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# Avoiding Another Tragedy of the Commons: The Potential for Stewardship in the Marine Environment

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**Extended Abstract:** A key component of the *National Strategy for the Protection of Species at Risk* is the notion of stewardship, the voluntary actions of the public to promote species recovery. The effectiveness of stewardship, if implemented appropriately, is undeniable. Of course, this effectiveness hinges upon consideration of the species-dependent variability of approaches to recovery and the inclinations of the specific stewardship community. Stewardship efforts are essential to the recovery of species at risk and to preventing other species from becoming at risk.

Although there are similarities in implementing stewardship activities in both terrestrial and aquatic systems, the notion of stewardship in the marine environment faces unique challenges. Arguably, one of the main challenges is 'ownership', and within this context, the indivisibility and nonexcludability of the ocean environment. This is characteristic of any 'public' rather than 'private' good, which makes the marine environment susceptible to problems akin to Garrett Hardin's 'the tragedy of the commons'. The commons is any resource (e.g., fish) that is shared by a group of people. The logic behind the commons argument dictates that the benefit of a shared resource outweighs the cost because each individual can gain one unit (e.g., acquiring one fish) but share the cost of that unit (e.g., loss of one fish from the system) with all other individuals taking part in the system; however, because everyone else is trying to do the same thing, the logic breaks down when resources decline.

Fostering stewardship for species at risk in terrestrial versus offshore marine environments also differs due to site accessibility, costs of stewardship activities, target audiences, knowledge about the species, and stewardship options. For example, it is very difficult to directly engage the general public in offshore stewardship because accessibility is limited. Further, the costs to do so are very high. Due to the nature of the environment, the target audience for stewardship in the offshore is most frequently industry, while on land, the audience is varied (e.g., the general public, school groups, industry, landowners). Consequently, options for conducting stewardship in the offshore marine environment are fewer or somewhat different than on land.

Stewardship for species at risk in the offshore marine environment is lagging behind that in terrestrial systems. This lag might be the result of the issues described above; however, it also poses the question “How has the definition of stewardship been utilized in the offshore marine environment?”

Most stewardship activities that occur in the ocean are resource related; that is, due to the ‘profitability’ of the resource, there is an incentive to manage it sustainably, and hence, implement stewardship efforts. Stewardship for species at risk differs from that for resources in that the incentive is for the ‘good of the species’. Those who promote/conduct land-based stewardship for conservation purposes are familiar with this concept, and the public is often involved in such initiatives on land (e.g., through organizations such as the World Wildlife Fund and Ducks Unlimited). Conversely, in the offshore, because one is dealing primarily with industry, the mind-set is often that of benefit and sustainable management of resources, as this is industry’s history/experience and is important in its own right. To overcome this issue and address the needs of species at risk, we need to move past a benefit/resource mind-set to one that promotes the ‘good of the species’. The main obstacle is that many species at risk in the offshore are in direct conflict with industry. This poses a great challenge.

Some solutions to these issues include developing more cooperation among resource users (e.g., fishers getting involved in stranding responses), promoting collaboration to alleviate research costs, ensuring that data collection is an accepted stewardship option, and focusing on industry for direct (i.e., targeted) stewardship while including the general public indirectly through outreach and education. Although challenges remain, it is hoped that this presentation will stimulate discussion regarding the potential for stewardship in marine waters with the goal to promote the recovery of species at risk.