



REGHAB (Reconciling Gamebird Hunting and Biodiversity)

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Conclusions from II Workshop Aberdeen, 9-10 February 2002

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Aims of the workshop

The primary aim of this workshop, the second of three to be held within the course of the project, was to evaluate existing legal ways of reducing the conflict between raptors and hunting, to present and discuss the results of a test of Decision Models for consensual solutions, and to stimulate discussion about how to develop effective partnerships between stakeholder groups.

The workshop was attended by 43 people from the REGHAB countries, including researchers, representatives of hunting organisations and conservation NGOs, and administration.

In the morning of the 9 February, six talks were presented. A first talk by Beatriz Arroyo introduced the context of the workshop, detailing the aims and structure of the REGHAB project.

Second, Simon Thirgood (from Stirling University, UK) presented a talk on the costs and benefits of the possible management solutions for reducing predation on gamebirds. These ranged from doing nothing (as a conscious decision, thus accepting the ecological consequences that the economic impact of such decision may have on the environment), compensation schemes to hunting estates (raising the question of sustainability, public acceptance and who would pay), habitat management to either reduce predation or reduce predator numbers; diversionary feeding of raptors (to reduce predation pressure on game species), and, ultimately, reduce raptor densities through disturbance, translocation or quota removal of nests or adults. Similarly, the potential of intra-guild predation as a management tool was discussed.

Third, Robert Kenward (from CEH, UK) presented a summary of the results of a survey of attitudes of governments and hunting organisations throughout Europe, which showed a divergence of opinion between both groups in relation to the perceived importance of predation by raptors on wildlife (evaluated as high by “hunters”, and low by governments). The survey also evaluated the acceptability of options such as selective removal of individual animals or local adjustment of raptor density for those groups.

Duncan Orr-Ewing (RSPB, UK) discussed the legal context of the raptor conservation/hunting conflict, through a review of the Bird’s directive. This showed that derogations of the directive are possible under certain circumstances provided no satisfactory alternative exists, and that the derogation is not detrimental to populations of the protected species. The latter statement was interpreted by the speaker as leaving not much room for derogations for raptor control in hunting contexts.

Rocky Gutiérrez (University of Minnesota, US) presented a comparison between Europe and the US in relation to predator control and hunting interests. This emphasised the different approach to conservation in both continents, conservation being generally accepted in US as “wise use” or “management”, and more as “preservation” in Europe. The latter difference arises probably from the different ratio of public land area to population density, which is much smaller in Europe than the US, and also on the stronger leadership role of hunters in establishing a conservation philosophy in the US. The talk also illustrated the role of money generated by hunters for wildlife conservation in the US.

Finally, Steve Redpath and Beatriz Arroyo (CEH, UK) presented a summary of the Decision Model exercise held on 2-3 February, as a tool for looking for solutions to the conflict between red grouse driven shooting and hen harrier conservation. The exercise showed that such tools may help stakeholders to identify the best compromise solutions, and to improve the understanding of each others’ point of view.

Subsequently, on the afternoon of 9 February, attendees were separated in three groups of 12-14 people, as follows:

- Group A (formed by people with declared hunting interest, i.e. employed by hunting organisations, with personal economic shooting interests, or with a strong personal hunting interest, hereafter called “hunters” for simplicity); this group included four scientists working within hunting organisations, two land owners, four representatives of hunting organisations and a government employee from a department dealing with hunting issues.
- Group B (formed by people where the hunting interest, if existing at all, was lower than their interest for conservation of protected species, including people employed by conservation organisations, or people with a strong participation in conservation groups but without hunting interests, hereafter called “protectionists”); this group included seven representatives of conservation organisations, five volunteer raptor protectionists, and a government employee from a department dealing with conservation issues.
- Group C (formed by researchers not working for either hunting or conservation organisations, and with a declared neutral position, hereafter called “scientists”).

Annex 1 specifies the exact composition of each group. The groups gathered to discuss the main impediments to develop constructive relationships between the three groups, the level of understanding between groups, and the importance of trust and credibility in building relationships between stakeholders.

On the morning of 10 February attendees were separated again into three groups of 12-14 people, each including representatives of all three above-mentioned groups, and discussed the value of each of the management options for finding long-term solutions to conflicts between raptor predation and hunting interests.

We present here a summary of the conclusions arising from the discussion groups.

Discussion 1: The roles of stakeholders in looking for solutions: perceptions, expectations and responsibilities.

Conclusions from group A (“hunters”)

Moderator: Rocky Gutiérrez. Rapporteur: Phillip Astor (as transcribed by B. Arroyo).

This group emphasised the need to improve the dialogue between “hunters”, “protectionists” and “scientists”, but stressed that trust and honesty are important in this dialogue. Both “hunters” and “protectionists” try to influence the perception of the public about the other party in order to discredit the other group. This impedes understanding and increases distrust.

Part of the problem arises from the historical context: raptors were considered as “vermin” until relatively recently, and gamekeepers were rewarded for destroying certain species; conservation legislation has quickly changed, whereas the mentality of certain gamekeepers has not evolved as quickly.

On the other hand, “protectionists” sometimes use emotional arguments without scientific basis. The group highlighted the importance of reliance on good science when looking for solutions to raptor-hunting conflicts, but expressed that bodies discussing science needed to be straight and not have double standards. Some “hunters” saw science and “scientists” to be on the side of “protectionists” rather than being neutral, which may lead to mistrust. However, it was acknowledged that, in the raptor debate, an increasing number of scientists are acknowledging that some managed solution will be necessary. The genuine independence of scientists was seen as a crucial ingredient in any resolution, particularly if, on the basis of objective science, people are prepared to leave fixed positions.

“Hunters” also considered that they are not understood by the other groups the way they would like to. For example, there is no understanding by non-hunters of why one hunts. There is also a need to understand the merits of non-scientific practitioners on the ground. They considered that, in general, their burden is greater to prove the merits of their case as compared to “protectionists”. “Hunters” need to prove constantly that hunting (carried out reasonably) is not a threat, whereas “protectionists” do not need to prove whether protection is absolutely necessary in all cases.

They also felt that there is a wrong impression in the general public that “hunters” are somehow more politically powerful (maybe because of being generally more affluent), and therefore able to influence politicians and other decision-makers. In fact, the group thought that it is usually the other way round: many protectionist bodies, by virtue of their larger membership numbers and greater PR skills and resources tend to have a greater influence on government thinking and policy.

In terms of what do to improve trust and communication, openness was considered the most important issue. However, it was considered that open forums could be counterproductive (in a previous experience in Scotland, such forums were too open and a way to show anger rather than to make constructive advancement).

Additionally, it was considered that “protectionists” have absolute (intractable) positions in relation to certain issues and, for example, are totally resistant to the idea of lethal or invasive control of raptors. As long as there is an absolute position, there will be no change (progress will be “stonewalled”).

Conclusions from group B (“protectionists”).

Moderator: Simon Thirgood. Rapporteur: Phil Whitfield.

The group acknowledged that it is difficult for different stakeholders to understand the viewpoint of others, and that often each group does not consider the views of the others. Part of the problem arises because everyone is extremely stuck in the traditional way of doing things (it was expressed that this was particularly the case for “hunters”). On the other hand, the group expressed that “protectionists” often don’t do enough to make the link with local communities and make mistakes. They also try to convince “hunters” of their point of view by telling them what they should be doing, which makes their relationship awkward.

This group also expressed that the legitimacy of the role of conservation is not well known, and so hunters and farmers are not prepared to listen to them. Additionally, animal rights movements are against all killing, and their influence has increased in some conservation bodies, which makes “hunters” feel threatened. Another impediment to good relationships between groups was the lack of mutual trust. Some “hunters” break the law in many countries, so they can’t be trusted. However, it is difficult to generalise, not all hunters are seen as untrustworthy. It was expressed that it would be very useful to know how many “hunters” illegally kill raptors, and that such information would help both sides. It was also felt that “hunters” may be more interested in hunting itself than in sustainability of game and wise use of resources, meaning that hunting interests may actually go before the interest of game, which decreases the trust (although Finnish participants disagreed). Mistrust also meant that there was fear of giving ground on certain issues.

Another problem was the lack of information on, for example, raptor distribution and numbers, and scientific studies of the predator/prey systems. They believed that too few scientists in universities work on nature conservation, and many of those who do are out of touch with problems on the ground, and the communities that these issues affect. Additionally, there was a perceived problem on the acceptance of scientific results. It was expressed that “hunters” seem seldom interested in science unless it supports their own viewpoint, for example with the study on songbirds and magpies. It was felt that “hunters” view scientists as on the side of “protectionists”, that they may not have the same links to science that “protectionists” have, and that they do not always recognise the importance of results in some studies. Also, “hunters” and “protectionists” may require different level of scientific study. For example, “hunters” in Portugal need still more proof to restrict hunting of turtle doves, despite the existing evidence. In Fenno-Scandinavia, the situation is different from the rest of Europe: hunters and protectionists work together closely. Additionally, research in Finland is closely tied to hunting organisations, so they feel ownership of the results and are more likely to trust them. In relation to how much credibility is attached to scientists, the group expressed that they believe what scientists tell them, but it is important to know who funded the study, and that scientists may show their ideology in their work/results. Most science is good, but spin interpretation tends to be the problem. Universities were seen as the most independent research bodies. It was also considered that scientific studies may reflect trends in ecological thinking as a whole – e.g. predation is now considered to be more of an important issue than previously thought.

Finally, the group expressed that scientific results are often not presented in a “user-friendly” way, which hinders its acceptance or interpretation.

In general, the group expressed that all parties must use and acknowledge all scientific views, and highlighted the importance of science in resolving issues. Policy should be based on good objective science, (although science alone will not resolve a conflict). There is a need in S Europe for more research on predators and prey, but the main problem is political not the lack of objective studies. Most participants agreed that the more information the better because at least the debate is well informed. However, it was expressed that research can also be detrimental: the example was mentioned that illegal killing was made more “acceptable” as a consequence of the Langholm study in Scotland on red grouse and harriers.

Overall, it was globally considered that understanding is possible at the individual level, and that individual relationships may be good, but this did not transfer organisationally because of the entrenched views in organisations. One way to deal with this would be to work around key individuals, leaving extremists behind. However, it is difficult to know how representative these key individuals are.

In some places, like Portugal or France, there is more conflict within groups of stakeholders than between them. Some managers on the ground are being pressured by bosses/landowners to kill raptors when they don’t want to, and some “hunters” feel threatened from pressures within their own organisations.

Globally, it was considered that there is a need of more interaction and dialogue between groups however frustrating these interactions might be.

Conclusions from group C (“*scientists*”)

Moderator: Beatriz Arroyo and Robert Kenward. Rapporteur: Beatriz Arroyo.

Several issues were identified as important in preventing good relationships between the three groups. The most important were distrust between stakeholders, and lack of understanding. This was considered to be the case for the relationship between “hunters” and “protectionists”; “hunters” and “scientists”; and “protectionists” and “scientists”. The lack of trust was partly based on history and extreme opinions expressed by a fraction of the groups. It was also expressed that part of the problem was the “institutionalisation” of the views: individual communication was easier and more constructive than trying to change group ideas. Breaking down “institutionalisation” of views would therefore be one way of building trust.

Another issue identified as important (particularly for the relationship between “hunters” and “protectionists”) was equity: the costs and benefits of conservation actions is unevenly distributed. Preserving wildlife is a benefit for the whole society, but in many cases the (economic) costs of doing so are not evenly distributed amongst all potentially benefited people, but fall upon a small sector of the society (“hunters”, in this context). Economics were also very important in shaping the relationship between these groups, and partly the origin of distrust. In this respect, it was expressed that differences should be made between the two major groups within the hunting group: the landowners and money earners, and the users (expenders).

Additionally, it was considered that cultural differences were important. For example, it was considered that, at least in southern Europe, “hunters” do things in a traditional way, “as their fathers did”. “Protectionists” and “scientists” are introducing new things, new concepts. “Hunters” believe they know better because they are older in the job, and they think it is their right to do things the way they see them. Some participants (from southern Europe) said that “hunters” should change their attitude in relation to hunting expectations. It was however felt that time was needed for “hunters” to accept these changes. Additionally, the dichotomy between rural context (for “hunters”) and urban context (for “protectionists”) may hinder understanding in some places.

In the relationship between “scientists” and the other two groups, independence of research was considered as the next most important issue. Concerns were expressed that in certain cases research money depends on results, so there might be pressures and unconscious bias about the results depending on who pays.

One researcher expressed that there is a difference between the study of processes (“hard” science), and the elaboration of predictions based on processes (“soft” science), with their associated confidence intervals. There was a concern that public opinion is not aware of this distinction between what to expect from both types of science, and that distrust may appear because of misunderstanding of this. The group thought that the role of “scientists” should be to provide relevant data, but also to interpret them, transfer them (participate in the mechanisms to put it in real words), and make predictions. It was considered that sometimes the link between “hunters” and “scientists” is broken because non-scientists act as scientists, as it is the case of managers in some cases. They considered that management should not be done without science, but it was mostly expected that other groups should not deal with scientific issues.

“Scientists” also expressed expectations that the other two groups would respect and trust science, and be open to accept results as new information becomes available. They indicated that sometimes, when individuals are a priori convinced of something, they always ask for more data to prove the point, disregarding existing studies. In this respect, they acknowledged geographical differences: in northern countries, “hunters” have their own researchers, so they trust the science results better. In the south, “protectionists” are often young biologists, so the relationship between “scientists” and “protectionists” is easier because they share the same background and the same language.

Overall, it was considered that “scientists” should be involved in education of stakeholders, so in time understanding between the three groups will be improved. To achieve this, the group accepted that there was a need to improve communication skills within “scientists”.

Discussion 2: Management options for reducing conflicts with raptors.

Conclusions from Group 1

Moderator: Simon Thirgood, Rapporteur: Arjun Amar

In relation to the “**do nothing**” option, only in Finland was this considered acceptable. Globally, it was considered that the consequences of such an option would be unacceptable (for example, in Spain this would lead inevitably to increased use of poison).

Several problems were raised in relation to the implementation of **compensation schemes** as a solution for solving raptor-hunting conflicts. First, it would be complex to administer and to determine who to compensate, e.g. in cases where a raptor nests in a place, but hunts over a larger area. Additionally, this sort of scheme may be desirable to gamekeepers or “money makers” (i.e., hunting on private estates), but it would not affect the average hunter, because they are not in it for the money, but only for the enjoyment. There were also concerns that if you give people money, they will want more, which will cause a tidal wave of compensation for all protected species. Finally, some people raised concern that compensation schemes would basically mean paying people to obey the law, which is likely to be unacceptable to the public. However, others expressed that if there are already economic schemes to preserve farmland birds, why not pay to maintain raptors, and that such schemes were already in place for e.g. Sea Eagles killing lambs. But some felt that compensation schemes were more acceptable for economic loss of e.g. livestock (or maintenance of agriculture), whereas it was more difficult to justify payment for losses of wild game to users (maintenance of sport).

On the other hand, some participants expressed that the presence of e.g. an imperial eagle nesting on your land in Spain has implications for the use to which you can put this land. This can therefore affect the value of this land e.g. if you wanted to sell it, and it was thus considered that the government should perhaps bear this cost. What should occur is that the presence of a breeding raptor is considered as an increase of the value of the land. It was suggested that estates with endangered raptors could pay fewer taxes, therefore having more incentives to retain the bird on the land. This would not be compensation as such, but would provide financial incentives for habitat and species protection. It was also suggested that an alternative form of providing financial incentives in some cases could be to allow the sale of half of the chicks reared on an estate for falconry purposes, i.e. accept a certain level of predation for a known financial incentive at the end of the breeding season.

Habitat management to reduce vulnerability of game to predation by raptors had been already tried in pheasant pens in England with some success, but there was not general acceptance on its efficacy in other contexts. Some research is currently being carried out in France on this subject. Habitat management to reduce the numbers of raptors breeding in an area was considered as morally or ethically unacceptable when dealing with rare birds of prey. The aim would be to manage the habitat so that there is an even distribution of raptors over the land, but no high densities in any given area.

The idea of **diversionary feeding** to reduce predation by raptors on game highlighted several problems, among others the acceptability to game managers of the idea of feeding a predator. Already existing programmes (not all for game protection) suggested that feeding can be good for the predator, but it was not thought to be good for reducing conflicts. There were concerns about whether feeding is likely to increase predator density and therefore increase the conflict - this

perception alone could be the over riding problem and therefore limit its acceptability. Additionally, it was felt that there would be problems in targeting the specific problem species, i.e. other problem species might be drawn in (e.g. corvids or black kites benefiting from the food set out for other raptors).

The use of **intra-guild predation** (the protection or introduction of predators that would control conflict predator densities at an acceptable level) as a tool to reduce conflicts was considered with scepticism. It was mentioned that in Spain intra-guild relationships and the idea of meso-predator release can be useful for promoting conservation of top predators such as the Lynx. However, such an approach can also be dangerous, because there are only a few areas with Lynx and in the other areas man can take it upon himself to be the top predator, and can use this to justify killing meso-predators which can include endangered raptors. Overall, it was considered that, at present there is a lack of data on whether this could work, and we need to better understand the processes before we can use it as a management tool.

People were unsure of the legality of **disturbance** as a means to reduce predator density. They also thought that acceptability (and the law) might be different if the disturbance was created at areas where captive-reared game is released (pens) or at the raptors nest sites. There was a feeling that such a method could be useful for the former, but not the latter.

The use of **translocation** of conflict species or individuals as a management tool was not considered very useful, either. In Finland it has been used for Goshawks and pheasants, but it is not too effective because a large “floater” population allows for quick replacement of removed birds. There was also the problem of where to put removed individuals: the conflict might be simply shifted to the areas where raptors are released, and there were questions raised about the sustainability of such actions. Additionally, in many European areas it is difficult to identify the species that creates the conflict, which would further complicate or impair the implementation of this technique. Translocation could however be useful to extend the range of certain raptor species, which could therefore influence whether other management options could then be applied to the areas where conflict is greatest.

Finally, in relation to **lethal control** (e.g. destruction of nest contents or adults of conflict species), some felt that this would never be acceptable. When challenged why that is the case when other species are killed in the name of conservation, it was expressed that it was acceptable to kill mink because they are introduced, and to kill foxes because they are not endangered. This brought the question of whether controlling non-endangered raptors such as Buzzards would be acceptable, and it was expressed that there was a contradiction in the way mammals and raptors are perceived.

It was thought that lethal control would lead to some areas to act as a population sink, which would have effects on the population elsewhere. However, some felt that if a form of lethal control would actually benefit the raptor species by increasing its overall distribution (for example, through a regulated quota scheme which could have implications on the overall level of persecution at a larger scale), then this could be acceptable. Several examples were mentioned (Canada Geese in UK, Brown Bears in the Pyrenees, or cormorants in France). Overall, however, it was expressed that we need to try all other techniques before contemplating this technique as a potential solution. There were also concerns that such a scheme might create a precedent. If one country is allowed to kill a species of raptor then other countries will demand to be allowed to kill the species that they perceive to be a problem regardless of whether the scientific evidence is there to prove a conflict. However, some people expressed that we perhaps need to be less emotional and more objective when assessing whether this could be a useful option.

Conclusions from Group 2

Moderator Rocky Gutiérrez. Rapporteur: Pedro Beja

In general, it was expressed that each case is different, and that solutions depend on the circumstances of each problem. Every option should be considered independently for each case; even total extirpation may be warranted in the case of alien predators. It should however be remembered that solutions adopted in one place may have consequences elsewhere. Solutions should generally be designed to minimise the impact on the predators themselves. Finally, a package of potential solutions may be better than just one single management strategy.

With those considerations, it was considered that the “**do nothing**” option may be the best solution when the problems are small, poorly framed or where it is difficult to know what to do. However, lack of action may contribute to make the problems worse. The option to do nothing should be made as a clear decision, and not to emerge due to neglect.

Compensation schemes might be a solution, although it may be difficult to implement them in the long-term, and difficult to find the necessary funding. It was clearly stressed that the compensation should not be for the losses due to predation, but instead they should be viewed as rewards for game estates to maintain breeding raptors (and eventually other endangered carnivores, such as lynx). Overall, it was felt that compensation should only be considered when hunting management might have wider conservation implications.

Habitat management to reduce predation was usually regarded as difficult to implement in practice and controversial; some thought it was the best solution, whereas others felt that is not possible to implement. The most detracting element of habitat management is that it is a long-term solution, its application will not reveal responses for many years.

Diversionsary feeding was considered inefficient and unsustainable in the long-term. Also, this would be difficult to implement at sufficiently large scales and in areas where there is low manpower and little money. It was felt that a more sensible approach in some cases might be to increase the populations of alternative prey. Additionally, some felt that it may not be ethical to sustain populations of raptors through artificial feeding, and this may in the long-term contribute to an increase in the raptor population size and thus make the problem worse.

The participants thought that **intraguild predation** may be a potential solution in areas where large raptors may decrease the density of meso-predators and thus the net predation rates on game. It was however clearly stated that no one really knows whether this may work, for this is a very poorly studied question. An additional problem may be the unwillingness of gamekeepers to accept the presence of large raptors.

In relation to **non-lethal** methods of reducing raptor density, **disturbance** was considered difficult to implement in practice, over large areas. **Translocation** was thought to be a good solution when the problems are local and there are places to where the birds may be translocated. The main problem is that this is a costly solution and difficult to implement when the problems occur at a large scale.

In contrast, most people considered that **lethal control** (lethal quotas) should only be approached as a solution when there are no other feasible alternatives. One problem may be that gamekeepers may not accept the need to maintain a certain number of breeding pairs within each estate, and may

continue killing birds beyond the lethal quota. Additionally, this solution is the most controversial and its application at any given site may have global negative impacts, by sending a signal that raptors are generally negative to game populations and may thus be killed whenever they are felt to be a nuisance to human interests. Selective removal may be considered when the problems are local but the birds cannot be translocated elsewhere. By removing problem birds at specific sites, there may be an overall reduction in persecution, thus allowing raptor populations as a whole to increase.

In any case, it was the general belief that if lethal quotas are to be implemented, they should focus on the reduction of breeding productivity through the destruction of eggs or nests, and not on adult birds. Otherwise, the application of lethal quotas may create population sinks that may have negative effects to the overall raptor populations. Everyone agreed that extirpation is to be avoided, except in the case of alien predators. Whatever the problem, the solution should never be the extirpation of raptor populations.

Finally, it was suggested by some that one of the possible solutions to the conflict may be approached from the perspective of **game management**, by changing the hunting practices or by adopting techniques that may decrease the economic impact of raptor predation without affecting the populations themselves. In areas where hunting is based on released birds, it may be unnecessary to control raptor predation, because a small increase in the number of birds released may keep the yield constant at a very low cost.

Conclusions from Group 3

Moderator: Beatriz Arroyo. Rapporteur: Aly McCluskie

Do nothing was generally not considered an acceptable option. First, it was considered that in some cases the economic consequences and thus the lack of management arising from this option would be too negative. Some people expressed that it could be the easiest option if the illegal culling is not impacting raptor population. However, several people expressed that, even in this case, it could lead to increased tension as this option was perceived as a lack of will of solving or recognising the problem.

In relation to **compensation schemes** they were considered useful in Fennoscandia, where there exist three types of compensation: compensation for the presence of predators (i.e., paying per predator present on the land), compensation for the loss of prey, or compensation for preventing damage. It was considered that the first two options are too expensive and unsustainable in the long term, and that the third was preferable if any compensation schemes had to be in place. However, compensation schemes were not considered a good option in most countries. In places like France or the Iberian Peninsula, landowners (farmers) are not necessarily the ones that use the game therein (except in large private estates). Should compensation go to farmers, or to hunters? In places like Scotland it was considered that compensation would not work because loss of grouse would lead to a loss of sport, and it is sport and not necessarily money which leads to estate maintenance. There was also discussion about who should pay. Hunters, conservationists, the government, or a combination of those depending on the circumstances? In the case of Fennoscandia, funds for compensation schemes are mostly provided by “hunters” themselves, but such is not the case in southern countries.

It was also expressed that one of the potential solutions to conflict would be to change hunting systems (with an increase of eco-tourism and/or eco-hunting, which could provide alternative

sources of money to compensate the money lost by a reduction of bags). This option should be supported first through **economic incentives** during the time needed for attitudes to change.

It was also considered that **habitat management** presented several potential drawbacks as a management tool for reducing conflicts. As in the case of compensation schemes, it would present a problem in areas where the landowners are different from the hunters, because it is difficult to convince them to implement the management. As a consequence, schemes to change habitat to reduce predation for partridges in France, for example, have not been very successful because only a small percentage of the area is managed, so the population dynamics of the prey has not changed. Overall, it was considered that habitat management should be mainly applied for increasing prey productivity, not for reducing predation risk, ie. money should be invested in creating additional habitat (change of land use in areas that are not profitable, to land use good for hunting and biodiversity). It was mentioned that, in some cases, buying land by the government might be cheaper than paying the landowner. An alternative option would be to give tax reductions to landowners to encourage certain habitat management practices, which was considered as potentially interesting especially in southern countries. Finally, it was noted that habitat management options, regardless of their efficacy for the prey and the predator, can be particularly useful as a tool for developing dialogue between stakeholders, and in that sense they should be encouraged.

In terms of methods for controlling predator density, all of them were considered controversial. There was some discussion about whether control of protected predators (like raptors) is unethical. However, people also expressed that nowadays the influence of man on wildlife is necessary and unavoidable: all habitats will be managed and there will be pest control in some form in the future.

Lethal control was extremely controversial, and many problems were expressed. One of the main ones would be the precedent setting, and the consequences that this precedent would have in e.g. mediterranean countries (for example, in Crete-Malta, how to convince them to stop killing raptors, when it has been adopted as a management option elsewhere?). It might be an acceptable solution in some areas, particularly if it was reflected in overall bigger populations due to a decrease of illegal killing, but globally it was considered by several people as a potential disaster. In contrast, other people voiced that if controlling raptor populations was a legal option, there would be more control over it, and thus less abuse. However, this was seen as unfeasible in most countries. But people voiced that the less responsibility you give to people, the less responsible they become. Other issues were the ethical dichotomies behind controlling raptors. Are raptors more important than some other species? Would this depend on population sustainability, on overall rarity, how to identify the priority, at a local, national, European level? In any case, it was considered that lethal control would be extremely expensive because of the monitoring needed to ensure that it was done to the intended levels, and that this method should only be a last resort, when all other potential methods have failed.

Methods of **non-lethal control** were considered as not different from lethal methods (in terms of ethics), and were globally perceived as time consuming, money consuming and not effective (if was indicated that if you want to control, lethal methods are the only ones achieving that aim). **Translocation** had been tried in Finland, but results were unconvincing (because of the floaters) and it was also considered that such a method only moves the problem elsewhere, and **disturbance** was considered as ineffective: because breeding birds are territorial, keeping territorial birds could have a higher impact on maintaining densities than trying to prevent settling.

Finally, it was in general considered that a combination of methods would be more efficient than using those separately.

General conclusions from the workshop

All three groups acknowledged that mistrust is an important impediment for developing constructive dialogue. “Protectionists” mistrusted “hunters” because of the illegality of some of their activities, which implied that there was fear of giving ground on certain issues, and there was mistrust about their ultimate priorities (maintenance of hunting activities rather than sustainability of the prey populations). “Hunters” mistrusted the wish of “protectionists” to reach real compromises, and also saw science and “scientists” to be on the side of “protectionists” rather than being neutral, which lead to mistrust in some cases. All groups also thought that the other groups were too extreme in their positions: “hunters” thought that “protectionists” have too absolute positions in relation to certain issues, for example, are totally resistant to the idea of lethal invasive control of raptors. “Protectionists” and “scientists” thought that “hunters” are too stuck in traditional ways of management, and are too reluctant to try new concepts.

Each group felt misunderstood by the other two: “Hunters” considered that there is no understanding of why you shoot, or on the merits of non-scientific practitioners on the ground. “Protectionists” considered that the legitimacy of the role of conservation is not well known, and so hunters and farmers are not prepared to listen to them. “Scientists” felt that the other two groups did not consider them as independent and “neutral”, were not always open to accept results, and felt pressured from both sides.

As the lack of trust is partly based on extreme opinions expressed by a fraction of the groups, and on the “institutionalisation” of the views, it was suggested that breaking down “institutionalisation” of views and working around key individuals, leaving extremists behind would therefore be ways of building trust. Openness was also considered a very important issue.

Both “protectionists” and “scientists” also acknowledged their own drawbacks: “protectionists” don’t do enough effort to make the link with local communities, and approach “hunters” by telling them what they should be doing, instead of convincing them of their own point of view. “Scientists” need to improve communication skills to help improve the understanding of the implications of scientific results. No such acknowledgement arose from the “hunters” group.

Globally, all three groups considered that there is a need for more interaction and dialogue between groups however frustrating that may be in the short term. In that sense, it was considered that the workshop was positive because it led to interpersonal dialogue and genuine discussion between people representing different groups (as was also expressed by an independent observer, Prof. R. Gutierrez from US). There were expressions that such workshops should be implemented at the local level, particularly in southern countries. Additionally, the Decision Model workshop held in Tarland was considered interesting and potentially replicable in other places.

Finally, all groups expressed the importance of relying on good and independent science when looking for solutions.

In relation to potential solutions, discussions were mainly theoretical, because very little research has been done on the efficacy of potential solutions, so very few results are available, and on the other hand the financial implications of each of the options could not be considered. As in the previous workshop, there was emphasis on the geographical differences in the conflicts and on the potential solutions, so it was expressed that solutions would depend on the circumstances of each problem. However, it was mentioned in all discussion groups that solutions adopted in one place may have consequences elsewhere, which should influence the decision of whether or not to adopt

them in a given area. Finally, it was also generally considered that a combination of methods would be more efficient than using them separately. Other than these general considerations, most potential solutions were considered as controversial, and severe drawbacks were raised about most of them.

The majority of people were against adopting a “do nothing” attitude, as it would in many cases lead to increase tension and unacceptable economic and ecological consequences. Additionally, most people thought that there is not enough information to know whether the use of intra-guild predation to reduce conflicts would work, and that we need to better understand the processes before we can use this as a management tool.

Compensation schemes were discussed as potentially interesting, but there were many problems raised in relation to its implementation in cases where landowners are different from game users, and in relation to finding the necessary funding. Globally, it was considered that if compensation or economic incentives were to be implemented, those should be directed to either promote habitat maintenance or restoration, or to reward the presence of endangered predators, rather than to compensate predation losses. It was also expressed that those schemes could be indirect (e.g. through a reduction of taxes) rather than direct. Finally, it was also mentioned that economic incentives could be applied to favour changes in hunting systems, e.g. compensating the loss of hunting income due to predation through an increase of eco-tourism, or favouring techniques that may decrease the economic impact of raptor predation without affecting the populations themselves.

Most controversy was highlighted by methods such as habitat management, diversionary feeding to reduce predation by raptors on game, and by any method for controlling raptor densities (either lethal or non-lethal).

Some thought that habitat management is the best solution to reduce predator-prey conflicts whereas others felt that is not possible to implement because of the scale of implementation necessary and the time scale for results to be realised. As for compensation schemes, it was considered that implementation would present a problem in areas where landowners differ from game users. Additionally, its efficacy for reducing vulnerability of prey was questioned, as well as its acceptability for reducing predator density. Overall, it was considered that habitat management should be mainly applied for increasing game productivity, not for reducing predation risk. Finally, it was noted that habitat management options should be encouraged, regardless of their efficacy, to develop dialogue between stakeholders.

Several problems were highlighted about diversionary feeding, among others the acceptability to game managers of the idea of feeding a predator. There were concerns about whether feeding is likely to increase predator density (particularly of non-target species) and therefore increase the conflict. It was also considered unsustainable in the long-term, and it was felt that a more sensible approach in some cases might be to increase the populations of alternative prey.

In terms of non-lethal methods for controlling predator abundance, many attendees considered them as ineffective, and sometimes as unacceptable as lethal methods. People were unsure of the legality and acceptability of disturbance as a means to reduce predator density, which was also considered difficult to implement over large areas. There was a feeling that such method could be useful for release pens, but not for reducing predation on wild game. The use of translocation of conflict species or individuals as a management tool was not considered very useful, either, as it was

thought that this method only moves the problem elsewhere, and there were questions about the sustainability of such actions.

Finally, the most controversial issue was the use of lethal methods for controlling raptor densities.

Some thought that selective removal of problem birds might be considered when the problems are local but the offending birds are not able to be translocated elsewhere, as it may lead to an overall reduction in persecution, thus allowing raptor populations as a whole to increase. However, it was not considered acceptable by other attendees. Extirpation of populations or species was rejected as a possible outcome, except in the case of alien predators.

Quota control (the destruction of a certain number of nests or adults of conflict species) was highly debated. Some felt that if a form of lethal quota control could actually benefit the raptor species then it would be acceptable. For example, the legalisation of such a technique would lead to regulation of numbers killed, and thus to a decrease in abuse and in levels of persecution, which could increase overall distribution of the raptor species. In contrast, the acceptability of such a technique was highly controversial, its effect on the global population of raptors was questioned, and many saw the feasibility of the regulation and control with scepticism. There were also concerns about the precedent that such a scheme would set, both within and, particularly, between countries (as culture differences between countries would make it more difficult to explain). In any case, it was emphasised that if lethal quotas were to be implemented, they should focus on the reduction of breeding productivity through the destruction of eggs or nests, and not on adult birds. Additionally, it was considered that such invasive methods should only be attempted when other methods had been tried first.

Finally, some people expressed that we perhaps need to be less emotional and more objective when assessing options, but that we need to build responsibility and trust before implementing such methods. In this sense, continuing dialogue between all concerned parties can only be constructive, as well as a clearer expression of the ultimate objectives of each party involved, as emphasised in the concluding remarks by the external observer.

ANNEX 1 – PARTICIPANT LIST

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