functional characters that enable them to carry out social roles or processes, much as biological functional characters contribute to ecological processes (Mason et al. 2005; Veríssimo et al. in press). The first step in flagship selection should be to identify needed uses of flagships. The typology of conservation actions outlined in Table 1 provides a starting point for identifying potential uses. Ideally, a flagship should facilitate multiple conservation actions interlinked in practice. Using multiple flagships together could increase their range of possible social functions or roles. For instance, the CCFF flagships could be visually or verbally paired with the polar bear to illustrate the global range and multiple impacts of climate change, providing a local connection or novel example (CCFF flagship) and implicitly reminding people why they care (polar bear).

The second step is to match audiences to species. Conservationists should obtain anthropological data on the attitudes of identified local or issue-related audiences towards potential flagships, as existing attitudes can catalyze actions and enable conservation goals. Research on consumer investment in brands, images, and messages (Hollenbeck et al. 2008), and the manner in which they influence and amplify social values (Peñazola 1999), could also help match species to audiences. If a novel interaction between audience and flagship is desired, investment return on marketing must be considered (Veríssimo et al. in press). Also consider that marketing strategies provoke consumption but may not create an engaged relationship. Individual species in the CCFF could be matched to audiences by looking for groups with disengaged attitudes to climate change or the polar bear, and for whom one of the CCFF species is charismatic and performs a socio-cultural role which could be borrowed or modified to convey a climate change message.

Thirdly, conservationists need to find stories to tell. Narrative is one way to make climate change understandable and less overwhelming (McKnight 2010). Books, oral stories, films, and cartoons of flagships could convey dynamic aspects of climate change threats and what people can do about them. Further, the emotional responses key to developing non-human charisma are often based not on static images or abstract ideas, but on experiences of behaviour and interaction (Adrian 2005; Servais 2005; Vicart 2008). The CCFF do not dynamically "illustrate" the technical issues they represent; they tell but do not show. Narratives can bring to life how climate change alters the flagships' behaviours and life histories.

Finally, monitoring the impacts of a flagship after its promotion is vital (Bride et al. 2008). Effectiveness can be appraised in terms of revenue generated through ecotourism, changes in levels of awareness and attitudes toward the species or issue, or willingness to take conservation actions. Heuristic frameworks that examine which exposures to a flagship species lead to the formation of conservation intentions (Smith and Sutton 2008; Barua et al. 2010), could be deployed to evaluate and improve a flagship's performance.

CONCLUSION

A year after the introduction of the IUCN's CCFF, we are not aware of any projects that have put members of the fleet into action. We hope this article indicates ways to improve the selection of future flagships, and inspires applications of these and other existing flagships.

Flagships are an increasingly popular conservation tool. The serendipitous popularity of climate change icons such

as the polar bear will always be difficult to reproduce through a selection process. Conservation should focus on better understanding how to use flagships more effectively, including already-existing ones. To select flagships according to their uses, conservation must consider the diversity of socio-cultural roles that species can play to achieve conservation goals.

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