Renewable sources of energy in national parks

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The conference "Renewable sources of energy in National Parks" was held during $20^{th} - 23^{rd}$ April 2009 in the Tatra National Park (Zakopane - Poland). Tatra National Park (Poland), U.S. Consulate General in Krakow and the Rocky Mountain National Park (United States) were the main organizers of the conference. The conference presented one of the elements of cooperation between the TPN (Poland), ROMO NP (United States) and TANAP (Slovakia). The organizers wanted to ensure that the conference led to practical exchange of experiences between Polish, Slovak and American National Park administrations. Discussion allowed broad representation among the most important problems in the operation of national parks and contributed to ensure co-operation between parks as public services. The first day of the conference started with the official opening including speeches by the directors of Polish Tatra National Park and American Rocky Mountain National Park and the vice-ambassador of the United States in Poland. Polish colleagues also presented a study tour in the United States in 2008 and after that followed a showing of the film "America' s Lost Landscape" and a meeting with its director, David O'Shield. During the second day examples were presented of park use of renewable energy, dry public toilets and policies for enhancing use $of renewable\, energies.\, Presentations\, on\, protective\, zones$ designation and management including wilderness and climbing management in protected areas were also interesting. The third day was dedicated to the role of park rangers and to various questions (e.g. how to compare and contrast the management of parks, how to manage volunteers, how to use science and research in management). During the last day participants could also see some practical examples of management of renewable sources of energy directly in the territory of the park.

Tatra National Park (Slovakia), Tatra National Park (Poland) and Rocky Mountain National Park (United States) became sister parks in 2006. This means the three parks have a formal agreement to share information and approaches to conservation, preservation, and management of national parks, including natural and cultural resources, for the purposes of conservation, recreation, and public education. All three parks are characterized by steep mountain terrain and heavy visitor use, and they share many species including Golden Eagle (Aquila chrysaetos), Northern Goshawk (Accipiter gentilis), Common Raven (Corvus corax), Short-tailed Weasel (Mustella erminea), Common Juniper (Juniperus communis), Kinnikinnick (Arctostaphylos uva-ursi),

a violet (*Viola biflora*), and the Mountain Dryad (*Dryas octo petala*). In addition, many species such as marmots and elk are closely related. So the parks have much in common in their environments and their biology.

Since 2006, US park personnel have visited TPN and TANAP and a team from TPN has visited Rocky Mountain National Park. Based on these exchanges it was felt that all the parks would benefit from a joint meeting hosted by TPN. The theme of the meeting was "sustainability" and the meeting occurred fittingly over Earth Day (22nd April). Since the meeting was held in Zakopane, park personnel from many Polish national parks also attended. Staff from the three parks had a chance to talk about efforts they are making to save energy, recycle, and reduce their carbon imprints through the use of solar power and hybrid shuttle busses. However, all agreed much still needs to be done to make parks showcases of green technology. Other topics included forest classification in TANAP, volunteer programs in the US and Poland, and managing human waste in the backcountry. One of the most spirited discussions took place around how parks are organized, including the pros and cons of classifying employees as "park rangers" or "forest rangers" vs. classifying employees in more specific professional fields such as ecologist, forester, and law enforcement ranger. The US parks have evolved towards more specialist roles and Polish parks are grappling with this issue as the profession of "forester" is a much respected one and not everyone wants to be "reclassified". Following the meeting in Zakopane, the US team visited the Institute for High Mountain Biology in Javorina and toured various TANAP park sites including the blowdown area, the botanic garden and a wetland restoration project. The Institute has many similarities to a relatively new center at Rocky Mountain National Park that emphasizes science education so it was great to tour the Institute's facility and see the students hard at work.

Parks are continuing discussions on how best to share ideas in the future. Rocky Mountain National Park is working with Colorado State University to identify graduate student projects that might allow future exchanges between countries. They are also looking at ways to exchange field staff for 2-3 week periods. Rocky Mountain NP is planning to invite some Slovak and Polish representatives to a 2010 science conference in Estes Park, Colorado, USA. And, if funding can be found, a second joint conference may be held in Poland. Topics for future discussions include climate change impacts, the use of GIS to guide park decisions, protecting biodiversity and air quality, and maintaining carnivore species. The conference and subsequent meetings simply inspired all participants in our daily jobs and helped us see ourselves as part of a global effort to protect mountain environments for future generations.