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***SHELTER FROM THE STORM? USE AND MISUSE OF COASTAL VEGETATION BIOSHIELDS FOR MANAGING NATURAL DISASTERS***

Vegetated coastal ecosystems are known to provide myriad ecosystem services to billions of people globally. However, in the aftermath of a series of recent natural disasters, including the Indian Ocean Tsunami, Hurricane Katrina and Cyclone Nargis, coastal vegetation has been singularly promoted as a protection measure against large storm surges and tsunami. In this paper, we review the use of coastal vegetation as a "bioshield" against these extreme events. Our objective is to investigate the long-term consequences of rapid plantation of bioshields on local biodiversity and human capital. We begin with an overview of the scientific literature, in particular focusing on studies published since the Indian Ocean Tsunami in 2004 and discuss the science of wave attenuation by vegetation. We then explore case studies from the Indian subcontinent and evaluate the detrimental impacts bioshield plantations can have upon native ecosystems. We draw a clear distinction between coastal restoration and the introduction of exotic species in inappropriate locations in the name of coastal protection. We conclude by placing existing bioshield policies into a larger socio-political context and outline a new direction for coastal vegetation policy and research.

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***Strategic Alignments for Conservation: The Smithsonian Conservation Biology Institute (SCBI)***

"Understanding and sustaining a biodiverse planet" is one of the Smithsonian's new strategic goals. So it is timely that Smithsonian leaders in January 2010 established the Smithsonian Conservation Biology Institute (SCBI), encompassing the Zoo's Conservation and Research Center (established in 1973) and its Rock Creek Park research complex, to facilitate Smithsonian's ongoing global efforts to conserve species and train future generations of conservation scientists. SCBI researchers specialize in genetics, reproductive science, ecology, and wildlife health and husbandry sciences, while education and training programs are expanding at the Front Royal and global partner sites. We aim to increase our cutting-edge conservation science programs, and expand our convening role through symposia and more collaborations with like-minded organizations. This includes developing and sharing new strategies for conservation practice as they emerge from dialogue among students, global trainees, and conservation science practitioners and partners at field locations worldwide. National Zoo/SCBI scientists have long been closely involved with SCB and we look forward to more opportunities for SCB-SCBI synergies. This poster explores the new benefits SCBI seeks to build for conservation biology.

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***The movement patterns, home range sizes, temporal activity patterns, and diet of urban coyotes (Canis latrans) in Edmonton, Alberta***

Urban coyote populations and rates of human-coyote conflict are increasing in cities across North America. In Edmonton, Alberta coyotes were once considered rare, but city officials now receive several reports per week describing human-coyote interactions. Managers need information on urban coyote habitat use, movement, and diet to create an effective public education campaign and reduce coyote attractants. To monitor these attributes, we collared six adult coyotes in Edmonton with GPS collars set for three hour fix rates. We calculated home range sizes using the local convex hull method and modeled habitat selection with individual resource selection functions. To determine diet composition, we collected scats in urban parks and microscopically analyzed prey hairs. Coyotes mainly preyed on small rodents and consumed relatively little anthropogenic food. Individual collared coyotes appeared to have different home range sizes and habitat preferences. Four coyotes preferred natural habitat, one coyote selected for both natural and residential areas, and one coyote selected for residential and commercial areas. Interestingly, range sizes were larger for older coyotes, but did not vary with habitat type. One coyote with severe mange made the most extensive use of anthropogenic habitat. Our results suggest that older coyotes may be more habituated to humans and coyotes in poor physical condition may accept higher risks of encountering humans to exploit anthropogenic food sources.

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***Ecological Functions of Wolves and Wavy Interpretations for Conservation Planning***

Wolves and other carnivores are species of choice for conservation planning due to their ecological importance and charisma, and are used to address broader issues of coexistence between wildlife and human interests. Due to wolf's importance for conservation planning, new syntheses are needed regularly that venture beyond describing local adaptations of wolves. In collaboration with sixteen groups of wolf researchers and managers from Europe and North America, we compiled data and literature on (a) wolf community ecology, (b) attitudes towards wolves, and (c) the incorporation of both points (a) and (b) in conservation planning. Our analysis indicates that important ecosystem effects are initiated by wolves or mediated by wolves in natural and also in human-dominated areas. Wolf's well-known ecological plasticity, which is likely correlated to genetic diversity of several interbreeding canids, has been key to recovery. Human attitudes toward wolves are improving despite depredation of livestock, which explains recovery in densely populated areas. Ironically, findings about wolves seem to be revisited in 5-year cycles. Some scientists and conservation groups claim that wolf recovery may represent a management action to lower prey densities and improve abundance and diversity of plants. However, new data demonstrate that wolves often do not control ecosystems from the top, and this will likely influence conservation planning in an opposite direction than in the recent past.