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Health of protected areas threatened

World Parks Congress delegates discuss ecological integrity

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Earth's ecosystems are facing numerous pressures, including the ecosystems found within the world's protected areas.

At the Vth IUCN World Parks Congress in Durban, protected area experts discussed the importance of measuring the health status or 'ecological integrity' of protected areas. They delved into the nature of the tools and techniques that are used in measuring the health of these important areas, and they focused on how to deal with the limited data and financial resources.

According to Nik Lopoukhine, Director General at Parks Canada, and chair of the ecological integrity workshop, "measuring ecological integrity within protected areas aims to track the changing status of the biological health of species, ecosystems, and the ecological processes that maintain them."

Jeffrey Parrish, Director of Conservation Planning with The Nature Conservancy, said that "measurement of ecological integrity is a critical need for protected areas around the globe. It can help direct our limited conservation resources to the highest priority needs for biodiversity."

The ultimate conservation goal is to improve or maintain biodiversity and ecological features. To do this, we need to comprehensively assess the features of the ecosystems most necessary for their survival. This allows specialists to set quantifiable and credible objectives for conservation projects, and also to develop priority monitoring plans and research needs. Like a canary in a coalmine, ill-health in protected areas can be an indicator of an unhealthy planet.

Workshop participants agreed that managers of protected areas need to know how successful and efficient they are at ensuring the health of protected areas. Several different approaches being used by governments and non-government organizations were reported for different parts of the world, including Canada, Australia, Ecuador, Central America, and China

For example, TNC has developed a new computerized tool to assist park managers and evaluators. Numerous government and non-government groups throughout the world have been involved in testing the new approach.

The new system, dubbed the "5-S" approach (system, stresses, sources, strategies, success measures), begins with the identification of key biodiversity and ecological attributes of the area. For these key attributes, indicators are identified that allow the

area’s biodiversity health to be measured. These indicators are rated, and the overall health of the protected area is then determined. By monitoring the indicators over time, managers can begin to recognize the positive and negative changes in their protected areas.

In terms of the ratings, the condition of ecosystems should remain within the normal range of variation, given that ecosystems are in a constant state of natural changes and evolution. These natural ranges of variation must be identified so that protected area managers know if the health of the ecosystem is within an acceptable range. This allows managers to determine if special management interventions are required, such as introducing fire that is normal and necessary in many types of ecosystems.

There are cases when the evaluation is carried out in protected areas that are rich with information and data, and also in areas that have limited amounts. When data is lacking, Parrish suggests that it’s a good idea to compare current conditions to past ‘reference’ conditions. Experts can also provide advice, and managers should realize that management is ongoing and practices should be adapted as more and better information is found. Without good data, protected area managers should start with at least a few criteria for some key attributes, and use a simple rating, such as ‘good’ or ‘fair’, or ‘conserved’ or ‘not’. Also, park managers should encourage research to support their information needs in these areas.

The information and ratings allow park managers and evaluators to score the protected areas. This helps them to prioritize management needs such as restoration of habitat, and also helps to determine what activities are sustainable. It assists them to set parameters for uses of protected areas, be it tourism or extraction activities. Reporting of results is needed to maintain support from donors as well as members of the public and politicians.

“Our protected areas may be established, but we don’t know how effective our investments are within them. It’s like building a hospital and not performing checkups and treatments for ill patients,” said Parrish.

Assessment of ecological condition is an essential part of protected area management, according to Lopoukhine. Unless we know the status and trends of these systems, all other components of management have no point of reference.