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AND NATURAL HABITATS

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PRIORITIES FOR CONSERVATION OF AMPHIBIANS AND REPTILES IN EUROPE

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INTRODUCTION

1. GEOGRAPHIC AREA AND SCOPE OF REPORT

There has been significant emphasis on amphibians and reptiles (herpetofauna) by the Council of Europe (CoE) and the Bern Convention from its inception. They have been subject to a relatively high level of attention at the annual Meetings of the Standing Committee (MSC). This reflects both their sensitivity to changing landscapes and, as with birds and some mammals, concerns raised by the public and the growing non- governmental organisations (NGO) to the continued, sometimes rapid declines of vertebrate animals and their habitats. One small group of reptiles; sea turtles have seen a particularly high level of activity within the Bern Convention. They may require a separate analysis in the determination of any new priorities, although aspects of this report will apply to them.

In 2010, the Biogeographical Regions map, prepared for European Union (EU) NATURA 2000 programme was extended and endorsed by the Bern Convention¹. It included the additional area making up the CoE Emerald Network Area of Special Conservation Interest. This provided a more complete European perspective, covering more or less the biogeographic Western Palaearctic, omitting North Africa and territories south of Turkey, but including Cyprus.

Both the EU and CoE administrative areas have increased their membership over the last ten years or so. EU enlargement has seen eight Member States (MS); Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia, plus two Mediterranean countries; Malta and Cyprus joining in 2004. Romania and Bulgaria, acceded in 2007 and Croatia in 2013, increasing the size of the EU area by around 25 %. Since 2004 a number of countries have joined the Bern Convention; Armenia and Serbia (2008), Bosnia and Herzegovina (2009) Montenegro and Georgia (2010), Belarus (2013). The joining of these countries offers exciting new opportunities for international collaboration and know-how sharing for the betterment of herpetofauna protection and nature conservation in general.

In terms of historic emphasis, generally, following prioritisation of species richness and endemism, the larger sized south Europe territories (110K sq.km +), of Turkey, Spain, Italy and Greece have more than 80 species/taxa (amphibians and reptiles combined) and have received most attention. Medium sized territories (50-100K sq. km) of Serbia and Armenia have about 60 or more species/taxa and of those sized under 50K sq.km; Azerbaijan, Montenegro, Albania and “the former Yugoslav Republic of Macedonia” all have over 50 species/taxa. Many of these countries joining the Bern Convention relatively recently have high herpetofauna species richness for Europe. This is not withstanding that the importance of low species richness being fully recognised by the Bern Convention and that (as the sum of their genetic parts) taxa at the edge of their range are of equal importance to those at their core.

This report refers to past Bern Convention activities and it’s Group of Experts on Amphibians and Reptiles (GoE AR), together with the broader initiatives, both of CoE and the Bern Convention, other Conventions and regional bodies. This includes the EU and the work of the European Commission (EC) in addition to that of individual countries.

This review of priorities takes account of the work of, or closely relating to the substantial efforts of the Bern Convention GoE AR 1990-2006, including its meetings and international seminars². It reflects some of the major multi-disciplinary Bern Convention activities involving herpetofauna as a component³. It reviews of the activities of the Bern Convention, including the Groups of Experts and general strategic development papers and those concerning relationships with other Conventions and legally binding

¹ T-PVS/PA (2010) 14

² T-PVS (1990) 22, T-PVS (1992) 27, T-PVS (1993) 34, T-PVS (1994) 19, T-PVS (1995) 26, T-PVS (1996) 50, T-PVS/Rept (1998), T-PVS (2003) 18, T-PVS (2006) 6

³ for example: The Pan-European Ecological Network: taking stock. Nature and Environment, No. 146. 2007, Climate change: T-PVS/Inf (2008) 11

Herp spp. richness	Large size territories 110,000-670,000 sq.km	Medium size territories 50,000-100,000 sq.km	Small size territories 1,000-50,000 sq. km
HIGH 50-170	Turkey 1984 162 Italy 1982 95 Spain 1986 90 Greece 1983 82 France 1990 71 Bulgaria 1991 52	Serbia 2008 90 Armenia 2008 60 Georgia 2010 59 Croatia 2000 58 Bosnia and Herzegovina 2009 58 Portugal 1982 50	Azerbaijan 2000 72 Montenegro 2010 56 Albania 1999 53 Republic of Macedonia 1999 52
MED 20-49	Ukraine 1999 45 Romania 1993 43 Hungary 1990 34 Germany 1985 37 Poland 1996 26	Austria 1983 35 Czech Republic 1998 32	Slovenia 2000 46 Switzerland 1982 35 Slovakia 1997 31 Moldova 1994 26 Cyprus 1988 27 Belgium 1990 25 Netherlands 1982 24 Denmark 1983 22 Luxembourg 1982 21
LOW 0-20	Sweden 1983 19 United Kingdom 1982 12 Norway 1986 10 Finland 1986 09 Iceland 1993 00	Ireland 1982 05	Latvia 1997 19 Lithuania 1997 18 Liechtenstein 1982 17 Estonia 1992 16 Malta 1994 09 Monaco 1994 06

Table 1. Native herpetofauna species richness by relative territory size (sq.km.), per country/CoE Member State (MS). MS with the year of entry into the Bern Convention. Approximate taxa reptile/amphibian species richness, (multiple sources) ranked.

regional initiatives⁴. It addresses the multiple Bern Convention *Recommendations* made to MS at the annual MSC⁵ and the work of the NGO.

A list of the majority of the MS of the CoE and their date of entry into the Bern Convention is shown in Table 1. The countries are listed by size category and ranked according to combined approximate amphibian and reptile species taxa richness.

2. WORK OF GOVERNMENTAL AND NON-GOVERNMENTAL SECTORS TO-DATE

Governmental activities

The CoE galvanised interest in herpetofauna from an early stages of the Bern Convention, providing initial funding for research into priorities for species and their habitats and with funding from NGO such as WWF Netherlands, Switzerland and Sweden. This was used from the early 1980s for a multi-national team of experts to investigate the rarer endemic and severely threatened amphibians and reptiles. Some species were ‘data deficient’ or with less certain status, or in general decline due to wider countryside degradation. These initial investigations gave rise to a number of status reports and identification of conservation concerns⁶. This work demonstrates the beginnings of extensive international cooperation (a Bern Convention main function) for these two taxonomic classes, as opposed to countries working largely in isolation. The Carpathian Convention, entering into force in 2006, is a more recent example of a cluster of countries cooperating over trans-boundary issues with shared objectives.

It is not always possible to distinguish whether countries activities are, or have been carried out as a result of domestic motivation, from international treaty obligations, or both. Many governments are in the process of developing or have completed lists of designated sites for species and habitats; the CoE Emerald Network and the EU Natura 2000 series together cover Europe. These include sites that are identified as important for Bern Convention and EU Habitats and Species Directive species and habitats. Within the EU, many governments have domestic projects and programmes to better protect herpetofauna, with status of rarer species and habitats reported upon every five years, via Habitats and Species Directive Article 17 reporting. There are also a wide range of Directives, Regulations and Strategies to protect herpetofauna, including those for example concerning the control of international trade in endangered species, impacts of introduced non-native species, impacts of linear transportation infrastructure, and green infrastructure initiatives⁷. Benefits for amphibians and reptiles may be delivered via EU co-financing of research and education projects including via LIFE “LIFE The EU Financial Instrument for the Environment” demonstration projects⁸. Wider measures, such as the Strategic Environmental Impact Directive and Environmental Impact Directive aim to moderate the negative impacts upon biodiversity of development, such as those from, for example the construction of commercial, industrial and transport infrastructure.

In 2009 the EU published reports commissioned from IUCN on Red Lists of European Reptiles and Amphibians⁹. These addressed two overlapping zones: geographical Europe (west of the Urals) and the territory (then) of the 27 European Union Member States. They were assessed using the IUCN 2001 Red List Categories. The IUCN species approaches are based largely upon global rarity and extinction risk. It has been the traditional reference point for many years. While European designated sites may form a

⁴ for example, T-PVS (2000) 13, 19 & 44, T-PVS (2012) 18 and the Aichi CBD Biodiversity targets T-PVS/Inf (2014) 25

⁵ for example Rec. 119(2006), Recs 26 and 27(1991) and Rec. 13 (1988). For sea turtles see page 15 of T-PVS (2012) 18

⁶ for example T-PVS (1991) 72 and Eastern Europe T-PVS (1994) 3

⁷) EC Regulations for: CITES (various), IAS 1143/2014, Trans-European Networks-Transport, EC COM/2013/0249 Green Infrastructure (GI) — Enhancing Europe’s Natural Capital.

⁸ Silva J. P. et al. 2009. LIFE and Europe’s reptiles and amphibians: Conservation in practice. EC Environment DG, Luxembourg;

⁹ Cox, N.A. & H.J. Temple, 2009. European Red List of Amphibians, Temple, H.J. & N.A. Cox, 2009. European Red List of Reptiles. EC Luxembourg.

‘backbone’ for rare species protection and for protection of the less modified habitats, emphasis has shifted in recent decades to recognise the need for equal emphasis on the quality of the environment in general (urban, suburban, rural and wild) and towards keeping common species common and landscapes reconnected/defragmented for both common and rare species, species assemblages and wildlife communities in general. Proactive action beyond designated site boundaries requires new approaches and much wider implementation of long-recognised needs¹⁰.

Over the last 25 years, governments have encouraged private ecological consultancies to increase their role massively, replacing government roles in many instances in advising developers and local government on development proposals. Consultancies are also engaged in judgements over ecological mitigation and compensation responsibilities in respect of species and habitat disturbance, damage and destruction, where negative development impacts may be anticipated.

Some surveys have shown that the complexities of mitigation and compensation for species and habitats may not work effectively and that such actions are not being checked and enforced. These concerns have been accompanied by a good amount of deregulation of statutory nature conservation controls, sometimes slowly over a decade or more and occurring in association with significant devolution of powers from the national Ministry and Agencies to local regions.

Such problems are likely to most frequently impact the species that are widespread and under general decline across their range (including several Bern Convention Annex II species). In some countries the governmental nature regulatory agencies have been closed or reduced greatly. Financial cutbacks across Europe since the start of the European debt crisis, that erupted in the wake of the Great Recession around late 2009 are greatly affecting governments’ abilities to invest in nature conservation, such as is required for amphibians and reptile conservation, with heavy cut backs in many countries.

There are also now sentiments growing, especially in heavily developed northern Europe, that European nature legislation is too complicated and hinders economic growth¹¹. Since the EU Wildlife Directives (Habitats and Species Directive/Strategic Environmental Assessment Directive/ Environmental Impact Directive) became operational in the EU area, a range of European States have been found to have failed to fulfil their obligations by the European Court of Justice (EUCJ), including several cases regarding amphibians and reptiles (e.g. for Mediterranean sea turtles, Milos viper and Great crested newt). However EUCJ cases involving ‘bad practice’ tend to be avoided as they are very hard to prove in court, much as they are in many national upper courts. Emphasis is placed upon arbitration (EU Pilots). EU pilots and infringement actions aim to ensure compliance through pressure rather than getting to court¹² although this does not always work. Generally there is evidence that EU countries have plenty of EU Wildlife Directive infringements being reported to the EC at a current rate of several dozen per year and with several formal complaints per month in some countries. Significant legal problems with species and habitat protection are frequent, often because of uncertain principles relating to transposition of planning law and below this each year are thousands of questionable local decisions. At the Bern Convention, the formal Complaints system may result in On the Spot Appraisals by independent experts and Standing Committee *Recommendations* may be made for remedial action by MS.

In 2010, the EU countries missed their target to halt biodiversity decline. This was reported to be attributed to weak implementation, lack of funding and a systemic failure to reform sectoral policies. Recognising the problem, the EU adopted a new 2020 target, raising the level of ambition and formulating new strategy including the restoration of at least 15% of degraded ecosystems by 2020¹³ This year, in 2015, at the 2010-2020 half way stage, a Regulatory Fitness and Performance Programme (REFIT) is

¹⁰ Rec. 25 (1991) on the conservation of natural areas outside protected areas proper, Bonnin et al. 2007 The Pan-European Ecological Network: taking stock. Nature and Environment, No. 146 and T-PVS/PA (2012) 12

¹¹ Gregory Jones, G. 2012 The Habitats Directive: A Developer's Obstacle Course? Hart, Oxford.

¹² Pers. obs. by author following ECJ cases 2005-2015

¹³ <http://ec.europa.eu/environment/nature/biodiversity/comm2006/2020.htm>

being undertaken by the EC with respect to large areas of European law including Environment. This is an evidence-based critical analysis of whether EU actions are proportionate to their objectives and delivering as expected¹⁴.

In terms of priorities for governmental bodies, following the settling in phase of the Habitats and Species Directive and initial designation of the Natura 2000 series there was a period with some conservation benefits. However in general, legislation and policy weakness is still failing to protect wildlife, including amphibians and reptiles adequately in most countries.

This evidence suggests that there is insufficient capacity in government and industry at all levels in most countries. There are insufficiencies in legislation and enforcement and perhaps most notably in local (national) policy and strategy. This is because nature conservation remains a subservient interest to main Ministries (esp. for finance, commerce and agriculture) and is given low priority. Administrations have reduced scientific staff and may promote science-informed rather than science based policies as a cheaper, more expedient option. This is of great concern because while the ecosystem services (ES) approach¹⁵ provides an economic model, many economists believe that free-market forces should still allow free expenditure of environmental assets rather than the sustaining of them. The further danger is that this process is exacerbated in an economic recession. ES contributes to human well-being and makes sense of the original placement of the Bern Convention within the sphere of Human Rights and the rights of future generations to a biodiverse environment.¹⁶ While the European Convention of Human Rights does not apparently guarantee this, its general standards apply to the Environment. Adverse environmental damage is a frequent cause of complaint to The European Court of Human Rights¹⁷.

Non-governmental activities

There have been hundreds of projects over the last 35 years for herpetofauna, where NGOs have been involved and most local proactive conservation programmes involve a detailed cooperative interaction between governmental bodies, land owners and volunteers. Most countries have one or more NGO working on aspects of the conservation of amphibian and reptile and their habitats. Specialists groups and organisations operate in many different ways, for example for a few species of tortoise, snake or sea turtle. NGO have been heavily involved in EU-funded LIFE demonstration projects for herpetofauna¹⁸. The EU 2009 LIFE review for the period 1994-2009, mostly 1999-2009, described generally small scale initiatives with titles such as;

- Managing fire-bellied toad in the Baltic region
- Protecting the great crested newt in the Eastern Baltic
- Restoring amphibian habitats in Valencia, Spain
- Helping the El Hierro giant lizard to survive and the return of the giant lizard of La Gomera
- Saving Hungary's vipers from extinction
- Cutting turtle deaths in the Greek seas
- Reintroducing Hermann's Tortoise in Romania
- Safeguarding the European pond turtle

¹⁴ http://ec.europa.eu/environment/nature/legislation/fitness_check/index_en.htm

¹⁵ <http://biodiversity.europa.eu/topics/ecosystem-services>

¹⁶ Principle 2 of the Stockholm conference: *The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate.*

¹⁷ Manual on human rights and the environment 2nd edition 2012 Council of Europe, Strasbourg.

¹⁸ View at <http://ec.europa.eu/environment/life/project/Projects/>

It located 57 projects, addressing around 27 species/taxa. Most projects; 37 (65%) were awarded to three countries; Greece, Italy and Spain, with Italy having 17 projects, while other countries had one or more projects and several none at all. The most frequently funded subjects listed were; loggerhead sea turtle *Caretta caretta* (17 projects) and crested newt superspecies (10 projects) although many projects applied to multiple species by virtue of the habitats concerned. The awards were biased towards sea turtle projects in the south and amphibians in the north and appear to reflect popular subjects rather than any strategic theme. More recently, the EC LIFE website (accessed 06.05.15) reports 213 projects of significance to herpetofauna (125 amphibian/88 reptile) and makes available online web links to further details (18). There appears to be a slight shift in these more recent projects towards habitat management and restoration projects on Natura 2000 sites. A remarkable 40% of these LIFE grants were awarded to Italy.

- ***Specialist non-government organisations***

Private organisations and universities may be involved in practical activities and in research. Bern Convention Appendix II and EU Habitats and Species Directive listing may make grant-makers more attracted to proposals. On an international platform in Europe, the European Herpetological Society (EHS) via its very active conservation committee (SEHCC), had a specialisation in the Bern Convention 1982-2006 and coordinated a considerable amount of survey, appraisal, proposals, campaigning and lobbying activity. A detailed account of the extensive work of this organisation has been prepared in the supporting documents to this report¹⁹. In 2006, EHS members were involved in the preparation of ‘threatened’ species Action Plans for a small number of taxa²⁰. An interim report on an Important Herpetofaunal Areas (IHA) concept, focussing upon Armenia, Bulgaria, Estonia, Greece, Netherlands, Romania, UK and Ukraine was also prepared²¹ but not progressed due to lack of resources. NGO may engage in a range of EU advisory *Fora* and Working Groups (WG) such as The Habitats Forum and Green Infrastructure WG, where ideas are exchanged with the EC and country representatives.

- ***IUCN, the International Union for Conservation of Nature***

IUCN has been a cornerstone of nature conservation over the last 50 years and has carried the traditions of the Species Survival Commission (SSC) and Groups (SSG) towards the most globally threatened species. The IUCN system provides a peer-reviewed, referenced guide to the taxonomic status and current status trends of species²². However, it is a ‘world’ system and leaves open to continental and national conservation bodies the more regional prioritisations²³. Lack of clarity and simplicity however may confuse or mislead local stakeholders. The system has been important however in identifying rare species, closest to extinction and these have tended to dominate prioritisation of protective and recovery actions. What IUCN does not offer is analysis to address the gradual decline of locally common or common and widespread species that underpin the main areas of semi-natural habitat in Europe. One example of the mismatch in terminology, for example, is that a species labelled of *Least Concern* in extinction terms may be of *Most Concern* in terms of impact of decline and loss of that species upon wider ecological communities and upon which other rare or common species interact and may depend in maintain animal community and habitat diversity.

The rare-species priority concept was questioned by ecologists interested in holistic nature conservation in the 1970s, if not before. Rare-species practitioners have had plenty to occupy themselves with, but it is only now as common & widespread and locally common species and habitats undergo further steep or continuous decline that the need to progress the full breadth of nature conservation

¹⁹ Supporting information to this document: Priorities for Conservation of Amphibians and Reptiles in Europe:

²⁰ Edgar, P. & D.R. Bird 2007a-e

²¹ Stumpel, A.H.P. and Edgar, P. 2004 Important Herpetofaunal Areas in Europe. Interim Report. Alterra, Green World Research, Wageningen, The Netherlands

²² <http://www.iucn.org/> and www.iucnredlist.org

²³ See Mrosovsky N. 2006 Does the Mediterranean Green Turtle Exist? Marine Turtle Newsletter 111:1-2,online <http://www.seaturtle.org/mtn/archives/mtn111/mtn111p1.shtml>

interventions becomes more obvious. This is one area where the Bern Convention was ahead of its time in being concerned about all amphibian and reptile species as an indicator group within Appendix II and Appendix III categories. This approach caters for the limitations of the IUCN global hierarchy and point to methods that aim to protect the diversity of all wildlife. Bern Convention listings therefore may have greater breadth and durability than, for example current EU-IUCN-centric listings.

IUCN could move towards extending its methodology or provide better guidance to lower tier operation of its categories. CoE or EU and countries with expertise might help provide guidance and a complementary system. In many ways this process has already been underway with the Convention of Biological Diversity (CBD) as some countries have looked to 'second tier' widespread but rapidly declining species as conservation targets. Wider European initiatives are also looking past traditional concepts for new approaches, for example to identify indicator species and communities for wider monitoring of 'state of landscape' in The Pan-European Ecological Network forward planning²⁴.

3. CHANGING EMPHASIS AND POSSIBLE NEW DIRECTIONS

It is perhaps not surprising that a review of the needs of amphibians and reptile conservation points towards their survival, not just in near-pristine habitats and managed semi-natural landscapes, but in more disrupted and intensively exploited farmland and even suburban and urban areas.

Perhaps the biggest single area of need that has been difficult for governments is developing broad-based strategies for land use over their territories planning for nature conservation. In the EU Common Agriculture Policy (CAP) has struggled to deliver biodiversity benefits to many species and habitats that it could have done, despite agri-incentive programmes and often generous funding.

One historical misnomer is a simplistic view that nature simply requires nature reserves and everywhere else is allocated to human exploitation. Parkland and gardens may have symbolic examples of nature remaining, but in effect, outside designated sites, give or take restraints controlling landscape aesthetics; nature must take its chance.

It is the struggle to move on from this position that has been the current challenge and that must guide certain priorities. The subject can be avoided by governments politically for the same reason as the resistance to tighter enforcement of nature conservation legislation, the perception of less control and flexibility and slowing of economic growth. Fear of this may also be emphasised by minority vested interests including those from business and industry. Other delaying factors include scepticism regarding climate change impacts, and whether measured or suspected species declines are real or not. There may also remain antipathy towards well-founded nature proposals from parochial communities who may resist interference by central, regional or even local government.

Nevertheless, in an increasingly sophisticated business world, unless governments apply much stronger land-use regulations, it will be impossible to deliver multi-disciplinary policies and safeguards. The methodologies to do this have been recognised and underway in several forms, but not in a cohesive way and EC ambitions for greater flexibility²⁵ may be misdirected without a sophisticated and scientifically robust rationale. This might help prevent a repeat of the mitigation and compensation system failures or rather to create a system that truly maintains the EU No Net Loss ambition. The well-funded Linear Transport Infrastructure communities are perhaps most visibly aware of the damaging fragmentary long term effects of transport systems on habitats and species²⁶. However, although the intentions and needs in nature conservation have become clearer since 2000, the governments in most countries are not yet ready to set them fully in place.

²⁴ T-PVS/PA (2012) 12

²⁵ DG Environment. Study on specific design elements of biodiversity offsets: Biodiversity metrics and mechanisms for securing long term conservation benefits. ENV.B.2/ETU/2013/0060r

²⁶ e.g. the European IENE, Americas (ICOET) and Australasian (ANET) networks

It is not surprising that governments, that have an increasing burden of Bern Convention *Recommendations* against them, including many for herpetofauna, are sometimes either deferring from reporting, or are making only general submissions in response. A huge amount of good work has been achieved due to the Bern Convention and many examples exist showing positive effects, for example with herpetofauna²⁷. Many countries newly joining the Bern Convention have made excellent contributions in just a few years. Elsewhere progress is coming up against the hard wall of national incapacity that reflects financial and administrative positions that have not been able, despite in some cases best efforts, to integrate nature conservation into effective operational strategies. One risk is that an impasse, where apology and excuse become the currency of delay may result. While the EU in the west of the CoE area is working hard to change this, it is worrying that some politicians can be observed vocally calling for weakening nature conservation legislation rather than for developing strengthening actions.

Therefore the fate of amphibians and reptiles, believed by CoE from the start to be indicators of healthy habitats, is now, like groups of many other plants and animals, an indicator of the ability of humans to sustain their own healthy, clean and diverse environment. This is no light burden. One option in terms of Bern Convention *Recommendations*, is to generate clearer process and to develop a way to register progress on the issues raised in a more objective and scientific way, as indicated in the review of the Case File system in 2000²⁸.

This would require a simple but more quantified approach to delivery of progress on a basic scoring systems so that direction and rate of progress can be monitored, viewable *online* at any time. A one-page tick box pro-forma taking no more than a few minutes per case to complete, would be required in advance of each Standing Committee and a front page summary would inform generally of progress, per country and per species/habitat. This would reduce the administrative burden on all parties and help to prevent the losing track of progress. MSC time might be re-deployed towards the most urgent cases. The key to making this work would be to define the indicators of progress in each situation in advance, as a measure to record future progress.

4. CHECKLIST OF POTENTIAL GENERAL FUTURE PRIORITY ACTIONS FOR EUROPE

The European priority topics identified, presented and discussed at the GoE AR 8th Meeting in July 2015 are summarised as follows, with further notes on progression:

TOPIC 1:	Identification and monitoring of taxonomic and mapping knowledge, and species and habitat status surveillance across the Convention's area.
Why important?	Species/ habitat distribution details and taxonomic clarity are prerequisites for determination of status and change. They form a vital background to all nature conservation work.
What is currently lacking?	Knowledge is limited by investment in field research but information is gradually improving as a result of a wide range of activity.
What is value added in GoE undertaking it?	This is more of the background collection of information by MS and expert NGO and individuals, with GoE just reviewing.
What are the steps towards results?	MS should agree on the methods and ensure that their national experts report updates and discoveries on a regular basis and that up to date information can be made available.
What are the significant challenges?	Most countries require a substantial amount of work to clarify the distribution and status of many species.

²⁷ European Herpetological Society (1993) The positive role of the Bern Convention in progressing Herpetofaunal Conservation in Europe. Report to the 13th meeting of the Bern Convention MSC: T-PVS(93)42

²⁸ T-PVS (2000) 30

TOPIC 2 :	Undertake a review of the range and scope of inputs required to contribute to holistic and wider countryside approaches to herpetofauna conservation.
Why important?	Emphasis has been placed upon rarity and threat level, whereas many identified threats are from factors such as fragmentation, pollution and climate change where urgent broader based initiatives to address all species have been identified as essential.
What is currently lacking?	To some extent, a good understanding of the problems. A lot could be achieved from adjusting current plans and programmes that are not well focussed. Further the legal frameworks to enable multi-cohesion initiatives to be planned and financed.
What is value added in GoE undertaking it?	GoE AR represents a suitable independent body capable of making recommendations that will draw MS attention to the possibilities and opportunities.
What are the steps towards results?	It may be useful to establish a sub-group to identify the scope and timing of reporting, perhaps also covering the work of Topics 9 and 10.
What are the significant challenges?	Many administrators seek multi-faceted initiatives but lack detailed proposals for how these could in practice be constructed. Demonstrating clear cut and widely supported win-win for both nature and economic safeguard is the only way to slow down the current levels of degradation and loss.

TOPIC 3	Make specific proposals for contributions on herpetofauna to the Protected Areas and Ecological Networks Group of Experts.
Why important?	Emerald Sites Networks may not adequately cover some of the more pristine, sensitive and threatened areas for herpetofauna. National corridors and connectivity plans may not yet be formulated or progressed.
What is currently lacking?	To some extent generic guidance on achieving the process. Where absent, each MS should promote demonstration projects and where these exist MS should promote findings and indicate roll-out potential and plans.
What is value added in GoE undertaking it?	GoE AR is an ideal location to share knowledge and to present a combined overview to all Parties with focus on two small faunal groups..
What are the steps towards results?	An initial review of state of knowledge followed by indications from each MS as to progress in their country and future capacity.
What are the significant challenges?	MS would need to refer back to national experts to collect and collate the relevant information and compare this with Emerald site proposals to-date as an overview exercise.

TOPIC 4	Continue to monitor the implementation by Contracting Parties of the relevant Action Plans and Recommendations. Feasibility study for a new simple and streamlined method for recording progress and performance with potential online access.
Why important?	There is a problem currently with MS not reporting on progress with Action Plans and Recommendations. A simple system agreeing stages at the time of recommendations would allow progress to be monitored and this would streamline the system, give clarity and save resources.
What is currently lacking?	For each recommendation, action plan and similar, the levels of fulfilment could be identified in 5 or 7 stages, in line with similar systems used for information purposes.

What is value added in GoE undertaking it?	GoE AR are ideally placed with expertise to recommend stages for each Action Plan/Recommendation to the Secretariat and MS representatives.
What are the steps towards results?	Stages could be developed by the GoE in partnership with MS representatives to trial such a system in 2016.
What are the significant challenges?	These would be agreed by the Parties and determined by the trial period.

TOPIC 5	Identification of Important Herpetofauna Areas (IHA).
Why important?	There is a perception that many important areas of habitat for protected species are not covered by designated site systems and are being damaged or degraded by virtue of lack of identification of them in spatial reference material.
What is currently lacking?	Those species, both rare and under-surveyed and widespread should be subject to an overview appraisal to identify the most important zones, with subsequent mapping and placement in accessible formats along the lines of Important Bird Areas.
What is value added in GoE undertaking it?	GoE AR can be involved in advising on the process and helping to set a timetable and determining technical aspects at the request of the main body undertaking the work.
What are the steps towards results?	Prepare a proposal document for consultation, including a review of the report undertaken by Alterra/THCT (Stumpel and Edgar 2004). Funding will be required to coordinate the national contributions.
What are the significant challenges?	There are likely to be significant gaps with some species but the IHA initiative will help to identify deficiencies and make use of the substantial information that is already available.

TOPIC 6	Consider development of a revised system to assess herpetofauna threat levels on a biogeographical region basis for more consistent application across the Convention's and bordering areas.
Why important?	IUCN categories while of intrinsic reference value are limited in scope and may be a source of misunderstanding in modern planning and prioritisation. While rare and highly threatened species are well covered there is need for a broader approach assessing the decline rates of the commonest species and many others without which wider ecosystems may be damaged.
What is currently lacking?	A species rating system that identifies importance in terms of contribution to ecosystems, e.g. as high biomass prey items, rather than based upon rarity alone. Ways to integrate such evaluations into existing and future planned initiatives are needed.
What is value added in GoE undertaking it?	Can assist in innovation and introduction of this approach.
What are the steps towards results?	Possibly a Pilot scheme for a small number of countries to show the likely outcomes and to encourage wider use.
What are the significant challenges?	There should be an 'open door' response to this proposal as it compliments many approaches to wider-countryside protection and recovery.

TOPIC 7	Carry out introduced non-native disease controls.
Why important?	Non-native amphibians from the commercial trade are known to be a significant threat to native species in many areas. Urgent action is needed to address current problems and to anticipate possible or probable very costly future events.
What is currently lacking?	There is not much time to react to immediate issues and information on whether it is too late to prevent spread of disease. Further field research is needed with moratoria on trade until the problems are better understood and under control.
What is value added in GoE undertaking it?	A watching brief and technical expertise can be offered to an issue that is likely to be led by the MS where the problems are most acute.
What are the steps towards results?	A range of Action Plans and measures are being put in place. A review of the risks in each area would be useful
What are the significant challenges?	Large scale field eradication where appropriate and feasible will require substantial funding on a scale not previously seen other than for demonstration projects. Very little is known about captive Reptile diseases that may spread to the wild. A broad-based review on sources and type of infection risks would be helpful, as would the implications of future spread of non-natives as vectors of novel disease. The broad implications of management options in disease control would also benefit from a review, e.g. options to remove and restock vs. containment and monitoring.

TOPIC 8	Address the issue of introduced non-native carnivores, and conduct a review of the impact of non-native introduced predators on amphibians and reptiles, initially with mongoose species in southwest and southeast Europe and the potential for disruption of naïve wildlife communities across the Convention's area.
Why important?	Released non-native carnivores could be one of the most significant current threats to Mediterranean fauna via a wide range of mechanisms, not just direct predation.
What is currently lacking?	A recognised and supported international Task Force is needed, backed up by national teams of experts that will help MS take appropriate action. This will enable results and monitoring to be easily followed from year to year and with capacity for emergency action.
What is value added in GoE undertaking it?	GoE AR can help get a broad-based initiative off the ground.
What are the steps towards results?	Initial local workshops and capacity building events together with formation of local and international partnerships.
What are the significant challenges?	Speed of instigation; this may be time critical and getting started quickly may be a significant challenge.

TOPIC 9	Strategic land use planning: document the way in which current systems implemented by the Parties are effective in respect of existing initiatives (PEEN/Green Infrastructure) and in relation to the needs of amphibians and reptiles, with specific regards to freshwater and terrestrial habitats and the size and scale of regional variation.
Why important?	There is a perception of a loss of momentum for PEEN and a need to encourage MS to fully engage in identifying corridors for habitats and species and habitat restoration as a meaningful component of land use strategy..

What is currently lacking?	Agreement on a consistent approach and redirection of agri-incentives towards well planned and co-ordinated programmes rather than ad-hoc activities of low nature conservation value.
What is value added in GoE undertaking it?	Effort requires a broad-based development and support from a group such as the GoE AR, at least in its early stages.
What are the steps towards results?	Develop a clear proposal from the existing materials and identify gaps and opportunities. Seek support from a wide range of stakeholders and ask MS to clarify their views and ambitions.
What are the significant challenges?	Presenting the opportunity to MS in a way that develops engagement, perhaps building up core support from focal groups of MS with related issues and a report that demonstrates the opportunities.

TOPIC 10:	The future of Ecological mitigation, compensation and offsetting practices, using herpetofauna as a reference.
Why important?	Research has shown that nature conservation mitigation practice needs better standards, monitoring and enforcement. Several MS are looking to relate economic practices with innovative solutions but basic principles have not been established.
What is currently lacking?	The need to relate current policies and practices in a manner that is shown to work and that is well supported and sustainable. Credible pilot projects relating to landscape-scale delivery would assist.
What is value added in GoE undertaking it?	The species-habitat approach of the Convention is often overlooked and early inclusion will help to form realistic and meaningful targets that ensure that initiatives are successful.
What are the steps towards results?	An overview document would give better understanding and guidance for potential partners and stakeholders. Direction and enthusiasm towards a carefully designed and meaningful process should help to initiate effective national strategies.
What are the significant challenges?	There is already a large degree of scepticism toward mitigation, compensation and offsetting including its use in other continents. A coherent Vision is required that appears credible and linked to existing mainstream policy objectives and strategies.

TOPIC 11	Undertake a specialist analysis of sea turtle conservation priorities
Why important?	While results of long-term demographic sea turtle studies may help clarify priorities, there is a need for multiple precautionary actions at a dozen or more locations around the Mediterranean and at many locations on the south Mediterranean beyond the CoE area, where CoE MS do or may have influence.
What is currently lacking?	Despite the dedicated work of many volunteers the number of infringements including development of relatively undisturbed sea turtle nesting, feeding and overwintering habitat remains at a worrying level in several if not many locations.
What is value added in GoE undertaking it?	GoE membership can provide an international fora to compliment the work of specialist Sea Turtle groups and to further identify the most pressing cases.
What are the steps towards results?	This need not be a huge agenda item – more of a watching brief, including cases where other threatened reptiles may be present in threatened coastal beach/lagoon habitats .
What are the significant challenges?	Determining national monitoring methods for MS reporting and producing a checklist.

5. INITIAL PRIORITY ACTIONS SELECTED FOR THE BERN CONVENTION GROUP OF EXPERTS ON AMPHIBIANS AND REPTILES

1. Carry out monitoring and surveillance of herpetofauna across the Bern Convention area

This would also be complementary to the undertaking of topic no. 3. Countries with well-developed methods might consider to sharing support, expertise and know-how with one or more country that has more recently joined the Convention.

2. Continue the monitoring of implementation of relevant past recommendations and Action Plans, and call on the Standing Committee to encourage Parties with good experiences to share them through reporting.

At the GoE AR 8th meeting the principle of the need for monitoring of such progress was established but the exact method was something the secretariat would need to consider further – the Bern Convention online facility was already available if it was decided that it was appropriate.

3. Proceed to the identification and designation of Important Herpetofauna Areas (IHA) within and beyond the boundaries of the existing Natura 2000 and Emerald (including candidate) sites.

The development of a new programme would require the collaboration of MS representatives via the Groups of Experts and probably some central funding to ensure consistent outputs/IT components and close involvement of NGO.

4. Elaborate or endorse a set of basic principles common to all Parties to avoid or reduce the impact of transport defragmentation in Europe [on herpetofauna]. These principles would mainly focus on how to develop safer roads, avoiding defragmentation, and avoiding the implementation of incorrect mitigation measures.

The matter may be referred to the NGO Infra Eco Network Europe (IENE) who are experts in this field and members of the GoE PAEN, perhaps with a presentation to the membership regarding the work of the European Network for the Protection of Amphibians and Reptiles in Transport Systems (ENPARTS).

5. Review the impact of alien predators on amphibian and reptiles. (This task is to be implemented in cooperation and with the assistance of the Group of Experts on IAS);

Presumably a joint working group or task force might be established to help take this forward.

6. Where possible and if the expertise is available within the Group of Experts, address pending taxonomic issues.

Group of experts AR requests to the Standing Committee:

- *To adopt and urgently implement the Draft Recommendation on the prevention and control of the *Batrachochytrium salamandrivorans* (Bs) chytrid fungus. The Group of Experts offers its expertise for the preparation and setting-up of a shared protocol for monitoring the spread of Bs disease in view of the implementation of common regional strategies.*
- *Invite Parties concerned by the spread of *Batrachochytrium dendrobatidis* (Bd) chytrid fungus to urgently implement monitoring programmes of populations' trends and Bd infections at national level.*

- *Ask Bosnia and Herzegovina, Croatia, and Montenegro to address, as a matter of urgency, the actions recommended under Recommendation No.140 (2009) on the control of the small Indian mongoose (*Herpestes auropunctatus*) in Southeast Europe. The Group offers its expertise for conducting a regular monitoring of the implementation of this Recommendation at its meetings.*
- *Invite Azerbaijan to provide information in relation to the development of ski resorts, and Armenia, Georgia, and Turkey in relation to hydropower development and water dams that may have a negative impact on herpetofauna.*
- *Convene further meetings of the Group of Experts on Amphibians and Reptiles on a more regular basis.*

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ABBREVIATIONS

BCR	Bern Convention Recommendations
CoE	Council of Europe
CBD	Convention of Biological Diversity 1992
EC	European Commission
EU	European Union
EUCJ	European Court of Justice
GoE AR	Group of Experts on Amphibians and Reptiles of the Bern Convention
IUCN	International Union for Conservation of Nature
MS	Member State
MSC	Meeting of the Standing Committee
SEH/EHS	Societas Europaea Herpetologica/European Herpetological Society
SEHCC	Societas Europea Herpetologica Conservation Committee
WWF	World Wide Fund for Nature, formerly World Wildlife Fund