

A quantitative network analysis of participants in international biodiversity related conventions and programmes

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ABSTRACT

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This report presents the result of a review of the network composition of countries and representatives that attended international conventions related to biodiversity conservation in the period 1990-2002. The description of the network composition is based on analysis of the attendance lists of international conventions. The analysis shows that the network of people visiting international conventions is dynamic and changes rapidly. Most of the people (85%) participate only within one convention. Only a limited number of individuals visit different conventions or programmes. Furthermore, about 60-80% of the representatives visit a meeting of a specific convention only once.

Keywords: attendance, international nature convention, network analysis, participants

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Contents

Summary	7
1 Introduction	9
1.1 Background	9
1.2 Description of the project and central research questions	9
1.3 Assumptions	11
2 Description international conventions	13
2.1 Bern Convention	14
2.2 Bonn Convention	15
2.3 Convention on Biodiversity	15
2.4 European Landscape Convention	16
2.5 PEBLDS	16
2.6 PEEN	17
2.7 Ramsar Convention	18
3 Methods	21
4 Results	23
4.1 Survey period	23
4.2 Participation of countries per convention	24
4.2.1 Participation of the Netherlands per convention	32
4.3 Participation of individuals per convention	32
4.4 Stability in country delegations, based on individual attendance	34
4.5 Participation of individuals in different conventions	36
5 Conclusions, discussion and recommendations	39
5.1 General conclusions	39
5.2 Conclusions for the Netherlands	40
5.3 Discussion	40
5.4 Recommendations	40
Literature	43

Summary

This report presents the results of a review of the network composition of countries and representatives that attended international conventions related to biodiversity conservation in the period 1990-2002. The following conventions and programmes were reviewed: Bern Convention, Bonn Convention, Convention on Biodiversity, European Landscape Convention, Pan-European Biological and Landscape Diversity Strategy (PEBLDS), the meetings of the Committee of Experts for the Pan-European Ecological Network (PEEN) and the Ramsar Convention.

The description of the network composition is based on analysis of the attendance lists of international conventions.

The results of this analysis show that the total network of European governmental representatives that participate in international convention meetings over the period 1990-2002 consists of about 1800 people. Most of the countries that have a right to attend the meetings do so. Only for the two programmes (PEBLDS and PEEN) the attendance rate is lower (60-70 %).

Most of the people (85%) participate only within one convention. Only a limited number of individuals visit different conventions or programmes. Furthermore, about 60-80% of the representatives visit a meeting of a specific convention only once. When all conventions and programmes are taken into account, Switzerland, Belgium, Hungary, the UK and the Netherlands are the countries with the highest stability in representation. Croatia, Serbia & Montenegro, Albania, Belarus, Luxembourg, Spain, Italy and Turkey are countries with delegations that have a high turnover rate of representatives.

The analysis shows that the network of people visiting international conventions is dynamic and changes rapidly. A few countries however form a stable factor. At present the Dutch representatives are one of these stable factors.

The analysis in this report only indicates absence or presence of countries and representatives but does not indicate how active that country or representative participates in the meeting and exerts influence on the decisions taken. This element will be reviewed in a different study and will be presented in a separate article.

1 Introduction

1.1 Background

In order to halt the decline in biodiversity in Europe and the world, several international conventions and programmes have been concluded since the 1970's. However, these international agreements will only have a positive effect on the decline of biodiversity if they are indeed implemented, for instance through conversion into national policies and laws. To understand if and how international conventions are implemented after they are ratified, it is important to analyse the process of the implementation of international conventions. Therefore, on behalf of the Dutch Ministry of Agriculture, Nature Management and Food Quality, a 3 year project entitled 'International Policy implementation' started in 2002 as part of the DWK-404 Programme North-South.

The first phase of the project provided a theoretical framework that analyses the factors that determine the effectiveness of international conventions. The results of that study revealed a first indication of bottlenecks in the working of international regimes (Bouwma et al., 2002).

A main conclusion of the 2002 research was that for the process of implementing international policy from the international level to national agenda setting two aspects are very important:

1. the messages or activities that need to be communicated to the national level and
 2. the messenger e.g. the representative that is representing his country in meetings.
- Many of the perceived constraints are in one way or another related to these two aspects.

1.2 Description of the project and central research questions

Based on the outcomes of the research undertaken in 2002 it was decided to focus the follow-up study in 2003 on the representation of countries and representatives attending international nature conventions that aim to conserve biodiversity in (Pan)-Europe. The reason is that those country representatives in the conventions are crucial in the process of the implementation of the outcome of international conventions. On the one hand they are responsible for voicing the wishes of their countries in the discussion, on the other hand they are responsible for ensuring communication on the activities needed as a result of the international convention meetings.

The follow-up study to analyse the representation and representatives consists of two interrelated parts. The first part consists of an analysis of the attendance lists of international conventions in order to have quantitative data to describe the representatives, the changes in representation and the network. This part of the network study is presented in this report.

1.3 Assumptions

Several assumptions regarding the working of international conventions are underlying the 'quantitative network' analysis. Some of these assumptions are based on literature, however many of them will need to be validated in part 2 of this study. As these assumptions determine how we interpret the results of the analysis they are explicitly outlined.

- The most important assumption is that the individual representative plays a pivotal role in the implementation of the international convention or programme in his/her country.
- The international conventions take place in a relative non-hierarchical setting. In such meetings the status of a person is determined amongst others by personal charisma, knowledge, network and gender of a person in the meeting.

In our study we also assumed that status and influence of a representative depends also on the number of meetings and number of different conventions visited:

- the more meetings were attended within one convention and the more different conventions were visited, the wider is the personal network of the representative (network), the better he/she is informed (knowledge) and the bigger his/her influence is within these conventions (status and influence)

2 Description international conventions

Since the 1970's several international conventions were established and many programmes have started that aim at the conservation of biological diversity (see table 1).

For the network analysis the conventions and programmes that have been chosen are international conventions that are global conventions or (Pan)-European wide conventions. Regional conventions and programmes have not been considered.

After reviewing the first attendance list of the World Heritage Convention and the Man and Biosphere Programme we decided to exclude this from the detailed analysis as the network of people involved in these conventions vary greatly from the other ones. Main reason is that the World Heritage Convention has a strong cultural background, often the representatives attending these meetings are therefore from the Ministry that is responsible for cultural heritage and not for biodiversity conservation.

Table 1. Overview of the existing biodiversity related conventions

Conventions and programmes reviewed in this study		
Global	Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention)	1971
	Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention)	1979
	Convention on Biological Diversity	1992
Europe	Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)	1979
	PEBLDS: Pan-European Ecological Network	1995
	Pan-European Biological and Landscape Diversity Strategy	1995
	European Landscape Convention	2000
Conventions and programmes <u>not</u> reviewed in this study		
Global	Man and Biosphere Programme	1971
	Convention concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention)	1972
	Convention on International Trade in Endangered Species (CITES-Washington Convention)	1973
	European Diploma	1975
	European Network of Biogenetic Reserves	1976
Regional	Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area	1974
	Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention)	1979 (amended 1995)
	Convention on the Protection of the Alps (Alpine Convention)	1991

In this chapter a short description is given of the seven conventions and programmes that where the focus of this study. Special attention is given to the way the convention is organised. Table 2 outlines for each convention studied the number of participating countries.

Table 2. Number of participating states (not necessarily ratified)

Convention/Programme	Number of participating states
Bern Convention	45
Bonn Convention	85
Convention on Biodiversity	187
European Landscape Convention	27
PEBLDS	55
PEEN	33
Ramsar Convention	137

2.1 Bern Convention

Aim of the convention

The Council of Europe's Bern Convention on the Conservation of European Wildlife and Natural habitats was adopted in 1979. The parties of the Convention have agreed to undertake all appropriate measures to ensure the conservation of the wild flora and fauna species. Such measures should be included in the parties planning and development policies and pollution control. A recent resolution of the convention aims to set up an ecological network (Emerald Network) which would include areas of Special Conservation Interest designated by the participating states.

Organisation of the convention

The Standing Committee is the main decision-making body of the Convention and is composed of the delegates from all participating states. Meetings are held every year. The Standing Committee sees to it that the provisions of the convention and its appendices are applied. It examines the reports filed by the contracting parties and the files on any controversial cases, which are often reported by the NGO's. The Standing Committee adopts recommendations for improving the implementation of the convention.

All meetings of the Standing Committee are held in Strasbourg (France).

The monitoring of the convention is the responsibility of:

- the Standing Committee
- the Bureau of the Standing Committee (members are the chairman, the vice-chairman and the previous chairman). The Bureau meets on the request of the chairman and is responsible for taking administrative and organisational decisions between meetings
- Groups of experts on threatened species. There are seven expert groups that can advice the Standing Committee and can prepare proposals to the meetings of the Standing Committee.

Secretariat

The secretariat of the convention is undertaken by the Council of Europe and consists of 3 staff members. It has its residence in Strasbourg, France.

(Website Bern Convention, 2004)

2.2 Bonn Convention

Aim of the convention

The Convention on the Conservation of Migratory Species of Wild Animals (also known as the Bonn Convention) aims to conserve migratory species and their habitats by means of strict protection and the conclusion of international agreements.

The Bonn Convention was adopted in 1979 by the United Nations.

Organisation of the convention

The decision-making organ of the Convention is the Conference of the Parties (COP). A Standing Committee provides policy and administrative guidance between the regular meetings of the COP. It consists of representatives of every global region, of the depositary and, where applicable, of the country which plans to host the next meeting of the COP.

A Scientific Council consisting of experts appointed by individual member states and by the COP, gives advice on technical and scientific matters (in 2003: approx. 70 members).

Secretariat

The secretariat operates under the auspices of the United Nations Environment Programme (UNEP) and provides administrative support to the Convention. The staff consists of 17 persons and is located in Bonn, Germany.

(Website Bonn Convention, 2004)

2.3 Convention on Biodiversity

Aim of the convention

The objectives of this Convention are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

Organisation of the convention

The Conference of the Parties is the governing body of the Convention, and advances implementation of the Convention through the decisions it takes at its periodic meetings.

The SBSTTA (Subsidiary Body on Scientific, Technical and Technological Advice) is a subsidiary body of the Conference of the Parties (COP) and is to report regularly to the COP on all aspects of its work. Its functions include: providing assessments of the status of biological diversity; assessments of the types of measures taken in accordance with the provisions of the Convention; and respond to questions that the COP may put to the body.

Secretariat

The Secretariat is responsible for servicing meetings held under the Convention, including meetings of the Conference of the Parties, the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA). It is also tasked with preparing documents and draft decisions for these meetings based on information provided by Parties in the form of national reports, case studies, reports of experts, and so on. The Secretariat is a large body with several divisions and is located in Montreal, Canada.

(Website Convention on Biodiversity, 2004)

2.4 European Landscape Convention

Aim of the convention

The aims of this Convention are to promote landscape protection, management and planning, and to organise European co-operation on landscape issues. The convention was established in 2000 in Florence, Italy.

Organisation of the convention

The Council of Europe has created a Committee of Experts for the further development of the European Landscape Convention.

Secretariat

The secretariat of the convention is undertaken by the Council of Europe and consists of 1 part time staff member. It has its residence in Strasbourg, France.

2.5 PEBLDS

Aim of the strategy

The Strategy aims to strengthen the application of the Bern Convention in relation to the Convention on Biological Diversity, following the Monaco Declaration. The Strategy introduces a coordinating and unifying framework for strengthening and building on existing initiatives. It does not aim to introduce new legislation or programmes, but to fill gaps where initiatives are not implemented to their full potential or fail to achieve desired objectives. Furthermore, the Strategy seeks to more effectively integrate ecological considerations into all relevant socio-economic sectors, and will increase public participation in, and awareness and acceptance of, conservation interests.

Organisation of the strategy

Council of Europe. Developed in 1994.

There are three bodies: the Strategy Council which is the Council for the Pan-European Biological and Landscape Diversity Strategy, the Strategy Bureau which is the Bureau of the Council, and in 2000 the Enlarged Bureau of the Council was created.

The Strategy Council is the decision-making body and is composed of representatives of all 54 States involved in the 'Environment for Europe' process. It meets once every year.

The Strategy Bureau has eleven representatives of States, and meets once or twice a year, alternately in Strasbourg and Geneva. At the PEBLDS Council in March 2000, it was decided to form an Enlarged Bureau composed of the members of the Bureau plus two representatives of EU member states, two representatives of central and east European countries, two representatives of the group of western and other European states, four representatives of NGOs and members from countries represented on the CBD Bureau and also party to other relevant conventions.

Secretariat

The staff for the Joint Secretariat is provided by the Secretary General of the Council of Europe (Strasbourg) and by the Director of UNEP's Regional Office for Europe (Geneva).

(Website PEBLDS, 2004)

2.6 PEEN

Aim of the convention

The Pan-European Ecological Network will contribute to achieving the main goals of the PEBLDS Strategy by ensuring that a full range of ecosystems, habitats, species and their genetic diversity, and landscapes of European importance are conserved; habitats are large enough to place species in a favourable conservation status; there are sufficient opportunities for the dispersal and migration.

Organisation of the convention

In order to establish the Pan-European Ecological Network, the Council of Europe created a Committee of Experts for the development of the Pan-European Ecological Network. It was set up in 1997 in the framework of the Council of Europe under the authority of the Council for the Pan-European Biological and Landscape Diversity Strategy.

Formally there is a bureau of the Committee of Experts which in the past consisted of the chair and vice-chair of the Committee of experts and a few elected members.

Nowadays the Bureau does not have separate meetings anymore.

Secretariat

The staff of the Secretariat is provided by the Secretary General of the Council of Europe in Strasbourg.

(Website PEEN, 2004)

2.7 Ramsar Convention

The Convention of Wetlands of International Importance especially as Waterfowl Habitat was adopted in 1971. It was the first global treaty concerning the conservation and wise use of natural resources. Currently 138 states are contracting parties.

Aim of the convention

Besides providing guidelines on the conservation and wise use of wetlands the convention also sets out criteria for the designation of wetlands for nature conservation.

Organisation of the convention

The Conference of the Contracting Parties (COP) is the main decision-making body of the Convention and is composed of the delegates from all participating states. Meetings are held every three years. During the COP the general trends in the implementation of the Convention as reflected in the National Reports are reviewed and decisions to improve the way in which the Convention works are adopted. The programme of each meeting of the Conference also includes a series of technical sessions which analyze issues of importance in the field of wetland conservation and wise use, including further interpretation and development of the key convention concepts.

The Standing Committee meets annually to carry out interim activities between each COP on matters previously approved by the Conference: to prepare documentation for consideration at the next COP, to supervise implementation of policy by the Ramsar Bureau and execution of the Bureau's budget, and to decide upon applications for project support from the Ramsar Small Grants Fund. The Standing Committee consists of 13 Contracting Parties elected on a proportional basis from the six Ramsar regions – Africa, Asia, Europe, Neotropics, North America, and Oceania – as well as the host countries of the most recent meeting and the next meeting of the COP. The Contracting Parties which host the Ramsar Bureau and Wetlands International are invited to participate as Permanent Observers, and the 'International Organization Partners' (see below) are invited to participate in advisory.

The Scientific and Technical Review Panel (STRP) provides scientific and technical advice to the Conference of the Contracting Parties. The STRP is composed of 13 individual members with appropriate scientific and technical knowledge, selected from the six Ramsar regions, and representatives of the four International Organization Partners. Other relevant organizations also contribute to the work of the STRP as observers.

The Conference of the Parties may confer the status of International Organization Partner to international organizations, both intergovernmental and non-governmental, that 'contribute on a regular basis and to the best of their abilities to the further development of the policies and technical and scientific tools of the

Convention and to their application'. So far, four international non-government organizations that have been associated with the Convention since its inception have been recognized as IOPs. They are BirdLife International, IUCN–The World Conservation Union, Wetlands International, and the World Wide Fund for Nature (WWF).

Secretariat

The Ramsar Convention Bureau is the permanent secretariat for the Convention and carries out the day-to-day coordination of the Convention's activities. The Bureau is headed by a Secretary General, who supervises the work of a small number (currently 16) of technical, communications and administrative staff, four interns, and five outposted members of the MedWet Coordination Unit in Athens, Greece. The Bureau is located in Gland, Switzerland.

3 Methods

For the period 1990-2002 we have analysed the attendance lists of participants of the Conferences of the Parties (COP) for the chosen conventions. The data were taken from the internet (BERN, RAMSAR (except COP6)), and from COP proceedings in printed form (BONN, CBD, ELC, PEEN, PEBLDS, RAMSAR (COP6)). The analysis was restricted to European countries of the United Nations Economic commission for Europe (excluding the NIS-states in Central Asia)² with a minimum size of > 500 km² (Table 3).

Table 3. List of 41 surveyed European countries

Albania	Lithuania
Austria	Luxembourg
Belarus	Malta
Belgium	Moldova
Bosnia-Herzegovina	Monaco
Bulgaria	Netherlands
Croatia	Norway
Cyprus	Poland
Czech Republic	Portugal
Denmark	Romania
Estonia	Russian Federation
Finland	Serbia-Montenegro
France	Slovakia
FYR Macedonia	Slovenia
Germany	Spain
Greece	Sweden
Hungary	Switzerland
Iceland	Turkey
Ireland	Ukraine
Italy	United Kingdom
Latvia	

We analysed for each convention which countries were present at which COP meeting, whether the country was a member or an observer, and also the names of the participants per country. The participants were divided in two categories: governmental representatives employed at a ministry, or scientific staff of a (semi-governmental) research organisation. Special attention was given to the attendance of Dutch participants since one of our research aims is to assess the participation and the position of the Netherlands in the field of international conventions on nature conservation. Finally we analysed the participation of countries and participants combined over all the conventions.

² Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan

4 Results

Representatives of member and observer countries attend meetings. Also non-governmental organisations can attend international meetings but in the analysis we only included country representatives. In the analysis we both looked at country and representative attendance: how often do countries attend. And if they attend, are they always represented by the same persons, or do they delegate different persons to each meeting? We assumed that this choice has an effect on policy influence (see par.1.3). However, with our analysis we could only describe the attendance, and not their possible effect on policy influence.

4.1 Survey period

The last decade of the 20th century (including 2001 and 2002) was surveyed. The main reason for choosing this survey period is that in this decade several new conventions and programmes were started that aimed on the conservation and development of biodiversity on a (Pan) European (ELC, PEBLDS, PEEN) and a worldwide scale (CBD). Also in this decade due to the fall of the Iron Curtain several new countries joined the international conventions and programmes. In figure 2 the time span is indicated for the different conventions and programmes.

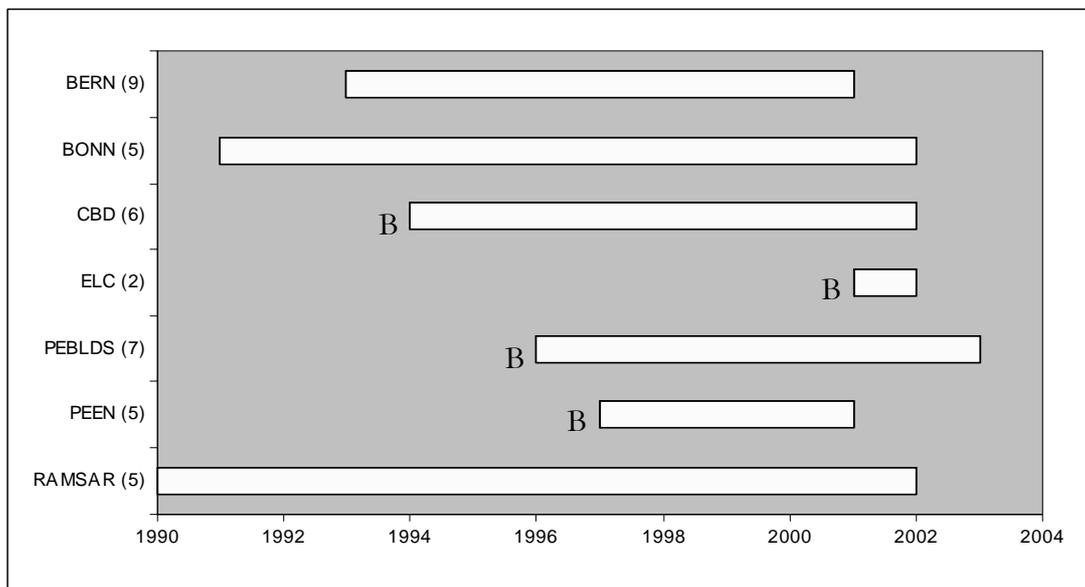


Figure 2. Survey period of the conventions and programmes. The number of meetings is indicated between brackets. The B indicates the beginning of the convention

4.2 Participation of countries per convention

The attendance of the European countries at the meetings of each convention and programme, of which they were member or observer, was analysed during the surveyed period. We calculated for each convention (or programme) the maximum number of meetings that could possibly be attended (after year of first membership or as observer) and compared it with the number of meetings that were actually attended since their first attendance. This measure for relative attendance is an indication of how active a country participates in a convention and the importance a country attributes to the convention or programme (Table 4).

Table 4. Relative mean attendance of countries (as member and as observer) during the survey period of the convention.

Convention	COP once every x year(s)	period	#meetings	survey time span (yrs)	attendance countries (obs+members)
BERN	1	1993-2001	9	8	0.88
BONN	3	1991-2002	5	11	0.82
CBD	2	1994-2002	6	8	0.91
ELC	1	2001-2002	2	1	0.83
PEBLDS	1	1996-2003	7	7	0.70
PEEN	1	1997-2001	5	4	0.62
RAMSAR	3	1990-2002	5	12	0.93

Most attended conventions are RAMSAR, CBD and BERN with a relative mean attendance around 90%. This means that out of 10 meetings the same country will attend 9. Second in line are the BONN convention and the ELC with around 80% attendance. PEBLDS and PEEN are least attended with a relative attendance of 60-70%.

Part of the difference in attendance can be explained by the frequency of the convention meetings. When meetings are held every year it is more likely that a country will not attend a meeting then when meetings are held less frequently. This can account for the higher scores of the RAMSAR and CBD. Both conventions are also oriented at a global scale, which might give them a high priority for attendance.

We have also analysed in more detail the attendance of countries to the separate conventions. A ranking of the countries was made, based on the number of meetings that were attended, in combination with the number of individuals that were representing that country over the survey period. The figures 3 until 9 show the ranking for the surveyed conventions. The number of representatives varies a lot for the various countries. Several countries have a low attendance rate in a specific convention. The only groups of countries with an overall low attendance rate are Croatia, Bosnia-Herzegovina, Slovenia and Albania. Croatia and Bosnia-Herzegovina were in the researched period involved in the war on the Balkan.

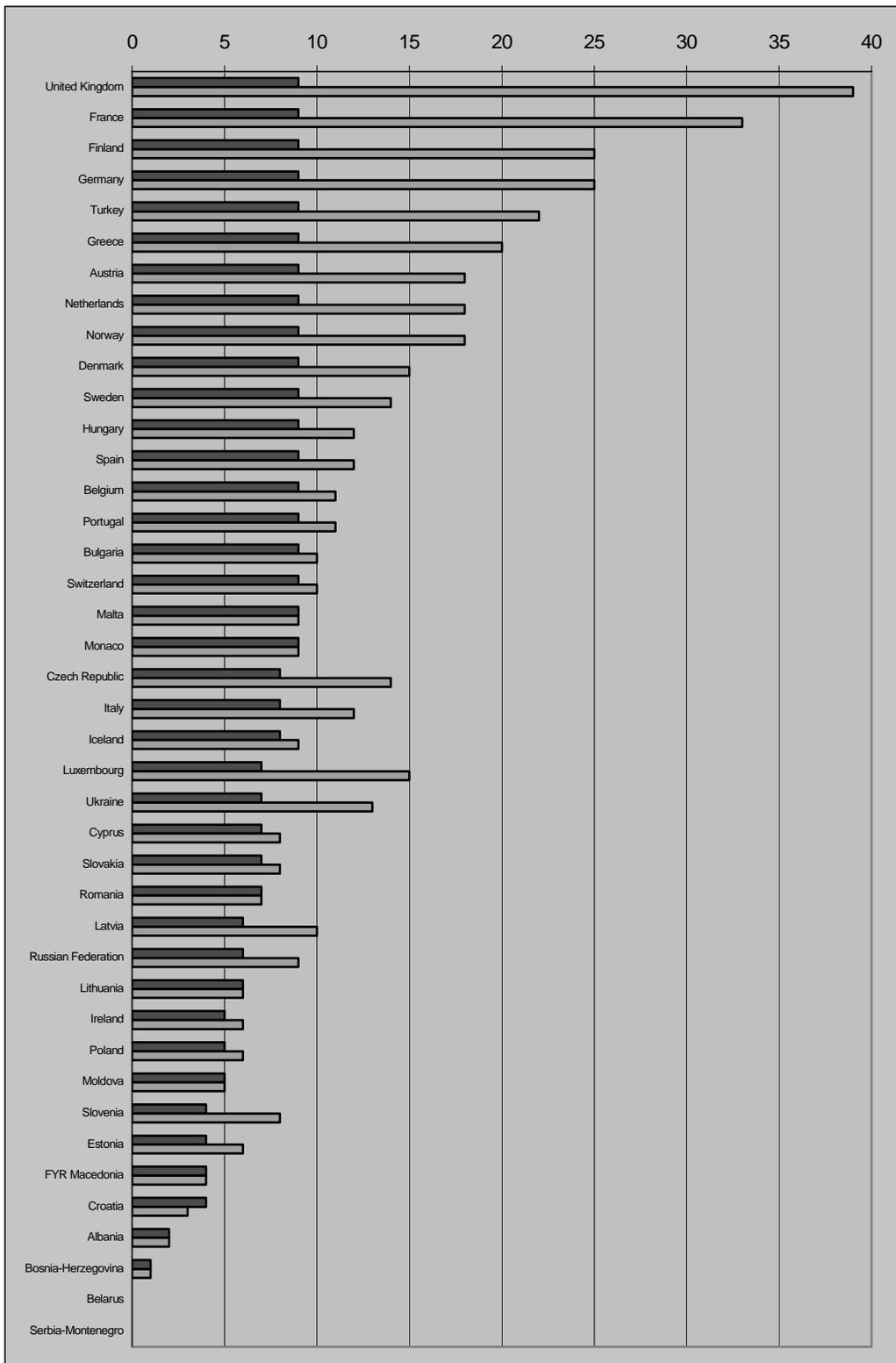


Figure 3. Bern Convention. Dark bar: number of years present at the meetings. Light bar: total number of participants over the years present at the meetings.

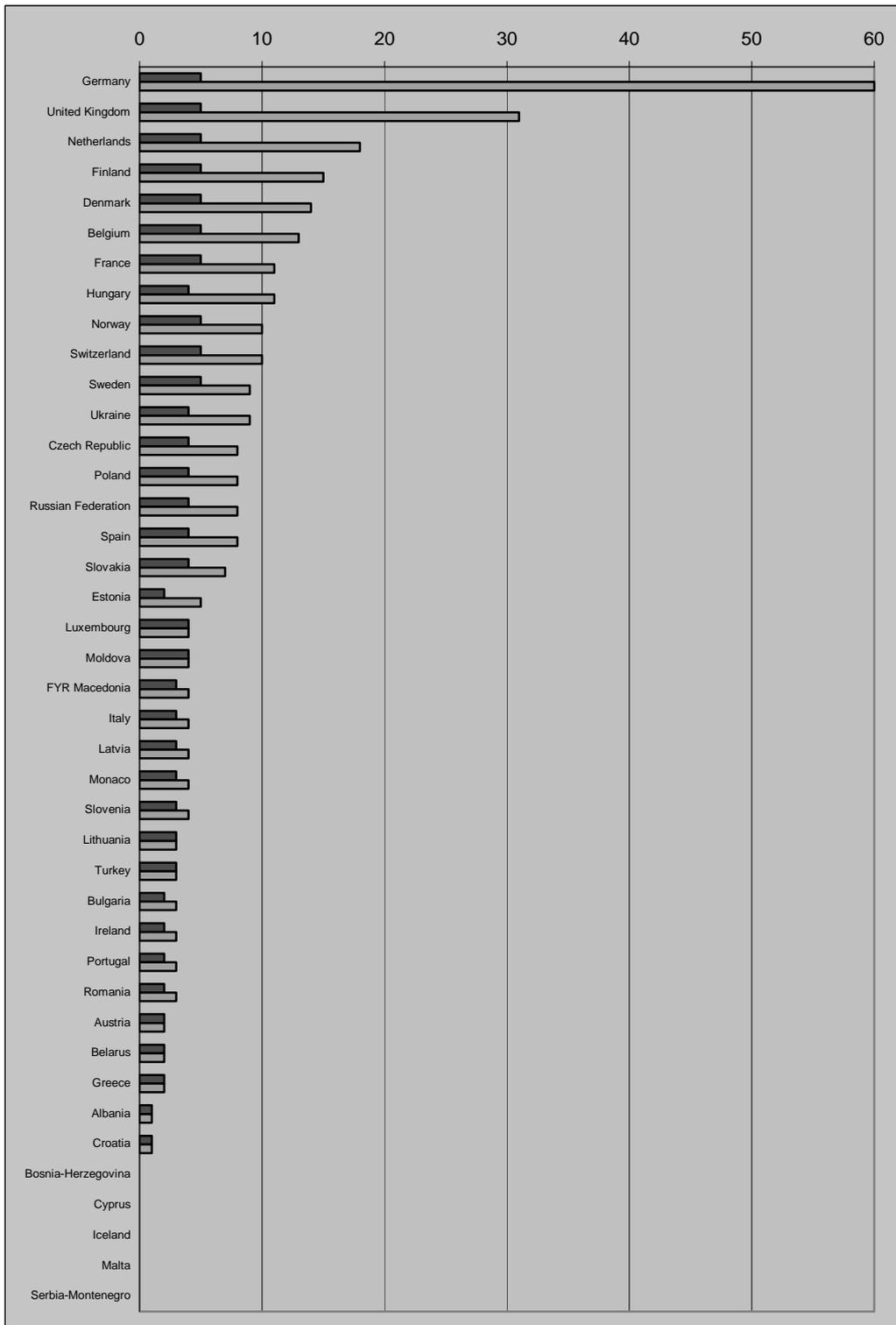


Figure 4. Bonn Convention. Dark bar: number of years present at the meetings. Light bar: total number of participants over the years present at the meetings

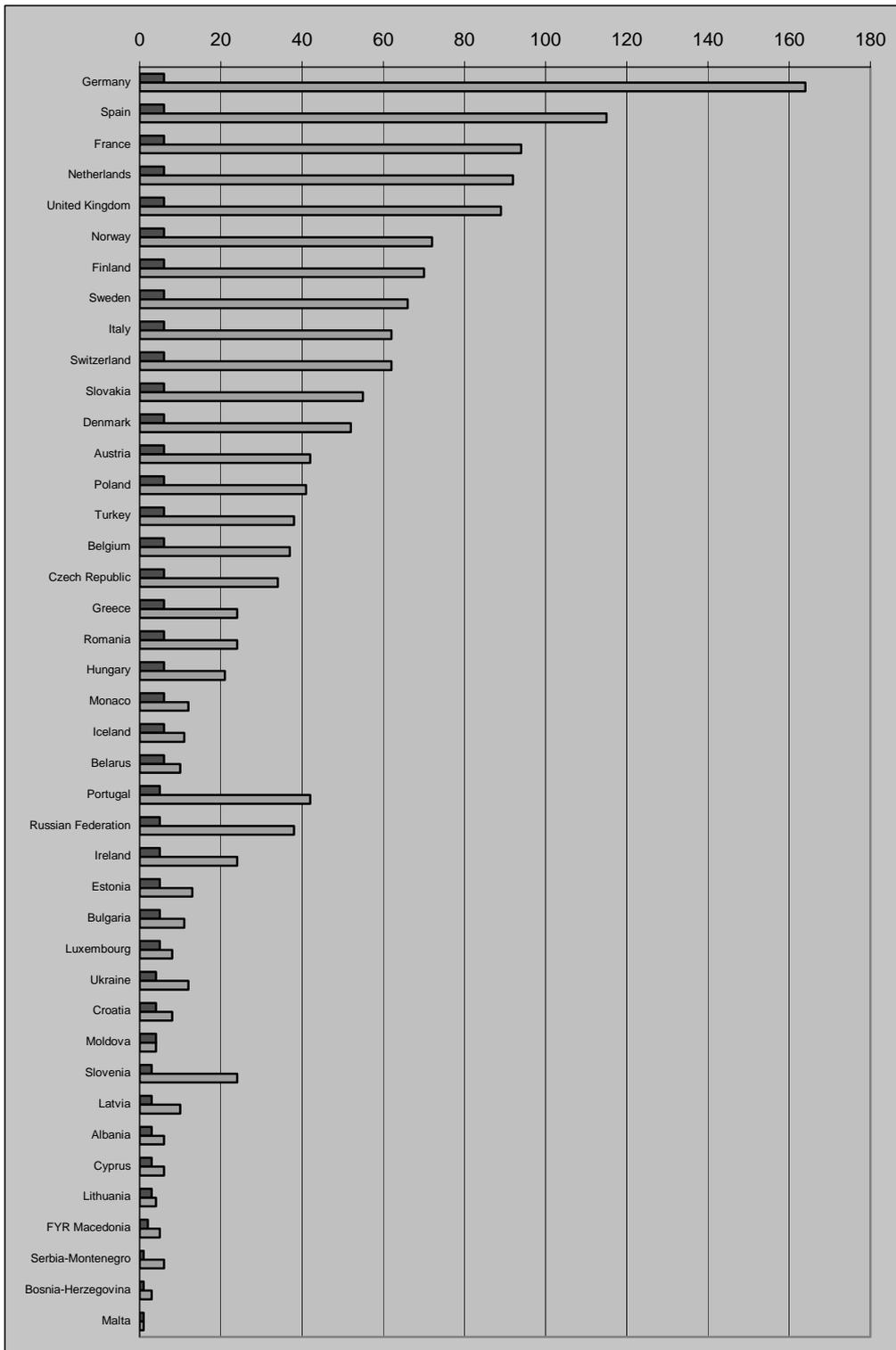


Figure 5. Convention on Biodiversity. Dark bar: number of years present at the meetings. Light bar: total number of participants over the years present at the meetings.

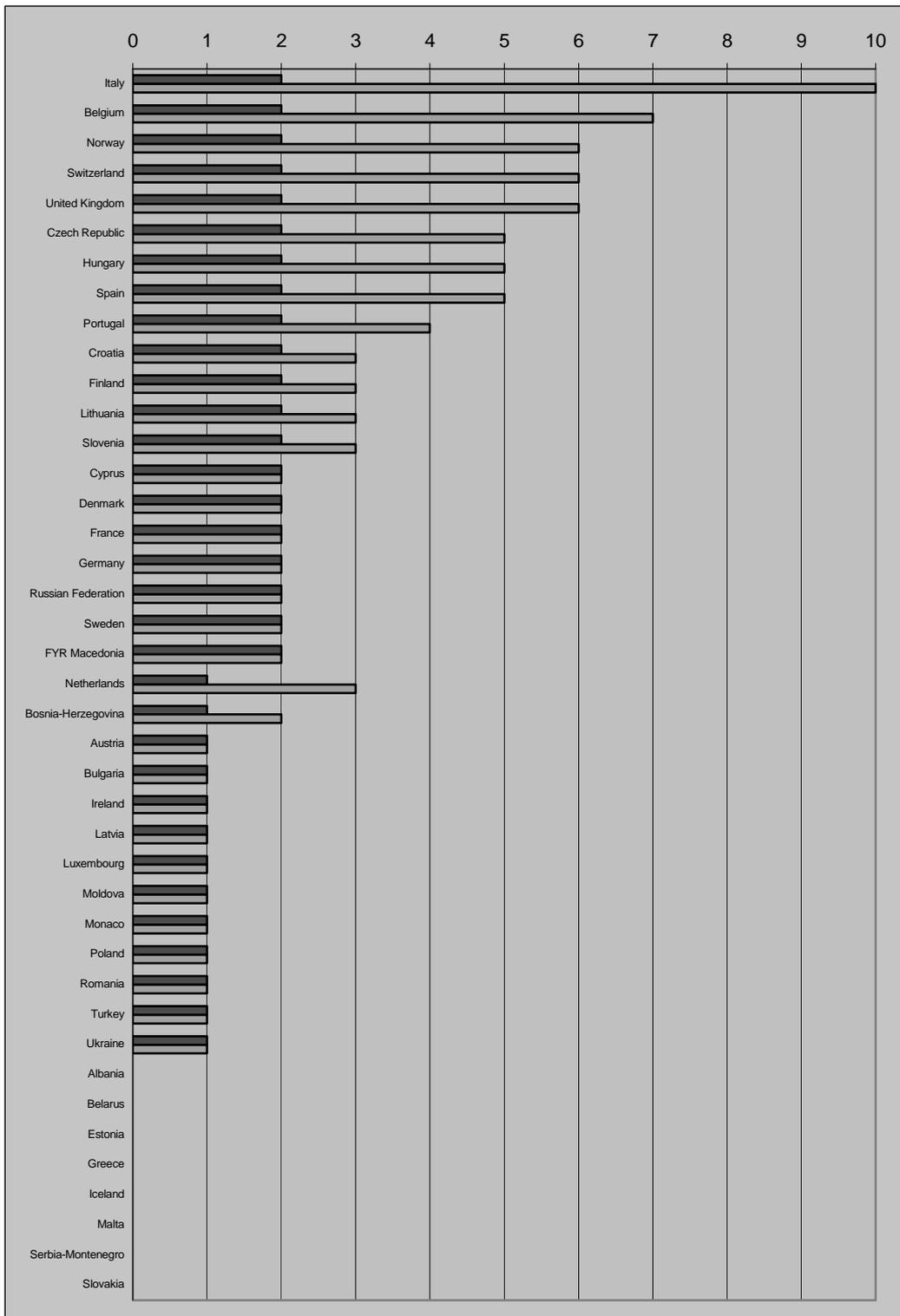


Figure 6. European Landscape Convention. Dark bar: number of years present at the meetings. Light bar: total number of participants over the years present at the meetings

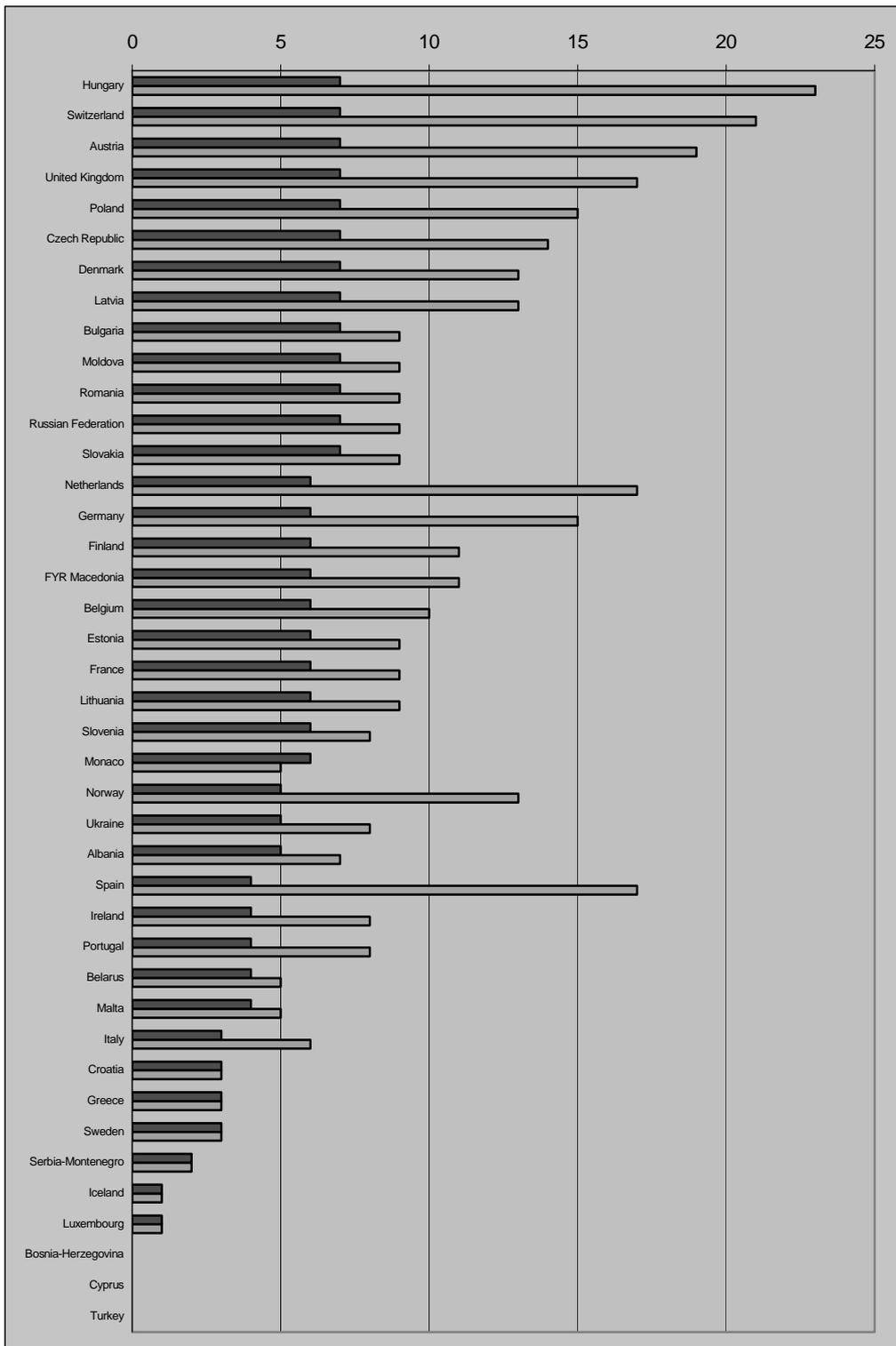


Figure 7. PEBLDS. Dark bar: number of years present at the meetings. Light bar: total number of participants over the years present at the meetings.

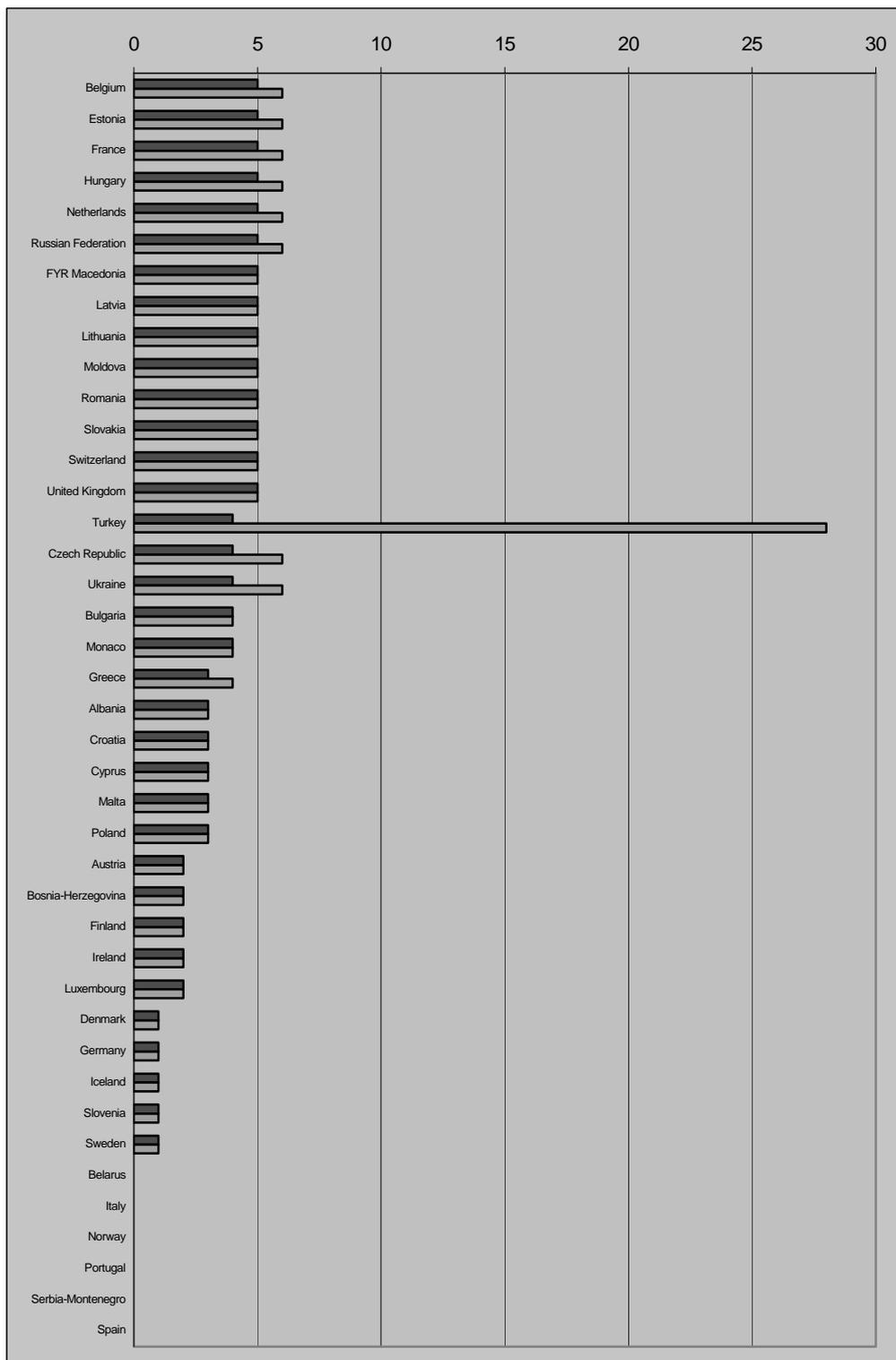


Figure 8. PEEN. Dark bar: number of years present at the meetings. Light bar: total number of participants over the years present at the meetings.

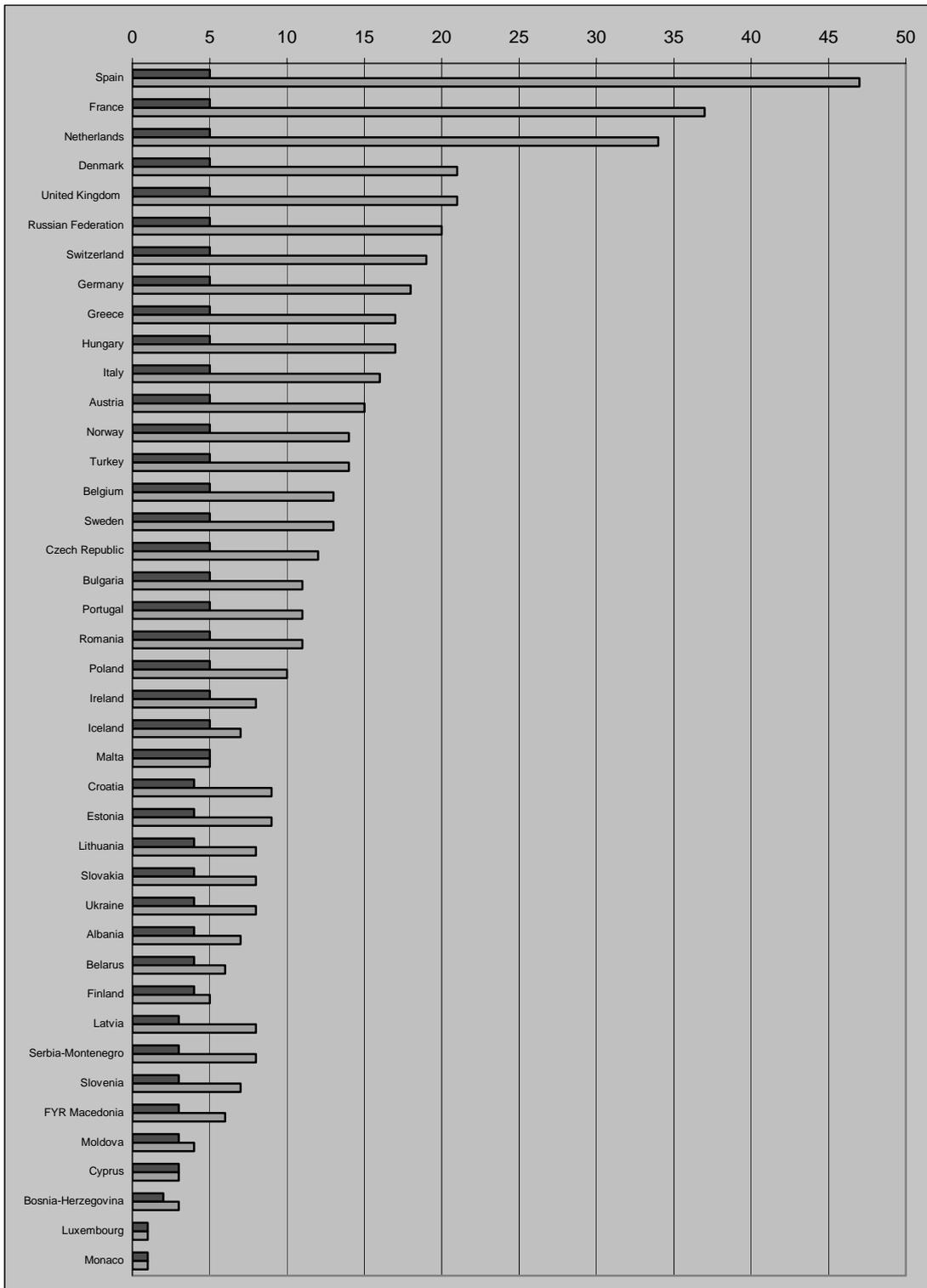


Figure 9. RAMSAR. Dark bar: number of years present at the meetings. Light bar: total number of participants over the years present at the meetings.

4.2.1 Participation of the Netherlands per convention

The position of the Netherlands regarding the attendance of convention meetings and number of representatives is presented in table 5. The contents of the table are based on figures 3 until 9.

Table 5. The attendance of the Netherlands based on number of meetings attended and accumulation of presences.

Convention	Rank in country attendance	Meetings attended	Accumulated presence of participants
BERN	8	All (9)	18
BONN	3	All (5)	18
CBD	4	All (6)	92
ELC	21	1 out of 2	3
PEBLDS	14	6 out of 7	17
PEEN	1	All (5)	6
RAMSAR	3	All (5)	34

Table 5 shows that the Netherlands has attended all international conventions meetings except for the European Landscape Convention and PEBLDS meeting (both 1 meeting absent). In total, the Netherlands has a high ranking, it stands in the top four from four of the seven conventions.

4.3 Participation of individuals per convention

As a measure of attendance continuation within a convention, we calculated a relative measure that indicates how often the average individual visited a meeting during the survey period. The relative measure of 0,50 indicates that on average an individual has attended 50% of the convention meetings. The higher the score, the more meetings that were attended, and so the longer the attendance continuation of an individual. Furthermore, we also calculated the number of individuals (incl. the fraction of total individuals) that attended $\geq 60\%$ and $\geq 80\%$ of the meetings (Table 6).

Table 6 indicates that for most conventions an average country representative attends 24-34% of the meetings. There is not much difference between the conventions, except for the ELC. The low number of annual meetings held (only two) causes its average attendance of 63%. The high continuation is due to the short time span of the convention and the small chance of staff changes in that period.

A fraction of 6-13% of the representatives has visited $\geq 60\%$ of the meetings for most conventions. And 3-5% has visited $\geq 80\%$ of the meetings. This group forms the hardcore of the convention meetings and is supposedly the most experienced and best known with the convention merits. Although no prior hypothesis was formulated about relative attendance, the scores are surprisingly close to each other. One exception is the attendance for PEEN meetings. With 24% and 15% respectively the number of representatives that have attended several meetings is

relatively high. The other exception is ELC with only two meetings so far: 32% of the representatives at the first meeting were also present at the second meeting.

Table 6. Overview of country representatives attending the convention meetings. Between brackets the relative attendance is indicated.

Convention	#meetings	#individuals involved**	average continuation individuals	#individuals of $\geq 60\%$ attendance	#individuals of $\geq 80\%$ attendance
BERN	9	224	0.26	19 (0.08)	9 (0.04)
BONN	5	219	0.30	29 (0.13)	12 (0.05)
CBD	6	1081	0.24	71 (0.07)	36 (0.03)
ELC	2	77	0.63	not applicable	25 (0.32)
PEBLDS	7	211	0.25	13 (0.06)	9 (0.04)
PEEN*	5	74	0.34	18 (0.24)	11 (0.15)
RAMSAR	5	364	0.29	39 (0.11)	18 (0.05)
TOTALS	39	2250			

* in 1 meeting Turkey was represented by 24 persons. This was an exceptional situation. Therefore in the analysis only 1 person, in stead of 24, was counted.

** individuals that attended different conventions are counted more often.

We can look at the average attendance in more detail by taking a closer view of how many participants visit one, two, three or more meetings within the same convention. We assume that the higher the number of representatives is that attend more than one meeting, the more effective the participation of the represented country is to the convention. This does not necessarily mean that the influence on the results of the meetings is also higher.

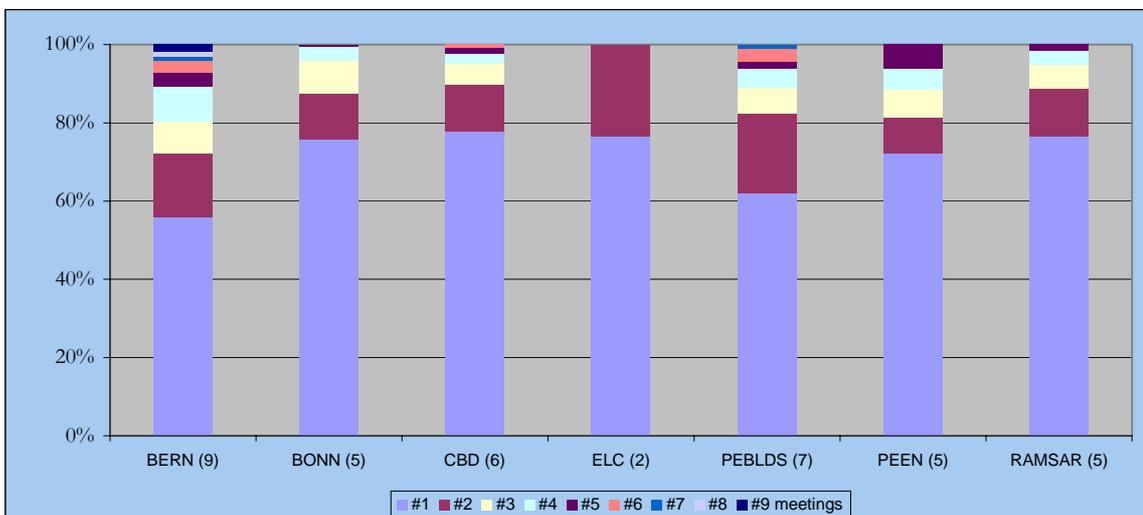


Figure 10. Average percentage of participants visiting one, two or more meetings of the same convention over the survey period. The number of surveyed meetings is indicated between brackets.

Figure 10 shows the results of this analysis. The conventions of BONN, CBD, ELC and RAMSAR have the highest fractions of ‘one-time-attendees’: an average of almost 80% of the participants of a meeting. These conventions show also similarity concerning the representatives that visit two meetings (an average of about 10% of the participants). With ELC it is different because only two meetings were surveyed).

Three meetings were attended by 3-4% of the participants. These frequencies diminish further with a higher number of attended meetings. BERN and PEBLDS are conventions that have the lowest fraction of ‘one-time-attendees’: around 60%. The PEEN convention is intermediate with around 70% of ‘one-time-attendees’. Figure 10 also shows that there is an artefact due to the number of meetings surveyed. The more meetings within one convention are surveyed, the lower the fraction of ‘one-time-attendees’.

Based on the attendance lists an analysis was made of the representatives that are employed at ministries, and those that are not (mostly scientists) (see Figure 11). In general most representatives are working for a ministry, and an overall of 20% of the representatives were not. The Ramsar convention and the Pan-European Ecological Network meetings have the highest percentage of non-ministerial employees.

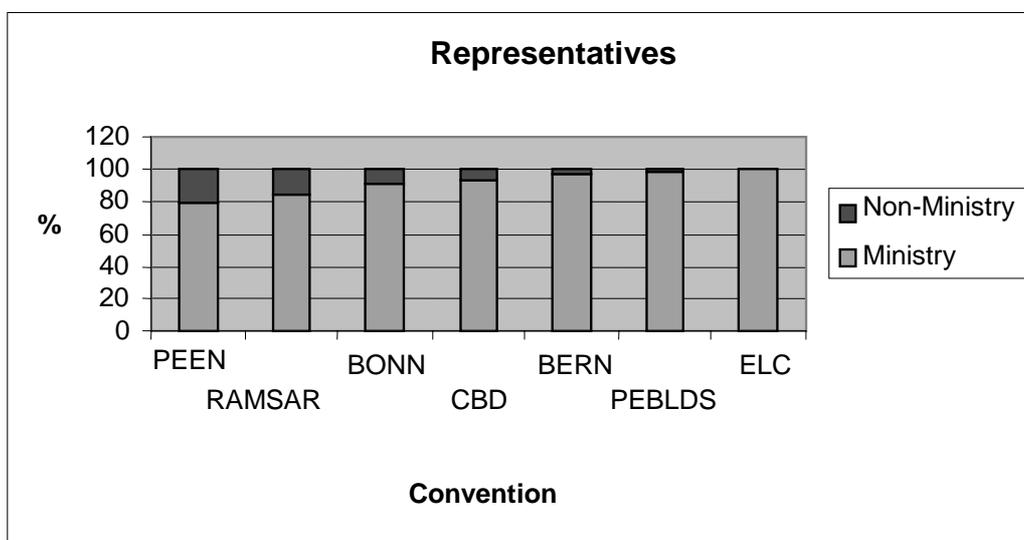


Figure 11. Number of Ministerial representatives in each of the convention

4.4 Stability in country delegations, based on individual attendance

As we assumed earlier, the lesser the composition of a country delegation changes over the years, the more effective or efficient their contribution to the convention may be. The parameter we used was the attendance rate of the longest attending individual. The higher the number of meetings that a representative attends, the more stable we consider the delegation. We analysed the countries that were convention members during the total survey period. Countries that became member at a later stadium, and could therefore attend lesser meetings, were left out from this analysis. Furthermore, the European Landscape Convention was left out: the only two meetings were not considered long enough to analyse stability of delegations. In table 7 the ranking is given for the stability of country delegations.

Table 7. Ranking of stability of country delegations, based on the attendance rate of the longest attending representative.

BERN (#9)	BONN (#5)	CBD (#6)	PEBLDS (#7)	PEEN (#5)	RAMSAR (#5)						
Greece	9/9	Switzerland	5/5	Belgium	6/6	Hungary	7/7	Belgium	5/5	Belgium	5/5
Hungary	9/9	Germany	4/5	Czech rep.	6/6	UK	7/7	Estonia	5/5	Denmark	5/5
Netherlands	9/9	Netherlands	4/5	Denmark	6/6	Belgium	6/7	France	5/5	Hungary	5/5
Switzerland	9/9	Sweden	4/5	Germany	6/6	Czech rep.	6/7	Russ.Fed.	5/5	Sweden	5/5
Iceland	8/9	UK	4/5	Hungary	6/6	Denmark	6/7	Switzerland	5/5	Austria	4/5
Portugal	8/9	Belgium	3/5	Ireland	6/6	Slovakia	6/7	UK	5/5	France	4/5
Sweden	7/9	Denmark	3/5	Monaco	6/6	Slovenia	6/7	Hungary	4/5	Germany	4/5
UK	7/9	Finland	3/5	Netherlands	6/6	Switzerland	6/7	Latvia	4/5	Italy	4/5
Belgium	6/9	France	3/5	Norway	6/6	Bulgaria	5/7	Monaco	4/5	Netherlands	4/5
Finland	6/9	Hungary	3/5	Switzerland	6/6	Netherlands	5/7	Netherlands	4/5	Norway	4/5
France	6/9	Spain	3/5	Austria	5/6	Romania	5/7	Slovakia	4/5	Poland	4/5
Malta	6/9	Ireland	2/5	Finland	5/6	Austria	4/7	Bulgaria	3/5	Portugal	4/5
Norway	6/9	Norway	2/5	Iceland	5/6	Estonia	4/7	Czech rep.	3/5	Bulgaria	3/5
Romania	6/9	Portugal	2/5	Spain	5/6	France	4/7	FYR Mace.	3/5	Czech rep.	3/5
Austria	5/9	Italy	1/5	Sweden	5/6	Latvia	4/7	Greece	3/5	Finland	3/5
Bulgaria	5/9	Luxembourg	1/5	UK	5/6	Norway	4/7	Moldova	3/5	Iceland	3/5
Czech rep.	5/9			France	4/6	Poland	4/7	Romania	3/5	Ireland	3/5
Germany	5/9			Italy	4/6	Portugal	4/7	Ukraine	3/5	Malta	3/5
Italy	5/9			Poland	4/6	Albania	3/7	Austria	2/5	Russ.Fed.	3/5
Turkey	5/9			Portugal	4/6	Finland	3/7	Bosnia-H	2/5	Switzerland	3/5
Cyprus	4/9			Russ.Fed.	4/6	FYR Mace.	3/7	Croatia	2/5	UK	3/5
Denmark	4/9			Slovakia	4/6	Germany	3/7	Cyprus	2/5	Greece	2/5
Latvia	4/9			Belarus	3/6	Lithuania	3/7	Finland	2/5	Serbia & Montenegro	2/5
Luxembourg	4/9			Bulgaria	3/6	Malta	3/7	Ireland	2/5	Spain	2/5
Monaco	4/9			Estonia	3/6	Monaco	3/7	Lithuania	2/5	Turkey	2/5
Slovakia	4/9			Greece	3/6	Russ.Fed.	3/7	Malta	2/5	Luxembourg	1/5
Spain	4/9			Romania	3/6	Ukraine	3/7	Albania	1/5	Romania	1/5
Russ.Fed.	3/9			Turkey	3/6	Belarus	2/7	Denmark	1/5		
Estonia	2/9			Albania	1/6	Croatia	2/7	Germany	1/5		
Ireland	2/9			Luxembourg	1/6	Greece	2/7	Iceland	1/5		
				Malta	1/6	Ireland	2/7	Luxembourg	1/5		
						Moldova	2/7	Poland	1/5		
						Spain	2/7	Slovenia	1/5		
						Iceland	1/7	Sweden	1/5		
						Italy	1/7	Turkey	1/5		
						Luxembourg	1/7				
						Serbia & Montenegro	1/7				
						Sweden	1/7				

Looking at which countries are mentioned most often as high or low ranking in table 7, Luxembourg, Spain, Italy and Turkey rank most often amongst the countries with low stability, as do Croatia, Serbia & Montenegro, Albania and Belarus. Switzerland, Belgium, Hungary, the UK, the Netherlands and additionally Denmark rank amongst the countries with the highest stability.

4.5 Participation of individuals in different conventions

In this section we combined the data from the separate conventions to analyse the participation of individuals that visit more than one convention. We expect (assume) that the more conventions an individual attends, the more experienced and influential the individual is. The contribution of such a representative is therefore more effective than contributions of representative that attend meeting(s) within only one convention.

Table 8 is a more or less a summary of the data in figure 12. But with one exception. Table 8 shows for all the individuals how many conventions they have visited while in figure 12 the focus is on the number of participations: one individual who visits one meeting at two conventions counts for 2 participations. This is because in figure 12 the conventions are shown separately, and in table 8 we combined the data which makes insight in participation of individuals possible.

The results show that 15% of the individuals has visited two or more conventions while 85% of the individuals visits meeting(s) of only one convention. Considering our assumption that the more conventions are being visited by one person, the more effective their participation is, it is interesting to look at the countries these individuals represent (Table 9).

Table 8. Number of country representatives, and their presence at one or more different conventions. Between brackets the percentage of the total number of participants is indicated.

# total individuals	# ind. visiting 1 convention	# ind. visiting 2 convent.	# ind. visiting 3 convent.	# ind. visiting 4 convent.	# ind. visiting 5 convent.	# ind. visiting 6 convent.	# ind. visiting 7 convent.
1813	1536 (85%)	174 (10%)	65 (4%)	25 (1%)	9 (0,5%)	4 (0,2%)	0

Table 9. Table with ranking of countries, according to the maximum number of different conventions attended by one individual.

1 conventions same individual	2 conventions same individual	3 conventions same individual	4 conventions same individual	5 conventions same individual	6 conventions same individual
Bosnia_Herzegov.	Belarus	Croatia (3 indiv.)	Austria	Albania	Monaco
	Ireland (6 indiv.)	Cyprus	Belgium (2 indiv.)	Bulgaria	Poland
	Sweden (6 indiv.)	Greece	Estonia (3 indiv.)	Czech Republic	Romania
		Hungary (4 indiv.)	France	Denmark	Switzerland
		Italy (4 indiv.)	FYR Macedonia	Finland	
		Malta	Germany	Luxembourg	
		Portugal (2 indiv.)	Iceland	Moldova	
		Turkey (2 indiv.)	Latvia	Netherlands	
		Serbia & Monten.	Lithuania	Spain	
			Norway (2 indiv.)		
			Russian Federation		
			Slovakia		
			Slovenia		
			United Kingdom		
			Ukraine		

The category of 4 conventions visited by one individual shows the highest number of countries (15 out of 41 = 37%). The categories of 3 and 5 conventions visited are next in line (18 out of 41 = 44%).

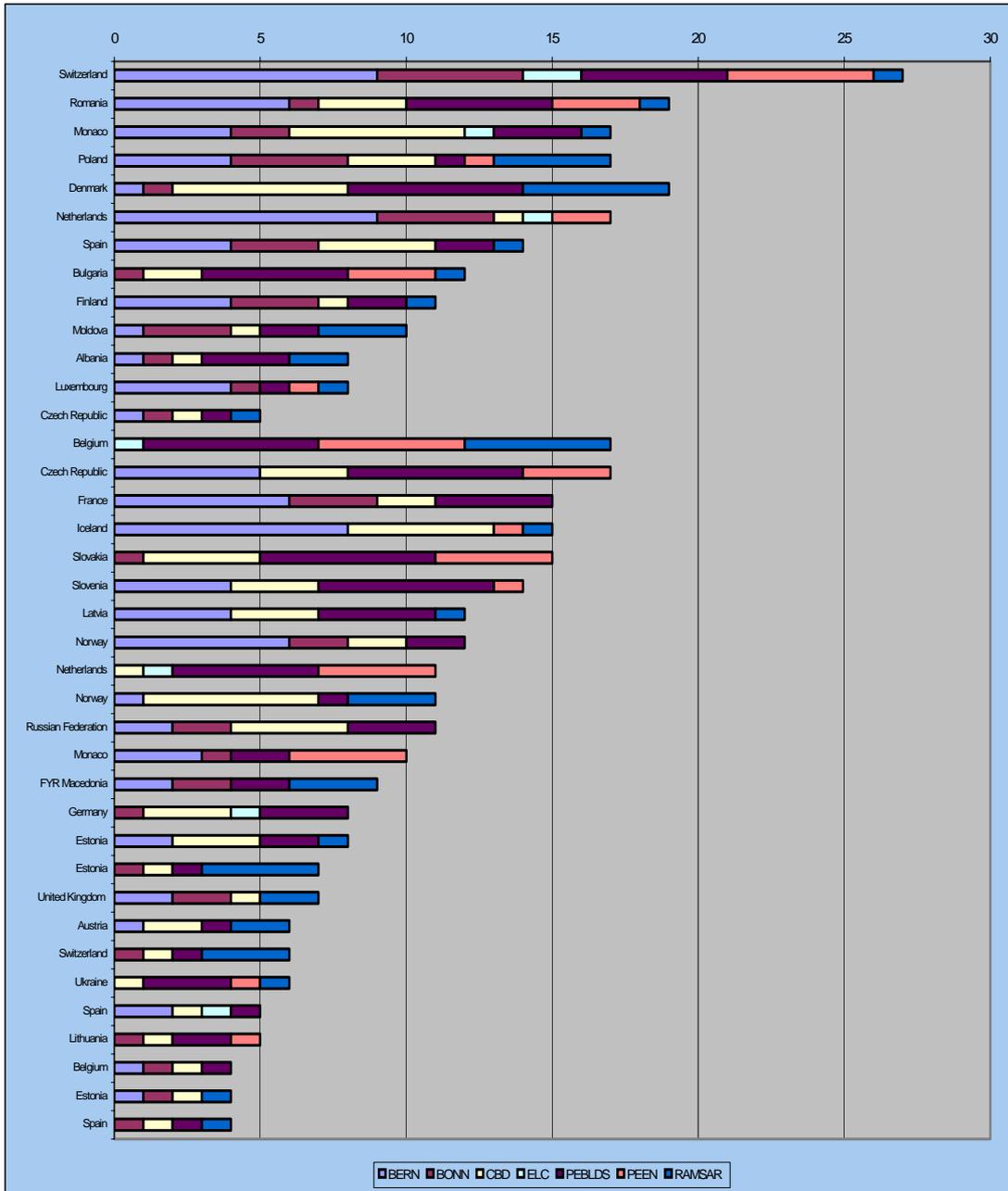


Figure 12. Ranking of countries based on individuals that visited four or more conventions (number of divisions in the bar) including the number of meetings per convention (indicated by the division length in the bar).

Theoretically it is possible that an individual can visit e.g. 5 conventions, with only one meeting per convention. In practice an individual will often visit more than one meeting per convention. So apart from the number of conventions that were visited, the number of attended meetings per convention adds extra information. We assume that the more meetings of each convention that are attended by one individual, the bigger the influence and the higher the efficiency. Figure 12 shows a combination of number of attended conventions and number of attended meetings for the individuals that represent the countries on four or more conventions (as indicated in table 9). The result is a ranking of countries, ranging from Switzerland with the

highest number of meetings and conventions to Belgium, Estonia and Spain. These last three countries were each represented by one individual that attended four different conventions, of each convention one meeting.

5 Conclusions, discussion and recommendations

5.1 General conclusions

The central question of the results of the network analysis presented here was 'What is the composition of the network of countries and representatives for each of the conventions?'. The analysis leads to the following conclusions:

- The total network of European representatives participating in the international convention meetings on behalf of their governments, over the last 10 years, is around 1800 people. Of this population 85% visited one convention. Only a limited number of individuals visited two (10%), three (4%), four (1%), five (0,5%) or six (0,2%) conventions.
- Five of the seven surveyed conventions (BERN, BONN, CBD, ELC and RAMSAR) have a high attendance rate of represented countries: on more than 80-90% of the meetings the member and observer countries were present. The other two conventions (PEBLDS and PEEN) have a lower attendance rate of 60-70%. The most likely explanation might be that PEBLDS and PEEN are not conventions but programmes and as such their importance might be lower.
- In the analysed conventions the average continuation of individuals for all conventions is between 24%-34%. This means that $\frac{1}{4}$ to $\frac{1}{3}$ of the individuals has visited all the meetings during the surveyed time span. We can infer this to the conclusion that at every meeting only $\frac{1}{4}$ to $\frac{1}{3}$ of the population has visited a former meeting, and that, at every meeting, $\frac{2}{3}$ to $\frac{3}{4}$ of the attendees are new and not familiar with specific convention procedures. The European Landscape Convention is an exception and scores much higher (63%) which is due to the fact that only two meetings have been held in a relatively short time.
- About 60-80% of the representatives visits a convention only once. We consider this as not very efficient: things learned at the first meeting cannot be put into practice at a second meeting.
- Most countries send ministerial employees to attend the meeting, less then 20% of the people attending are non-government officials.
- Overall Switzerland, Belgium, Hungary, the UK and the Netherlands are amongst the countries with the highest stability in representation. Croatia, Serbia & Montenegro, Albania, Belarus, Luxembourg, Spain, Italy and Turkey are countries that have a high change in delegations of representatives.
- The number of representatives send by the various countries varies considerable. France, Germany, Switzerland, the UK and Hungary are countries that have the tendency to send many representatives to the meetings of the international conventions. In this respect the meetings of the CBD are special as the delegations for this convention are for aprox. 19 countries very large.

5.2 Conclusions for the Netherlands

Overall the Netherlands can be characterised as a country that is amongst the countries that most often attend conventions. The Netherlands has attended all international conventions meetings except for the European Landscape Convention and PEBLDS meeting (both 1 meeting absent).

Also the representation is very stable. This is partly due to the fact that the Netherlands often send a high number of representatives to the meetings thus increasing the chance of long term involvement of various individuals. Also the Netherlands has several representatives that attended the various meetings of different conventions.

5.3 Discussion

The quantitative analysis undertaken in this study has several limitations.

Most importantly the analysis only indicates absence or presence of countries and representatives but does not indicate how active that country or representative is during the meeting and the influence exerted on the decisions taken. This element will be reviewed in the second part of this study.

Furthermore only the formal governmental participation is reviewed, the attendance of NGO's was not taken into account. Representatives might be influenced by national or international NGO's during the meeting. Also discussions from other fora (scientific, NGO) might influence decision making in the convention. This influence can happen due to information exchange and meetings that take place in other less formal fora.

Also one of the assumptions underlying the research is that the representative plays a central role in the implementation of the conventions. But often also national NGO's will use the results achieved in the international meetings in order to promote their views on the need for biodiversity protection on the national level. The NGO's have their own network and national NGO's are often represented by international NGO's in these meetings. Feedback on the outcomes of the meeting therefore might not take place through the national representative but through the international NGO.

5.4 Recommendations

Given the characteristics of the network (5.1) the following can be recommended:

- in such a highly changing and dynamic setting a stable representation is highly recommended. At present the Dutch representatives are a stable factor - in the future one should strive for a similar situation.
- as a representative it is good to realise that many of the representatives in the meeting are present for the first time. Therefore both the meeting and documents should be easily understandable for new comers. It is also advisable to let new attendees be accompanied by attendees that have visited meetings more often.

- the choice between investing energy in contacts with countries that have a stable representation and attend often or in countries that have an unstable representation is difficult. As indicated in the conclusions, Switzerland, Belgium, Hungary, the UK and the Netherlands are countries that often attend conventions and have a very stable representation. However it might be easier to find allies with the new-comers.
- assuming that representatives play an important role in translating the outcomes of the conventions to their national policy it can be expected that in countries with a high rate of change in representatives this process is severely hampered. According to this research this is the case in Croatia, Serbia & Montenegro, Albania, Belarus, Luxembourg, Spain, Italy and Turkey. Targeted action to ensure that the international decisions taken in the meetings are indeed followed by action on the national level the might be required here.

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