Save the whales? Sure, but how many?

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How many wildebeest should live in the Serengeti? How many grizzly bears should call Yellowstone home? Are there too few tigers in the world? Conservationist biologists grapple with the task of setting population targets for the species they are trying to protect – a decision steeped in politics, emotion, and sometimes, science.

In a new paper appearing in the journal *Bioscience*, the New York-based Wildlife Conservation Society (WCS) examines the current hodgepodge of population target levels (PTLs) being used by wildlife managers, and proposes a simpler, four-tiered system to measure conservation success. The paper cataloged 18 different approaches currently used to set PTLs, and showed the diverse ways in which they apply to national laws and international treaties.

According to the paper's author, WCS ecologist Dr. Eric Sanderson, 'minimum viable populations' – the goal commonly used by wildlife managers that aims to have self-sustaining populations – should be seen as the beginning, not the end, of conservation.

'People want much more from wild animals than to see them just persist: we want animals to interact with their environment, evolve over time, be beautiful and useful to us, and to satisfy ethical teachings regarding respect for nature,' said Dr. Sanderson.

Sanderson's system argues that once demographic sustainability has been achieved, conservation efforts should aim next for 'ecological functionality,' which means a species will serve its role in ecosystems,

such as Pacific salmon providing marine-derived nitrogen to watersheds, or predators reducing pest species, or birds dispersing seeds.

'Sustainable human use' represents the next tier, where there are enough animals that they can be used by humans, consumptively (as in hunting or fishing) or non-consumptively (as in tourism.) Most models for sustainable use only conserve animals at the level of demographics, not ecology, Sanderson says.

The highest standard for animal populations is achieving 'historical baselines' where species are restored to when humanity as a whole had significantly less impact on the world as it does today. Dr. Sanderson writes that achieving this goal can be difficult due to lack of baseline data, though well-managed protected areas, with all the species present, can provide the examples that scientists and managers need.

'Having animals acting like animals in the fullest sense, seems the standard conservationists should seek, whether it's bison on the Great Plains or Asia's forests with tigers and their prey,' said Sanderson.

Source: Wildlife Conservation Society