Wildlife law and policy

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One of the crucial issues of our decades is how to stop the loss of biodiversity. Policy–makers need reliable data to base their decisions on. Managing wildlife populations requires, first of all, science–based knowledge of their abundance, dynamics, ecology, behaviour and dispersal capacities based on reliable qualitative data. The importance of dialogue and communication with the local actors should be stressed (Sennerby Forsse, 2010) as bag statistics and other monitoring data in wildlife management could be more precise if local actors, notably hunters, were better informed and aware of their importance, especially in supporting existing and emerging policies at national and international levels.

Another essential issue in wildlife management is the conflicts generated by humans and their activities when they interact with wildlife (Heredia & Bass, 2011). A sociologic approach is required to take into account those human groups whose interests are divergent, facilitating communication and collaborative learning among these users of the same ecosytem. Obstacles should be addressed and solutions devised to protect and encourage a sustainable use of this ecosystem in, as much as possible, a win–win relationship. Policy objectives and mana-gement strategies should be discussed and debated among the stakeholders involved, then formulated. Policies can be translated into different types of instruments, economic and legislative, but also informative and educa-tive. As awareness of the actors is a key factor of successful regulation, the regulations should be sufficiently explained and stakeholders should be involved in the implementation of these regulations as much as possible. Finally, the effectiveness of the regulations should be evaluated in light of their objectives, and where necessary, the regulations should be strengthened or adapted to improve their performance (Van Gossum et al., 2010).

The various aspects of the processes described above were highlighted in the plenary talk and the five oral communications presented during the session on wildlife law and policy.

In his plenary talk, Dr Borja Heredia, Head of the Scientific Unit of the Secretariat of the CMS/UNEP in Bonn, pointed out different sources of human–wildlife conflicts, such as the logging activities in subtropical forests that induce overexploitation and poaching for bushmeat consumption; the problem of predators on livestock and the poisoning of lions in the Masaï Reserve; animals invading the human territory; and game species as a vector of diseases in humans and livestock (Heredia & Bass, 2011). Heredia stressed the importance for wildlife managers to deal with the human dimension; he stressed the importance of successful conflict management based on principles such as a non–adversarial framework, an analytical approach, a problem–solving orientation, the direct participation of the conflicting parties, dialogue as a basis for mutual understanding and facilitation by a trained third party. Heredia explained how the Convention on Migratory Species of Wild Animals (UNEP/CMS) contributes to confict resolution and in this way increases the chance of survival of these species. The CMS (see CMS website) works for the con-servation of a wide array of endangered migratory animals worldwide through the negotiation and implementation of agreements and action plans. Migratory species threatened with extinction are listed in Appendix I of the Con-vention. CMS parties strive towards strictly protecting these animals, conserving or restoring the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them. Besides establishing obligations for each State joining the CMS, CMS promotes concerted action among the Range States of many of these species. Migratory species that need, or would significantly benefit from, international co–operation are listed in Appendix II of the Convention. For this reason, the Convention encourages the Range states to reach global or

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regional agreements. The Convention acts, in this respect as a framework convention. The Agreements may range from legally binding treaties (called agreements, there are seven) to less formal instruments, such as Memoranda of Understanding, or actions plans (there are 20), and they can be adapted to the requirements of particular regions. The development of models tailored according to the conservation needs throughout the migratory range is a unique capacity to CMS. Heredia detailed *inter alia* the Agreement on the Conservation of Albatrosses and Petrels, the Great Apes Survival Partnership, the Agreement on the Conservation of Gorillas and their Habitats, the MoU on the Saïga Antelope, and the Programme for the Conservation and sustainable use of the wild saker falcon (*Falco cherrug*) in Mongolia.

The talk of Sarah Wilks, research fellow at the School of Law, University of Western Sydney, illustrated the importance of adequate transparency and public consultation in environmental and conservation law and decision making. Wilks (2012) examined the Australian legislation concerning animal welfare and the export of Australian wildlife products and, as a case study, explored the Tasmanian State Government's recent decision to promote the commercial harvest and export of brushtail possums She pointed out that although the Enviroment Protection and Biodiversity Conservation 1999 (EPBC) process intended to be open and co–operative, it is not, in practice, co–operative, public and transparent. The export of possum products requires Australian Government approval under the Department of Primary Industries, Parks, Water and Environment (EPBC). Wilks (2012) assessed the Tasmanian Wildlife Trade Management Plan for Common Brushtail Possums developed by the EPBC, the public submissions to the Australian Government, and the Australian Government's response against the provisions of the EPBC. As a result, she deplored that welfare outcomes, like that of back or pouch juveniles whose mother had been trapped or killed have not been adequately considered either at Tasmanian State or at Australian Govenment level. She concluded by deploring that submissions on ethical grounds could not yet be considered by the Australian Government because the decision to harvest or not to harvest is made at State level, and yet the Tasmanian State legislation is deficient in mandating public consultation.

Data on hunting and game resources provide quantitative and qualitative information on game species, but moreover, game monitoring has shown to be efficient in identifying threats to biodiversity, such as biodiversity problems in agriculture and forest ecosystems, and also to be an early warning in assessing threats from invasive alien species (Sennerby Forsse, 2010). They are an essential tool for game managers, scientists and policy–makers, and hunters and hunter organisations are key resources in the collection of this information.The ARTEMIS data bank was initiated by the Federation of Asssociations of Hunting and Conservation of the European Union FACE (see ARTEMIS website) to improve information about game in support of existing and emerging European policies. The objective of ARTEMIS is to centralise and analyse, in a coordinated and coherent

way, the information on hunting bags already collected in many European countries and to complete them with new data following a common methodology. As a second step, the Conference on Game Monitoring held in Uppsala, Sweden, in December 2009, aimed to propose further actions to promote streamlined European game monitoring in support of wildlife and biodiversity policies (Sennerby Forsse, 2010). In this context, Martinez–Jauregui & Herruzo (2011) presented data concerning the Spanish hunting statistics collected from 1972 to 2007. Data related to hunters, hunting grounds and game animals were analysed to determine their strengths and weaknesses, and results showed that official Spanish statistics could be incomplete, disperse, and not always homogeneous over a long period of time. The authors concluded that there is a need in the current process to agree on a common international protocol to collect hunting statistics, and they suggested going beyond hunting data to consider other aspects of the hunting sector and reduce the gap between hunting and other agricultural and forest resources.

Jutta Gerner, from the Institute of Forest and Environmental Policy at the University of Freiburg, Germany, investigated the shortcomings of the current regulatory practices with regards to hunting regulations in protected areas in order to improve administrative efficiency. Gerner & Schraml (2011), analysed 800 administrative acts and 26 qualitative interviews based on the regulatory arrangement approach (RAA). The RAA is a policy instrument choice theory which helps regulators find the most appropriate instruments by measuring and evaluating them. Van Gossum et al. (2010) developed the RAA by merging current smart regulation theory with the policy arrangement approach and the policy learning concept. Gerner & Schraml (2011) suggested the integration of a more cooperative, less 'regulator' and more informative policy style in hunting regulations. They recommended better communication and information among the concerned administrative sections and between administration and local actors in order to improve policy success. They recommended that the different stakeholders should be informed and involved when debating policy objectives and strategies, as well as in the application of the administrative acts.

The study presented by R. Mateo from the 'Instituto de Investigacion en Recursos Cinegeticos', IREC (CSIC, UCLM, JCCM), Spain, was an example of a rigorous follow–up of a regulation objective, followed by a reinforcement and adaptation of the regulation to improve its performance.

Results of Mateo et al. (2011) showed that, although the use of lead shot was banned in protected wetlands in Spain in 2001, ban compliance was insufficient, as in 2007–2008 a large number of waterfowl hunted in wetland still had embedded lead shot. After these results were produced, the ban was reinforced and compliance subsequently increased. Nevertheless, in 2009–2010, the last year of this study, a significant proportion of birds still had embedded lead shot and /or ingested lead shot in their gizzards. The authors suggested this occurred because the majority of ducks often feed in unprotected rice fields. They therefore recommended

extending the ban to all waterfowl hunting and not only that undertaken in protected wetlands.

The presentation of K. E. Skordas, from the Hunting Federation of Macedonia and Thrace, Research Division, Greece, illustrated the contribution of the Hellenic Hunters Confederation (HHC) to law enforcement for wildlife protection. It showed how stakeholders, hunters, set up heir own Game Warden Service in 1999, through their Hunting Associations, in order to assume responsibility for the control of illegal hunting and wildlife protection, in collaboration with the local Forest Service. These game wardens carry out repressive and preventive controls and prosecutions. Besides this initiative, information campaigns are organised by the HHC to improve hunters' awareness (see website of the Hellenic Hunters Confederation, HHC). Skordas & Papaspyropoulos (2011) analysed the relation between law enforcement, hunter awareness and infringement categories, classed in degree of influencing wildlife protection. They observed a strong reduction in the number of infringements; particularly, they found that hunting out of season and hunting without a license decreased from 23.4% to 7.31% and from 30.12% to 11.8%, respectively.

All the talks presented in this session stressed the importance of dialogue in wildlife management as a basis for mutual understanding. Communication and involvement of the local actors/stakeholders are key factors at different stages of wildlife management: when collecting reliable data on which policy–makers may draw up their decisions, when debating policy objectives and strategies, and when implementing regulations and administrative acts.

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