

**Analysis of Media Reactions on the  
EFI Research Report “Growth Trends in  
European Forests – Studies from 12 Countries”**

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## FOREWORD

Publishing is an important activity for the European Forest Institute (EFI) to provide international decision-makers with independent information on topics of global importance. The EFI Research Report “Growth Trends in European Forests” is an interesting case for a retrospective analysis of the impact of EFI's publication activity. This report was presented to the public in Freiburg, Germany, in September 1996. It was caught in the crossfire of public discussions, because its results were connected with forest decline, which is an emotional topic, especially for German people. Not only the results of the Growth Trends report were controversially discussed in the media, but even the neutrality of the whole EFI research was questioned. These media reactions were collected and analyzed for this paper. On the basis of the results of the analysis some conclusions were drawn for the future publication strategy of EFI.

In order to map out the find press reactions outside of Germany, a short survey was carried out among the authors of the Growth Trends report. I would like to express my warmest thanks to all those who participated in this survey and thus contributed to the analysis. I would also like to thank Ms Minna Korhonen and Mr Daryn Parker for reading the manuscript and for their valuable comments.

April 1999  
Freiburg, Germany  
Kaisu Makkonen-Spiecker



# 1 INTRODUCTION

## 1.1 BACKGROUND

In the early 1980's, the pessimistic prognosis of a rapid, large-scale dying of forests was presented in Germany. Monitoring of forest conditions was then started, and because of yearly repetition it soon gained constitutional status. Numerous research institutions participated in the campaign *Rettet den Wald (Save the Forest)* with the purpose of investigating the causes of forest decline. The German Federal Republic and the federal states supported this campaign with about 465 million German marks during the years 1982-1995. Additionally, 572 million German marks were allocated to silvicultural measures in severely damaged forest stands during the period of 1984-1994 (according to the information of *GSF-Forschungszentrum für Umwelt und Gesundheit* on the Internet). After similar news had been continuously reported, the general public, not only in Germany, but also in many other countries, accepted dying forest conditions as fact. Forest decline was making a journalistic career.

The development of this public era of forest decline is well documented from the viewpoint of a critical journalist in the book *"The so-called forest decline"* (in German) by Holzberger (1995), where 109 articles published in the four largest German newspapers (*Der Spiegel, Die Zeit, Der Stern* and *Frankfurter Allgemeine Zeitung*) were analyzed. Holzberger particularly criticized the representatives of the press because of their non-critical, one-sided reports made with the intent of creating a sensation. The reporters had hardly ever seen the object of their reports, the forest, but simply followed and supported those scientists (in particular Ulrich and Schütt; cf. 3.2.3 and 4) who argued for dying forests.

Holzberger's publication did not receive much attention even as another free-lance journalist, Burkhard Müller-Ullrich (cf. 1.3 and 3.2.3), made it more public through his own book *"Fairytale of Media: Similar-minded Persons in Journalism"* (1996, in German) which supported Holzberger's arguments. Further publications by Ell and Luhmann (1996) in the German Forestry Press, Zierhofer (1997) in Switzerland and Easterbrook (1996) in the US are comparable to those of Holzberger (1995) and Müller-Ullrich (1996). None of these authors are forestry professionals.

During this public era forests were written to death, but research results of forest growth were published only in few scientific journals. However, in the last few years, press silence around forest decline became more and more prevalent. Thus, news of accelerating forest growth was suddenly able to make a career in the press as surprising and sensational news.

Comparatively, it is worth mentioning that the first research report of European Forest Institute (EFI), written by Kuusela (1994), was summarized by Makkonen-Spiecker in the German forest journal *AFZ/Der Wald* (1995), but it received little attention at that time (cf. Chap. 3).

## 1.2 EFI RESEARCH REPORT “GROWTH TRENDS IN EUROPEAN FORESTS – STUDIES FROM 12 COUNTRIES”

The Growth Trends project was launched in 1993 as a follow-up project of an earlier EFI report on forest resources in Europe, which showed a remarkable increase in growing stock (Kuusela 1994). The Growth Trends project was coordinated by Professor Heinrich Spiecker from the University of Freiburg. 43 growth and yield scientists from 12 European countries participated in the project. The final report, a compilation of 22 independent studies, consists of 372 pages and has been reviewed by 61 scientists. It includes a foreword written by Birger Solberg, former director of EFI, an introduction written by the project coordinator, Heinrich Spiecker, and a discussion, conclusion and summary written by the four editors Heinrich Spiecker, Kari Mielikäinen, Michael Köhl and Jens Peter Skovsgaard. A table at the end of the report, which summarizes the results, was reviewed by the individual authors.

The main objective of the project was to give a retrospective view of forest growth in recent decades, covering different European sites in order to find out whether site productivity had changed. While several growth reports were published at local, regional and national levels, this project aimed to stimulate a joint effort in identifying and quantifying growth trends and their spatial and temporal extent at a European level, as well as to develop scenarios of future forest growth.

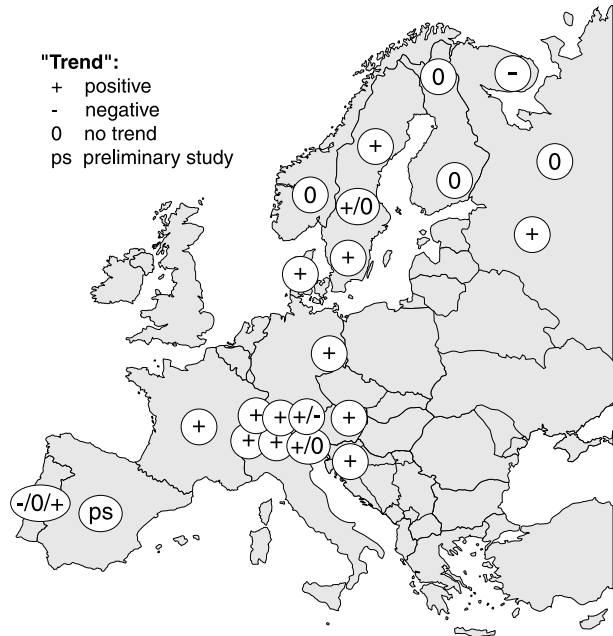
From the methodological point of view, the leading concept of the project was to utilize existing data from different countries in order to increase the empirical base and validity of the analysis on a European scale. Individual studies were based on tree analysis data, permanent research plot data and inventory data. The observation periods ranged from 25 to 150 years, and in some cases even several hundred years. Forest growth had been studied in even-aged, single species stands as well as uneven-aged and mixed stands.

The aim of the first phase of the project was to prove data quality and evaluate methods (Spiecker et al. 1994). While mainly pre-existing data were analyzed, the following limitations were accepted: data may not always be representative of larger areas; and stand structure and stand history may not always be documented in full detail (Spiecker et al. 1994). Data were checked, evaluated and interpreted by each scientist individually according to common standards. In addition, methods and presentations were standardized. Since methods of collecting data differed considerably, evaluation methods had to be adapted for each case. According to Spiecker et al. (1994, 1996), the following definitions were used in the project:

- “*site*” was used to describe the sum of environmental conditions (biotic, edaphic, topographic, climatic, and atmospheric composition) existing at a particular location.
- “*forest site productivity*” was defined as the biomass production potential of a site, but was limited to the wood production potential of a site for a particular tree species or forest type.
- “*trend*” was defined as a long-term change in mean level, and growth trends were indicated by long-term site-related deviations from expected growth.

The results of the study show there has been an increasing growth trend in the southern regions of Northern Europe, in most parts of Central Europe and in some parts of Southern





**Figure 1.** Growth Trends.

Europe. No trend was detectable in the northern parts of Northern Europe. A decreasing trend was found in exceptional cases where the forest had been heavily exposed to pollutants (e.g. on the Russian Kola Peninsula) or extreme climatic conditions (Figure 1).

The study did not investigate causes of the growth trends, but the authors did present land use history, forest management, natural disturbances, climate, nitrogen deposition and increased CO<sub>2</sub> content of the atmosphere as possible factors. They further suggested that the influence of each factor and factor combination possibly varies in space and time.

### 1.3 EFI PRESS CONFERENCE ON 31 AUGUST, 1996 IN FREIBURG

In connection with the EFI Annual Conference in 1996, a press conference on EFI research activities was held. EFI was represented by Tim Peck, Birger Solberg, Ian Hunter and Heinrich Spiecker. One of the co-editors of the EFI Growth Trends report, Kari Mielikäinen, was also present. Three representatives of the German media (a journalist from the German press agency *dpa*= *Deutsche Presseagentur*, a radio reporter and a freelance journalist, Müller-Ullrich) attended the press conference (cf. 1.1 and 3.2.3). No representatives of forestry journals were present, except for the author of this paper, who represented a German forestry journal.

The press release given out (in German) on August 31st was entitled “*International Conference on European Forest Research in Freiburg*” and was worded as follows (translation):

*“Growth Trends in European Forests” will be the topic of an international seminar of the European Forest Institute (EFI) held on September 2, 1996, at the “Haus zur lieben Hand” in Freiburg. Before the seminar, from August 31 to September 1, 1996, the annual conference for EFI members will be held. Eighty people from roughly 30 countries will participate in the seminar (to be held in English). EFI, established in 1993, is an independent institution with its headquarters in Joensuu, Finland. The main tasks of EFI are to undertake research on forest policy, forest ecology and forest resources, as well as to forecast future development of European forest resources and their utilization. Currently there are more than 30 ongoing EFI projects, including a forest data bank.*

*Forest decline [Waldsterben] and global climatic changes are of great interest to our society. That is why international growth and yield specialists have investigated the growth of European forests in a three year long EFI project. The results are published in the book “Growth Trends in European Forests – Studies from 12 Countries” and will be presented at the seminar. On an excursion to the Black Forest, participants of the seminar will have the possibility to discuss forest growth in nature.*

*This annual EFI conference is coordinated by the Institute of Growth and Yield at the University of Freiburg. The director of the institute, Professor Heinrich Spiecker, is also coordinator of the EFI project “Growth Trends in European Forests”. The project is comprised of 22 independent studies, which have been carried out according to the same scientific standards. Investigations on growth trends in Baden-Württemberg have found surprisingly high growth increases in recent years.*

*Spiecker hopes that results from the research and the conference will have some influence on forestry: “The purpose of our conference is to show new economical and ecological challenges due to accelerated growth and its impact on forest management and forest utilization. High cutting rates are the only way to transform our even-aged stands with high standing volume to uneven-aged mixed stands in the near future. That is why utilization of renewable material timber is an important contribution to achieving stable, more natural forests”.*

This press release, as well as statements from EFI representatives concerning facts about EFI (establishment, structure, tasks, membership, financing and ongoing projects), formed a basis for the journalists’ questions. The main results of the press conference can be summarized as follows:

The main results of the report *“Growth Trends in European Forests”* were presented as an example of EFI research projects. It was shown that many forests in Europe have been growing faster than in previous decades. Possible causes for accelerated forest growth as well as its possible consequences were discussed. It was pointed out, however, that the Growth Trends report only contained research about tree growth, not research about the causes of the detected growth trends nor of research into the possible causes of forest decline.

It was also mentioned that a previously published EFI study reported that the growing stock of European forests increased by 43% from 1950 to 1990, and that the net annual increment of the growing stock was greater than the annual felling.

The journalists showed special interest in the yearly monitoring of needle loss undertaken by the German Federal Ministry of Agriculture and Forestry. This topic was intensively discussed at the press conference and the most probable outcomes were considered. It was pointed out that there were differences in growth trends due to regional

and local variations in growth conditions and species specific growth reactions, as well as possible variations in causes. It was emphasized that although a trend of increased growth in European forests exists, there were also severe damages at some high elevations and of oak, for example, in the Rhein valley. The monitoring methods, including the damage classes, were questioned. Spiecker pointed out that needle loss does not directly correlate with tree growth and that other parameters such as length of the crown ought to be taken into account as well.

#### **1.4 GROWTH TRENDS-SEMINAR AND THE PRESENTATION OF THE EFI RESEARCH REPORT ON SEPTEMBER 2ND, 1996, IN FREIBURG**

Nearly one hundred participants from different European countries gathered at the one-day seminar. The results of the Growth Trends report were introduced and the consequences for decision-makers, as well as research concerning management, forest ecology and the timber market were discussed. Furthermore, the report “*Growth Trends in European Forests*” was presented. On two excursions, one to the Black Forest in Germany and the other to the Emmental Forest in Switzerland, the participants of the seminar had the possibility to discuss forest growth and its changes. Each of these excursions was also attended by journalists. A report summarizing the contents of the seminar was published by Makkonen-Spiecker in *Holz-Zentralblatt* (1996).

#### **1.5 AIMS OF THE MEDIA ANALYSIS**

According to Birger Solberg, former director of EFI, the project “*Growth Trends in European Forests*” has been the most important activity of EFI in the area of forest sustainability research thus far (see foreword of the report). This is one reason why press reactions on the results of that EFI report are worth analyzing. Another reason is that the press conference on the Growth Trends report was extremely resonant. Even several months later it made headlines not only in the press but also in radio and television, in Germany as well as other countries, including the USA. Reactions of the media as well as forestry professionals, forest researchers and forest policy/decision makers will be analyzed in this paper as a case study with the main focus being set on press reactions. The type of research and the journalistic value of the Growth Trends report will be described in addition to evaluating the neutrality of the information. Conclusions will be drawn for the future publication strategy of EFI.

Some short press analyses have been made earlier. The first one, written by Makkonen-Spiecker and published in *AFZ/Der Wald*, in 1996, included only the very first press reactions and was written to inform forestry professionals about the Growth Trends report. Professor Peter Glück, forest scientist at the University of Vienna, Austria, also initiated a press analysis by his students as an internal seminar paper (unpublished). Dietmar Winterhalter (1997) made the third analysis of the German press as a diploma thesis at the University of Freiburg (unpublished). The aim of this thesis was to observe the subject

from the communication theoretical point of view without analyzing individual statements in detail. German press reactions from different sources were used as material for the analysis, while press reactions from other countries and reactions of forestry press were not considered.

## 2 MATERIAL AND METHODS

The majority of material for this analysis was collected during the first five months following the EFI press conference. Individual reports, mainly statements of forestry professionals based on the Growth Trends report as an original source, as well as book reviews were gathered as late as a year after the conference. One article was published nearly two years after the Growth Trends report. The material came from various sources such as articles, reports, short notes, comments, statements, interviews and reviews in the common daily press, weekly and monthly journals, newspapers, and forestry journals.

A short questionnaire was distributed among international authors of the Growth Trends report to survey press reactions outside of Germany. In some countries, (France, Finland and Sweden) articles concerning reactions on the preliminary results of the Growth Trends project are a further part of the material.

The press material listed in the appendix (B-D) and summarized in the following overview must not be regarded as a complete reaction to the Growth Trends report, but merely a collection of reactions:

### Germany

- Common press: 106 articles total
- 29 articles dealing with the first day news
- 19 articles dealing with reactions on the first day news
- 58 articles dealing with further reactions on the Growth Trends report
- Forestry press: 15 articles and 1 unpublished statement

### Other European countries:

- Common press: 85 articles total
- 55 Swiss articles
- 2 articles from Liechtenstein
- 3 French articles
- 21 Finnish articles
- 1 Italian article
- 3 Czech articles
- Forestry press: 16 articles total

### Countries outside of Europe:

- total of 5 articles

In addition, two reports in German radio and three contributions to television were included as a minor part of the material. Thirty Internet articles in which “*Growth Trends in European Forests*” has been mentioned were also analyzed.



## **3 ANALYSIS OF PRESS REACTIONS**

### **3.1 GENERAL REMARKS**

Differences between the reactions of European countries to the Growth Trends report were dependent upon distance to the press conference venue as well as on the economical, ecological and social importance of forestry in each country. Subdivision of this analysis will follow the geographical subdivision used in the Growth Trends report, with the exception of Germany, which had a special role as organizer of the EFI Annual Conference (1996).

The daily press had gained material for their articles mostly from the German press agency (*dpa* = *Deutsche Presseagentur*), but in a few cases from the press conference directly. The weekly newspapers and monthly journals had more time for research and could verify the information, so they could make a more detailed presentation and possibly conduct a direct interview. Only a few forestry professionals had actually read the study before they made their public statements.

Three different chronological phases of common press reactions were distinguished after the press conference (cf. Russ-Mohl 1981):

1. Phase I: first day news about the Growth Trends report (3.2.1)
2. Phase II: press reactions on the first day news about the Growth Trends report (3.2.2)
3. Phase III: further press reactions on the Growth Trends report (3.2.3).

Because of the short distance to the venue of the press conference, these chronological phases could be distinguished most clearly in Germany.

### **3.2 PRESS REACTIONS IN GERMANY**

#### **3.2.1 Phase I: First Day News about the Growth Trends Report in the Common Press**

The phase of first day news consisted of just one day, September 2. Only five newspapers published this first day news a couple of days later, with the latest first day news article being published in the women's magazine *Frau im Spiegel* on September 12. Twenty-nine articles concerning first day news were collected for this case study.

It was characteristic of this phase that in many cases the exact same text was published in different newspapers, various articles were written by the same person, or were simply a copy of the *dpa* article. In a few cases, the news consisted of just a short note.

The articles had the following content expressed in key phrases: EFI conference in Freiburg, participants from different nations, organization of EFI, participants of the Growth Trends report, results of the Growth Trends report, increase in standing volume, growth influencing factors, monitoring of forest conditions and “*forest decline is over*”. The suggested consequences of increased forest growth were mentioned in only a few cases.

While basic information about the EFI conference, EFI activities and the Growth Trends report was mostly correct, there was just a short addition that led readers to doubt the neutrality of EFI research: “*EFI receives half its funds from the government of Finland which has a great interest in forestry...*” (Stuttgarter Zeitung 02.09.96). This was a part of nearly every article that had the *dpa* as a source. The other half of EFI funds did not seem to be that important, as it was never quite correct: “... *the other half of the funds comes from the European Union*” (Stuttgarter Zeitung 02.09.96). Not even the information later publicized in the international journal *Nature* (19.09.96) was quite correct: “... *from 67 scientific institutes in other European countries*”.

The incorrect interpretations were observed in these first day articles; the common trend in the articles was that the EFI Growth Trends report was understood as a message dealing with forest decline (*Waldsterben*) research. “*European forests are growing better than earlier – the forest decline is over. This is the surprising result of a just published EFI report*” (Badisches Tagblatt 02.09.96).

Possible causes for the increased growth were shortly listed: “... *a combination of the factors climate, soil, frost, storm, drought, atmosphere and silviculture*” (Darmstädter Echo 02.09.96). Only increases in nitrogen deposition were discussed in some detail.

Because of the press silence around the topic of “forest decline” during recent years (cf. 1.1) the mentioning of the word *Waldsterben* in the press release (cf. 1.3) must have been appreciated by the journalists as a key word for the discussion at the press conference. In this special situation, where “*forests are growing faster*” the journalists had to take the opportunity of making headlines. “*Forest decline is over*” was their own conclusion and without making additional explanations to the first sentence, the most easily understood by non-professionals.

Results of an earlier published EFI study by Kuusela (1994) were presented as results of the Growth Trends report: “*The Growth Trends report shows that the growing stock of European forests has increased by 43% during the period 1950 to 1990*” (Kölnische Rundschau 02.09.96).

It was obviously confusing for journalists attending the press conference to be informed about two EFI studies, containing complementary results, without mentioning the name of the author of the first study. On the other hand, the name of another, absent person might have caused some other kind of irritations. At the press conference it was just said “... *according to another EFI study published recently...*” (cf. 1.3).

The articles generally showed that the journalists had difficulties distinguishing between the contents of the Growth Trends report and those of further discussion during the press conference. The following sentence, understood as a part of the results of the Growth Trends report, is an example of such misinterpretation:

“*the forests are growing faster above all in the Czech Republic and in Germany*” (Darmstädter Echo 02.09.96).



The Growth Trends report does not contain any Czech investigations.

Conversation at the press conference about the yearly monitoring of German forest conditions led to various interpretations. Often journalistic nuances misled and upset the public. In most cases the following wording was used:

*“According to official forest decline reports there are still about a quarter of all trees damaged. The European forest scientists see it quite differently” (Neue Osnabrücker Zeitung 02.09.96). Süddeutsche Zeitung (02.09.96) had its own interpretation: “EFI director Tim Peck refuses to accept the results of official reports about forest damages which, first of all in Germany, repeatedly describe dying forests. The assumption that needles and leaves can express the health of trees in one way or another is misleading”.*

In other articles, the same content was connected to the name Spiecker. Referring to the journalists’ questions on forest condition monitoring, Spiecker said at the press conference that needle loss does not directly correlate with tree growth (cf. 1.3). More exact information was presented by Bernhard Sprengel, who published the following conclusion in many different newspapers (e.g. *Backnanger Kreiszeitung* 02.09.96):

*“EFI scientists have observed that the growth of a pine will not be reduced until needle loss is greater than 60%. A beech or an oak can lose 60 to 99% of their leaves, in advance, without showing any reaction in growth.”*

The discussion at the press conference about the damage classes used in the monitoring of forest conditions and their expression on a percentile scale possibly caused these misinterpretations.

Not only were people connected incorrectly, “... *EFI director Tim Peck...*” (*Süddeutsche Zeitung* 02.09.96), but also organizations, as can be seen in the headline: “*EU: Forest decline can no longer be an issue of forest discussions*” (*Ruhr Nachrichten* 02.09.96).

The natural characteristic of journalism for sensational news and the use of secondary sources cannot be the sole explanation for all the misinterpretations above. The use of professional phraseology at the press conference may have made interpretations more difficult for those journalists who were not experts in the field of forest science. The need for writing an article rapidly, without any research, is another important factor causing incorrect interpretations.

The results of European Forest Condition Monitoring, an EU report, were also made public at the beginning of September. Quite opposite to the Swiss press (3.3.2), the reporting of these results in Germany received less attention because of the press resonance of the Growth Trends report. According to these results, which monitored forest health in EU countries and in several other European countries, nearly every fifth tree was damaged (*Frankfurter Allgemeine Zeitung* 06.09.96). For the public, these results seemed to contradict the news about increased forest growth.

### 3.2.2 Phase II: Common Press Reactions on the First Day News about the Growth Trends Report

From the journalistic point of view, the aim of the first phase was not only to inform the public of the Growth Trends report, but also to provoke and to upset forestry scientists and nature conservationists with highlighted interpretations of the statements made at the press conference. Immediately after the surprising news about the emotional topic of German forest health was the right time to ask about opinions reflecting on this news.

Because no one was given the possibility to contact the editors of the Growth Trends report before making their statements, these reactions differ quite a lot from later ones and that is why they are analyzed here separately.

Nineteen articles dated on September 3 were gathered for this category of analysis. They contain the first reactions of scientists, policy makers and environmentalists on the first day news. These reactions can be characterized as spontaneous, emotional and subjective. With time, however, they lost more and more of this character and became more objective and serious.

Representatives of different organizations did not generally argue against the result of the Growth Trends report "*the forests are growing faster*", but against the conclusion "*forest decline is over*". Just a few of these first reacting people were careful enough to notice that this conclusion was made by journalists, not by EFI scientists.

The Research Centre for Forest Ecosystems, in Göttingen, was the first to react by giving its press release on the same day that the first day news was published. The following statements were cited on the next day in different newspapers as part of longer reports containing the reactions of scientists, politicians and environmentalists.

Scientists of the Research Centre for Forest Ecosystems argued that the main results of the Growth Trends report were "*superficial and fundamentally wrong*" (*Südkurier* 03.09.96). And further: "*...this kind of concluding is based on a limited way of thinking, excluding ecological factors, as well as on mistakes*" (*Frankfurter Rundschau* 03.09.96). Michael Bredemeier, scientific secretary of the Research Centre, stated that the increased growth of trees is associated with "*chronic stress and instability*" (*Frankfurter Rundschau* 03.09.96).

Burkhard Müller-Using, Forest Research Institute of Niedersachsen, understood that the EFI had concluded that an increase in forest growth meant the forests are healthier today than in previous years. He argued that this conclusion was wrong: the EFI report ought not to be regarded as an all-clear sign. It would be "*unreasonable*" not to go on with the efforts of reducing emissions (*Frankfurter Rundschau* 03.09.96).

Thomas Waldenspuhl, Forestry Administration of Baden-Württemberg, also argued against this conclusion calling it "*gray theory*". According to him, it is "*negligent*" to value the condition of trees with just one factor (*Stuttgarter Zeitung* 03.09.96).

Despite the fact that the citations have been cut out of press releases or from longer statements made by journalists in order to get more of a journalistic effect, the reactions can be regarded as non-scientific because the critics had not read the object of their criticism (the Growth Trends report) before making their statements.

According to *Usedom-Kurier* (03.09.96), it can be observed already "*since about ten years*" that forests are growing faster. Even if the sources of this information were not given, it could be viewed as a confession for the need to give a retrospective view of forest

growth in recent decades at various European sites. This was the main objective of the Growth Trends project as described in the Growth Trends report: “*while several growth reports were published at local, regional and national levels this project aimed to stimulate a joint effort in identifying and quantifying growth trends and their spatial and temporal extend at a European level*” (Spiecker et al. 1996, cf. 1.2). This was also mentioned at the press conference, but it did not receive journalistic interest.

In further reactions on the interpretations published in newspapers the basic data were commonly accepted, but to some extent the possible causes of increased forest growth that had been suggested by the authors of the Growth Trends report were ignored. It was confessed that trees are growing faster, but this does not mean that the German forests are healthier. Forest decline is not over. The forest is still heavily damaged and because of an unnaturally high growth rate, it may be even more sensitive to environmental threats. In particular, the role of increased nitrogen in the atmosphere and its possible influence on forest soils was intensively discussed.

Thomas Waldenspuhl, Forestry Administration of Baden-Württemberg, and Ernst Hildebrand, University of Freiburg, regarded high nitrogen deposition as an important growth-promoting factor, but it also means stress for the trees (*Stuttgarter Zeitung* 03.09.96). Because of increased growth, the trees also increasingly need other nutrients such as calcium and potassium. According to Gert Beisel, Forestry Administration of Baden-Württemberg, in deeper parts of the soil there are still sufficient nutrient levels present, but nutrients will be leached by increasing acidity in the upper soil (*Stuttgarter Zeitung* 03.09.96).

Wolfgang Püttmann, Forestry Administration of Baden-Württemberg, argued that “*the rate of tree growth alone gives no indication of forest health*” (*Schwäbische Zeitung* 03.09.96). According to Hubert Weinzierl, Society for Environment and Nature Protection of Germany (*BUND*), “*the trees are simply growing themselves to death*” (*Stuttgarter Zeitung* 03.09.96).

Karl Giesen, Society of German Forest Owners, argued that air pollution, most of all nitrogen deposition, simultaneously causes lasting damage and growth increases which have nothing to do with each other. Jochen Borchert, German Federal Minister of Agriculture and Forestry, pointed out that the “*all-clear signal*” cannot be given concerning forest decline and that politics of clean air must be continued (*Usedom-Kurier* 03.09.96). The same was said by Wolfgang von Geldern, German Forest Protection Society, “*the forest is seriously damaged and will further be continuously damaged by air pollution*” (*Schwäbische Zeitung* 03.09.96).

A press release from the nature protection organization *Robin Wood* on September 2 was also one of the first reactions. The following three points were presented as “*the main results of the Growth Trends report*”:

1. The standing volume in European forests has increased by 43% during the years 1950 and 1990.
2. Trees are growing faster.
3. Results of the forest condition monitoring are wrong – needle loss is not an indicator of tree health.

Only point two was a result of the Growth Trends report. Nevertheless, environmentalists commented on these ‘main results’ using arguments of EFI representatives on these topics

mixed with comments of their own. They concluded: “*This shows a poverty of ideas at the European Forest Institute*”.

### **3.2.3 Phase III: Further Press Reactions on the Growth Trends Report**

Fifty-seven further articles referring in various ways to the Growth Trends report were collected. These articles consist of:

- a) improved interpretations
- b) comments of journalists
- c) later reactions of politicians, scientists and forestry professionals
- d) readers’ opinions, including articles by forestry professionals published in common newspapers, and
- e) Spiecker’s statements in interviews.

Most of these articles were published in daily newspapers, only 7 reports were published in magazines. The list of forestry, environmental and political organizations mentioned in the German press can be found in appendix A.

#### **(a) Improved interpretations**

Some journalists participated in the excursions organized by EFI in connection with the EFI seminar (cf. 1.4). The journalists of local papers wanted to have further statements concerning the Growth Trends report and forest decline in addition to more reactions from editors of the Growth Trends report on the first press news. Accompanying local foresters were also asked about their reactions.

Reports found in newspapers on September 3, following the excursion into the Black Forest, were aimed at more detailed information in order to correct possible misinterpretations and to make the news more easily understood. Possible causes for increased forest growth as well as its consequences were explained in an understandable way, mostly as direct citations of Spiecker (e.g. *Offenburger Tageblatt* 03.09.96, *Schwarzwälder Bote* 03.09.96). From the journalistic point of view, a valuable conclusion could be made: the German press had found a new topic instead of forest decline and it was named “*forest overweight*” (e.g. *Schwarzwälder Bote* 03.09.96).

#### **(b) Comments of journalists**

The comments of 11 journalists were included in the following analysis. Journalists generally concluded from increased growth that forest decline is over and based their comments on this idea. However, they did not directly evaluate or cite the Growth Trends report. From all the suggested possible causes of increased forest growth, they argued only for increased nitrogen. Most of their attention was paid to the very emotional role of forests for German people and to forest decline discussions.

Three of these authors clearly stated that they never believed that the forests were dying, three more journalists were absolute supporters of dying forests, while the remaining

journalists did not clearly express their opinion. Because of the special role of journalists in influencing public opinion and to give an insider view of forest decline discussions in the German press, parts of the journalists' comments were analyzed in more detail.

Pessimistic journalists warned against accepting the news that forests are no longer dying. For example, Frank Aretz commented that the forest is growing "*again*" because there are not too many animals left in the forest, and because of the increasing CO<sub>2</sub> and nitrogen levels in the atmosphere (*Express* 02.09.96). According to him now is time to react, before the trees die from of their "*overgrowth*".

On the other hand, the news of a faster growing forest was great for Andreas Scharf who wished that "*this good news would be paid as much attention to as the bad one of dying forests*" (*Bagnanger Kreiszeitung* 02.09.96). Yet, he wondered if the reason for increased forest growth was the same as for earlier forest decline: environmental influences. According to his further observations, "*Scientists regard a tree as damaged much later than politicians do*".

Rolf Dressler, editor-in-chief of *Westfalen-Blat* (02.09.96), used the possibility of retrospective observations in forest decline discussions. He did not directly comment on the Growth Trends report, but was embarrassed by one-sided influences of public opinion concerning the topic of forest decline. He strongly argued against the green group of politicians and environmental organizations like *Greenpeace*.

Two later reports by journalists can be seen as a special reaction on the Growth Trends report: one journalist argued against another journalist about *forest decline in the media*. Two different retrospective views were given. One of the journalists was Burkhard Müller-Ullrich (cf. 1.1) who also visited the EFI press conference (1.3). He correctly informed readers about the press conference and the Growth Trends report, except for the information on the results of Kuusela as a part of Growth Trends report (cf. 3.2.1). Because of his strong personal opinion against forest decline, he used the results of the Growth Trends report as a means for publishing his critical ideas about journalistic methods in reporting, more specifically the one-sided reporting of forest discussions (*Süddeutsche Zeitung* 08.09.96). His opponent, Christian Schütze, not only argued against Müller-Ullrich and Spiecker, but he strongly supported those people who believed in large-scale forest decline (cf. readers' opinion). The last sentence of his article expressed his way of arguing: "*It would not be dangerous until these wonder healers would be believed, who eagerly hurry up in writing the forest healthy*" (*Süddeutsche Zeitung* 15.09.96).

This article was totally opposite-minded to his own well researched and serious article published in the same newspaper three days earlier. In that article he wrote about unfortunate silvicultural measures in the past which have caused damage due to inappropriate forest structure (monocultures of Norway spruce) and the selection of tree species that were not adapted to the soil conditions. He compared this type of forest to a particularly well-growing mixed forest stand and concluded: "*Not only the recreational activities of an industrial society, but also the economic future of German forestry depends upon the lovely forest of valuable broadleaves, forests which produce timber for furniture and inside architecture*" (*Süddeutsche Zeitung* 12.09.96).

Another retrospective article entitled "*Forest decline and the neurosis of tree psychologists*" was written by Helmut Böttiger in *Neue Solidarität* (18.09.96). The following sentences summarize his opinion: "*According to many experts and the media,*

*the German forest ought to be dead at least by the beginning of the 1990's. The European Forest Institute has now investigated what every careful observer has actually been able to detect: the forest is still alive and growing*". In his article, Böttiger touched on the damages caused by the "forest decline campaign". In comparison to other environmental campaigns, the material costs of the "forest decline campaign" were not that high. The particular damages were of the "mental-moral" type, causing a movement against industry and its techniques as nature disturbing factors and ignoring their role as a promoter of high living standards. Techniques and science ought to have been replaced with sustainable development. This movement resulted in an "environmental splendor" which caused severe social damage. Böttiger fully agreed with Holzberger and Müller-Ullrich (cf. previous) concerning forest decline discussions and reporting in the past.

Yet another article by Horst Stern, environmentalist and author of nature books dealing mainly with topics related to dying forests, was pure propaganda against Finnish Forestry. Stern wrote in the headline of his article "Finnish Forestry scientists have found: The forest is healthy". He concluded: "Sponsors are wanted today. EFI has its headquarters in Finland, a country known as a big wood exporter, one that exploits its Karelian natural forests in order to waste the wood for the production of milk and juice cartons. The EFI receives half of its funds from the Government of Finland, the other half comes from Brussels, devilled by economics" (*Die Woche* 13.09.96).

### **(c) Later reactions of politicians, scientists and forestry professionals**

These reactions consist of direct interviews and partial citations of statements from longer articles written by journalists. Compared with the first reactions (see 3.2.2), with a few exceptions, these reactions were relatively neutral and more carefully thought out. Results of the Growth Trends report and the suggested possible causes of the growth increase were accepted, but neither scientific nor practical value was attributed to the report. The statements may be summarized in the following way:

Increased forest growth was confessed (e.g. Roland Irslinger, Forestry High School of Rottenburg, *Stuttgarter Zeitung* 06.09.96; Wolfgang Dertz, Society of German Foresters, *Süddeutsche Zeitung* 10.09.96; Hubert Nüßlein, Forestry Administration of Unterfranken, *Süddeutsche Zeitung* 19.09.96; Dominik Dast, forester, *Backnanger Kreiszeitung* 07.09.96). According to Karl-Josef Meiwes, Forest Research Institute of Niedersachsen, increased growth of European forests has already been "long ago scientifically proven" (*Hamburger Morgenpost* 11.09.96).

The suggested possible causes of increased forest growth were discussed intensively, the role of nitrogen being the issue of greatest interest. For example, Roland Irslinger stated "we know that in the last 20 years the forest has been growing faster because of increased nitrogen deposition, not only in Germany, but in all of Europe" (*Stuttgarter Zeitung* 06.09.96). In general, increasing nitrogen deposition was seen as a possible threat to the forest (e.g. Rudolf Fenner, *Robin Wood, Westfalen-Blatt* 08.09.96; Wolfgang Dertz, *Süddeutsche Zeitung* 10.09.96; Hubert Nüßlein, *Süddeutsche Zeitung* 19.09.96). Jörg Heinrich, Society of German Foresters, asked: "Nitrogen – fertilizer and also a time bomb?" (*Westfalen-Blatt* 08.09.96).

Forest decline and the condition of German forests were intensively discussed. While Hubert Nüßlein of the Forestry Administration of Unterfranken did not give an “all-clear” sign (*Süddeutsche Zeitung* 19.09.96), Wolfgang Dertz from the Society of German Foresters said “*the forest is not dying*”, however the growth promoting factor, nitrogen, is a danger for forests in weakened condition (*Süddeutsche Zeitung* 10.09.96). Wolfgang Gröbl, German Federal Ministry of Nutrition, and Helmut Klein, Society for Environment and Nature Protection of Germany (*BUND*), both stated that EFI scientists did not argue in their report that forest damage is decreasing (*Süddeutsche Zeitung* 10.09.96, and *Globus* 12.1996, respectively). Under the headline “*The forest is still dying*”, *Stuttgarter Zeitung* (08.10.96) presented the results of forest condition monitoring (1996) in Baden-Württemberg with comments (i.e. increases in forest damage, growth rates being at a definitely high level) from the minister of Agriculture and Forestry, Gerda Staiblin. At the German level however, a reduction in forest damage can be seen based on the results of the German forest condition monitoring (*Die Woche* 21.11.96).

Scientists generally preferred the expression *forest damage* rather than *forest decline* (e.g. Karl-Josef Meiwes, *Hamburger Morgenpost* 11.09.96). But Thomas Weidenbach had also observed: “*one who thoroughly reads the most recent press release of the Society for Environment and Nature Protection of Germany (BUND) about the just published Forest Condition Report (1996) can surprisingly find that the word “Waldsterben” is not even once mentioned*” (*Die Woche* 21.11.96).

The forest condition monitoring was strongly criticized and earlier comments in the press, such as “*needle loss [alone] does not describe the vitality of trees adequately*”, were generally accepted as correct (cf. e.g. *Die Woche* 21.09.96, *Frankfurter Allgemeine Zeitung* 20.11.96).

Because of the special role Prof. Ulrich played as an initiator of forest decline (cf. 1.1 and later in “readers’ opinions”) and as founder of the Research Centre for Forest Ecosystems (cf. 3.2.2), an interview with him in the weekly journal *Die Woche* (21.11.96) is analyzed in more detail. In accordance with his statements, the headline of the interview was “*Forest decline – a glorified story*”. Ulrich agreed that without taking into account some areas in the neighborhood of big emission sources forests have not suffered large-scale death, which is against his prognosis of the year 1979. He claimed that this has happened because of his warning, so that concentrations of air pollution have been drastically reduced, thus giving forests the possibility to recover. He further confessed that it was a mistake of “*us scientists*” that positive news of forests growth have not been made *public* “*to the same extent we did with the negative news in the early 1980s.*”

#### **(d) Readers’ opinions**

The press reactions analyzed above included a lot of interesting material and thus were a good basis for many readers’ opinions. In addition to the reactions of forestry professionals, the reactions of readers’ found in common newspapers came mainly from private nature conservationists and organized environmentalists. As it was not possible to collect all of them, just a few readers’ opinions are analyzed here in more detail.

It is understandable that environmentalists argued against the positive information about increased forest growth connected with the news “*forests are not dying any more*” because they were afraid that decision makers and the public would conclude from increased forest growth that all of nature was in order. Thus, they would not see a need for further measures concerning nature protection. Contributions of environmentalists seldom were directed against the Growth Trends report and its results or against certain people, but against the information strategy concerning environmental news.

Two groups, each with a different stand point about the development of forest decline, could be distinguished among the forestry professionals who reacted through readers’ opinions or through comparable articles in newspapers or non-forestry magazines: (1) people with a long list of experience and thus with long periods of observation, and (2) younger scientists with less professional experience, and young foresters working for nature conservation. Further reactions of forestry professionals were published in the forest press (3.2.4).

While articles written by forestry professionals generally accepted the results of the Growth Trends report, they showed differences in topics concerning forest decline. An exception was made by the reader’s opinion of Rudi Nützel, forester and nature conservationist from Munich (*Süddeutsche Zeitung* 09.1996). His article emotionally criticized the EFI because of information about too little of the forests being damaged, but supported the possible causes of increased growing stock in forests by using arguments previously suggested by Spiecker. He further argued against criticism of the methods used in monitoring forest condition, particularly against Rodolphe Schläpfer (cf. 3.3.2).

Another very emotional reader’s opinion came from the University of Freiburg. A young scientist, Stefan Lutz, very decoratively presented the news of faster growing forests and criticized scientists of forest growth of the University of Freiburg because of their *logic of growth*: “*A healthy tree is growing. Therefore, a growing tree is healthy. That is why a faster growing tree must be even healthier*” (*Süddeutsche Zeitung* 09.1996).

On the opposite side of the coin, experiences and exact observations obviously lead one to conclude that forest damage in certain quantities is a way of life. Peter Dittrich, Professor of Botany at the University of Munich, compared differences in the health of forests with the health of human beings (loss of hair, loss of teeth, loss of eye sight, headache) and asked for the definition of 100% human health. He particularly argued against the journalist Schütze (see above) because of his one-sided way of reporting and his reporting against the role of nitrogen as a forest killer. Dittrich asked Schütze to remember the competitive role that ground vegetation and naturally regenerated trees play in uptaking part of the high nitrogen deposition (up to 40 kg/ha acc. to Schütze) and to compare the nitrogen contents in forest soils with those used in agriculture. He further recommended that Schütze would not go to the forest because “*nothing for a dogma is as dangerous as a view into reality*” (*Süddeutsche Zeitung* 09.1996).

Karl Friedrich Wentzel, a retired forester and nature conservationist who is known as an air pollution forest expert in Germany, argued for the Growth Trends report: “*the results show an increase in European forest growth, but the experts did not conclude that forest damages do not exist any more*” (*Die Welt* 12.11.96). He commented that the extent of forest damage depends on the forest’s distance from certain emission sources. He also assumed that for the time being nitrogen in gaseous form can directly damage adult trees, above all beech and oak, whereas no threat comes from the soil. This belief is supported



by the presence of very fertile ground vegetation and healthy young trees growing under the shelter of old trees.

After having studied the Growth Trends report, Michael Bredemeier obviously saw the need to correct the first statements of the Research Centre for Forest Ecosystem (cf. 3.2.2). In an article of the *Frankfurter Rundschau* (01.10.96), he gave a statement about the Growth Trends report and its “*carefully proved database*”, its “*totally undoubtable*” serious content and the “*factually correct and differentiating*” statements of Spiecker.

However, he did not know who propagated the expression *Waldsterben* (forest decline). This is surprising for the scientific secretary of an institution whose founder is known as an initiator of forest decline (see above). That is why Otto Kandler, emeritus Professor of Botany at the University of Munich, gave him a lecture in the *Frankfurter Rundschau* (21.10.96): As Leibundgut used the expression *Waldsterben* for the first time in 1951, he suggested climatic factors, insects and fungi as well as silvicultural measures as causes (Leibundgut 1951). Whereas Ulrich and “*his students*” “*reanimated*” forest decline in 1979 connecting it with air pollution and forecasting an early death for large parts of German forest (Ulrich et al. 1979). He was soon supported by professor Schütt from Munich (Schütt 1981, cf. 1.1 and 4). All journalists greatly appreciated this sensational news and received material on it for decades. Kandler concluded: Against all prognosis, forests are growing well today and forest resources are increasing. We ought to be happy about it and go on supporting all technical and economical efforts to keep the concentrations of air pollution on the lowest possible level “*for the health of human beings and nature*”.

An article by Michael Strütt, Forestry Administration, in the agricultural magazine *Badische Bauern Zeitung* (15.02.97) pointed out that forest damage is not contradictory to increased forest growth. He used many of those arguments which had already been used by Spiecker at the press conference, but had not been worth citing in the common press because the first news would not have been as sensational as it was.

### (e) Spiecker’s statements

Spiecker gave five direct interviews for the daily press, one for the journal *agronomical* (1/1997) and another for the journal *Sielmanns Abenteuer Natur* (1/1996). Many journalists used an interview with him to produce reports containing indirect wording (e.g. *Hannoversche Allgemeine* 21.11.96, *Die Welt* 22.11.96) or just used the interview as material for part of a longer article (*Der Spiegel* 11.11.96, *Globus* 12/1996). In some cases a parallel interview with another forest scientist was made in order to place scientist against scientist (e.g. *Hamburger Morgenpost* 11.09.96, *agronomical* 1/1997). These interviews gave Spiecker a possibility to:

- ask the readers to regard the results of the Growth Trends report as neutral and not to bring them in connection with the results of forest condition monitoring and forest damage;
- ask the readers to remember that the prognosis of Germany without forests made in the early 1980’s has not become reality thus far, and without refusing the presence of forests damaged by air pollution in some strong emission areas of Europe to explain the important role of varying weather conditions on forest growth;

- explain why needle loss alone is an unsuitable indicator of tree growth and to point out the need for long periods of forest growth observations;
- point out that according to the results of the Growth Trends report, the stand productivity of many European forests has changed, thus providing a new situation for silviculture, so that earlier experiences may no longer be valid. Although the situation would be good from a wood consumers point of view, it would be worrying in respect to various environmental aspects. In order to manage the new situation foresters with a good education would be needed. It would not be the right time to reduce the staff of foresters;
- identify and explain the possible causes of growth increase. Because the role of nitrogen had been intensively discussed in the press, it was mentioned that the causes of increased forest growth are not yet identified and that according to fertilization experiments conducted with nitrogen a severe damaging effect of high nitrogen content has not yet been found;
- explain the possible consequences of increased forest growth in concern with silvicultural measures for obtaining mixed stands of high variability and point out the possible need to cut timber in order to fulfill new silvicultural goals and to protect the forests from becoming damaged as a result of their old age, and;
- point out the need to reduce concentrations of air pollution as a preventive measure.

The reactions in chapter 3.2.3 can be summarized and actualized on the basis of a recent article about forest decline discussions over the past 20 years, written by Peter Reindl in *Erlanger Nachrichten* (07.1998) in reference to a meeting of German forest experts.

- Hundreds of millions of German marks have been used for the forest decline discussion, many hypothesis have been made and the only secure result is that “*the forecasted catastrophe did not happen*”.
- The discussion about forest damage today is not as dramatic as in earlier days, but the results of forest condition monitoring do not give reason to do nothing.
- According to Helmut Klein (cf. 3.2.4. (d)), the forests did not die because public pressure on decision-makers resulted in a reduction of air pollution.
- According to Karl-Egen Rehfuess, Professor of Forest Soil Science at the University of Munich, the existing emission theories were just “*a construct*”, the annual forest condition monitorings were not relevant and tree needle loss has natural causes.
- The results of the Growth Trends report are still a controversial issue of forest discussions.

### 3.2.4 Forest Press Reactions on the Growth Trends Report

Representatives of forest newspapers and journals did not attend the press conference, so they acquired the material for their publications at the Growth Trends seminar or from secondary sources. Many participants of the seminar had already heard the first news about increased forest growth with the conclusion “*forest decline is over*” via the radio and/or daily newspapers. Thus, first reactions had been discussed at the seminar.

Fifteen articles published in the German forest press are analyzed in this paper. Four types of reactions were distinguished: (a) general information, (b) short comments, (c)

articles connecting the Growth Trends report with forest condition monitoring and (d) book reviews.

Many forest organizations, and organizations of neighboring fields, informed readers about the Growth Trends report via their internal newspapers, partly using direct information from the Institute of Growth and Yield at the University of Freiburg as an additional source. Those reports are not included in this analysis.

### **(a) General information**

The journal *Holz-Zentralblatt* (16.09.96) informed readers about the Growth Trends report and its results as well as the possible causes of increased forest growth, according to the original source. Press reactions were summarized with just one sentence: “*The statements concerning forest decline published in the press in connection with the EFI conference were not correctly interpreted, as was clearly argued by the scientists.*”

A further article in the same journal (*Holz-Zentralblatt* 20.11.96) reported on a joint statement of different German forest organizations (*Arbeitsgemeinschaft Deutscher Waldbesitzerverbände, Deutscher Forstverein, Deutscher Forstwirtschaftsrat* and *Stiftung Wald in Not*) concerning efforts towards sustainable forestry. In this connection, it was shortly reported that corrections had been made by these organizations concerning their first interpretations of the EFI report as it “*had caused misunderstanding*”.

The third publication in *Holz-Zentralblatt* (23.12.96) was the Growth Trends seminar report by Makkonen-Spiecker, which summarized, but did not evaluate the papers presented at the Growth Trends seminar.

A summary of the results of the Growth Trends report, including a short bit of information on the Annual EFI conference, the press conference, and an analysis of the very first press reactions, was made by Makkonen-Spiecker and published in *AFZ/Der Wald* (11.11.96).

### **(b) Short comments**

The short first statements of forestry professionals in the forest press expressed emotions similar to those already described in the common press reactions (3.2.2). The opportunity to research obviously had not been taken. Thus, a statement by Michael Bredemeier in the forest journal *Unser Wald* (10.1996) did not clearly show whether his criticism, on behalf of the Research Centre for Forest Ecosystems in Göttingen, was referring to EFI scientists or to journalists – “*...this kind of concluding is based on a limited way of thinking excluding ecological factors...*” (cf. 3.2.2). The dissemination of contradicting statements by the same author is quite remarkable (cf. 3.2.3, *Frankfurter Rundschau* 01.10.96).

Wolfgang von Geldern was annoyed by the first press reactions (*forest decline is over*) on the EFI report (cf. 3.2.2). He argued that the authors of the EFI report had made “*an extremely bad service to serious forestry*” through its publishing and gave the impression that the study had been made as a “*pleasure for their supporting timber industry*” (*Unser Wald* 10.1996).

Further reactions warned to “*trivialize*” forest decline (*Der Waldwirt* 10.1996, *Hessischer Waldbesitzerverband* 10.10.96) as well as commented that “*the good growth of forests was nothing new*” (*Hessischer Waldbesitzerverband* 10.10.96) and that there

could not be seen “any discrepancy between forest utilization and forest damages” (*Der Waldwirt* 10.1996).

### **(c) Articles connecting the Growth Trends report with forest condition monitoring**

The results of German forest condition monitoring 1996 showed a slight reduction in damage, expressed as needle/leaf loss, compared to that of the year 1995. These results and the results of the Growth Trends report were connected and discussed by both scientists and politicians in several articles (e.g. *BDF Aktuell* 11.1996, *Der Waldwirt* 10.1996, *Hessischer Waldbesitzerverband* 10.10.96, *Holz-Zentralblatt* 20.11.96). Two more long articles in *Unser Wald* (1/1997) referred to the methods used in forest condition monitoring. The most important issues, summarized below, are in agreement with the Growth Trends report as well as with the statements and recommendations made by EFI scientists during the press conference:

- Increased forest growth is not an indicator of forest health and has already been described in several publications (Spiecker et al. 1996, *Goals of the study*).
- Estimated needle loss, as the only criterion, is not appropriate for monitoring forest condition (cf. 1.3).
- Promotion of forest utilization is not only possible, but urgent to the sustainable development that creates nature conformed mixed forests (cf. 1.3 and 3.2.3 (e)). Utilization according to silvicultural criteria will contribute to the stabilization of forests.
- The forestry administration staff has to adapt to the actual situation (Hütte, *BDF Aktuell* 11.1996; cf. 3.2.3 (e)).

Bernhard Ulrich (cf. 3.2.3) took responsibility in revising his earlier statement about Germany without forests: because of a drastic reduction in SO<sub>2</sub> deposition during the last ten years (by nearly 70% in Germany and 30% in all of Europe) the decline of mountain forests may have been prevented from spreading out to lower elevations. His observations are made from the soil scientists point of view and can be summarized: so far there are no visible consequences of increased nitrogen deposition on most functions of German forests (biodiversity, utilization, cultural and social functions), except for soil properties. That is why it is urgent to drastically reduce emissions of both nitrogen and ammonia (*Unser Wald* 1/1997).

### **(d) Book reviews**

A book review by P. Biber (*Forstwissenschaftliches Centralblatt* 1/1997) was one of the first articles informing readers about the goals of the Growth Trends project: “...to gather already existing knowledge...”. This information was very valuable to those forestry professionals who publicly criticized the results as “already known” (cf. 3.2.2 and 3.2.3). After summarizing the content of the publication, including the suggested possible causes and consequences of increased forest growth, Biber missed a conclusion which would state that forest decline discussions cannot be regarded as finished simply because of trends in increased forest growth. Biber further commented on the Growth Trends report

as “*a unique compilation of knowledge about the actual growth of European forests*”. He recommended it as a “*very worth reading book*” for scientists of forest growth and silviculture.

A further (unpublished) review was made by Helmut Klein, nature conservationist (cf. 4). Klein distributed his 26-page paper as a handout among forestry professionals and people interested in forests. The content of the paper was directed against the European Forest Institute and Spiecker. Klein argued that the EFI research had not been neutral from the very beginning: the project results were already known in advance and the project was designed to serve the Finnish forest industry. He further argued that Finnish family relations of Spiecker affected the results.

Klein’s criticism of the results of the Growth Trends report was based on a detailed study of the original publication. Because of the use of one-sided, fragmented citations the report was presented to the reader as if its conclusions were not based on the results of the individual contributions. Klein argued against the validity of the summarized results of individual studies stated at the end of the report and the subjective interpretation of Spiecker. He was not aware that the individual studies were “*evaluated and interpreted by each scientist independently, according to common standards*” and that the summary at the end of the report was compiled by consulting each of the individual research groups involved in the study (cf. 1.2).

Klein also argued that it is unusual to make the results of a scientific study public at a press conference. Thus, he not only incorrectly related the results of a study undertaken by an independent institution (EFI) with those undertaken by individual research institutions, but he was not aware of the particular purpose of the press conference, which was “*to inform about EFI research activities in connection with its Annual Conference in Freiburg*”. The Growth Trends report was the most recent example of EFI research activities. The results of this research project were presented to the scientific community in an international seminar two days later (cf. 1.3 and 1.4). Klein also analyzed press reactions on the Growth Trends report but included selectively only those reactions which appreciated the results of the report. He strongly argued against these reactions.

The last point of Klein’s paper concerned an evaluation of the methods of forest condition monitoring initiated by the German Minister for Education and Research. The results of the evaluation showed the need for changes in the criteria defining the health of trees. Because Spiecker was one of the “*similar-minded*” evaluators, Klein supposed that in order to cause “*political pressure*” the results of the evaluation were discussed in a press seminar before the results of the annual forest condition monitoring were officially published, but after the Growth Trends report was made public.

Klein concluded from his analysis that Spiecker and other EFI scientists refused to accept the existence of large-scale forest damage caused by air pollution. According to them, the forest strongly suffers from too high growing stock and that is why wood utilization (old stands) is demanded, and currently it is possible in even higher amounts than before. Klein assumed that many decision-makers greatly appreciated this message, but he himself regarded the EFI Growth Trends report as “*an unbelievable provocation*”.

### **3.2.5 Summary of German Press Reactions**

The Growth Trends report was connected with forest decline research by concluding that “*forest decline is over*”. In common press reports, there could be detected some difficulty on the journalist’s behalf in distinguishing between the content of the Growth Trends report and the content of further discussion at the press conference. Not only some incorrect interpretations, but also journalistic nuances made the news about increased forest growth surprising, provocative and sensational.

The very first reactions of scientists and conservationists were emotional and non-scientific, pointing out the invalidity of the interpretation of the report as well as arguing that the rate of growth is no indication of tree health. Just a few of the initial critics were able to notice that the conclusion “*forest decline is over*” was made by journalists, not by EFI scientists. In later more neutral and carefully elaborated reactions of scientists and politicians, the basic data was generally accepted.

Reports on the results of the Growth Trends report caused public discussions about the validity of forest condition monitoring methods as well as the role of nitrogen as a growth-accelerating factor. Many readers’ opinions as well as the comments of journalists were related to retrospective observations of forest decline. In a few cases personal criticism was directed against EFI scientists. Expressions of doubt about the neutrality of EFI were detected, too.

Reactions in the forest press consisted of general reports, short emotional first statements of scientists and politicians, articles connecting the Growth Trends report with forest condition monitoring or of book reviews. The results of the Growth Trends report were generally accepted “*as nothing new*” and the existence of forest decline, weaknesses in forest condition monitoring methods and the consequences of increased forest growth, in agreement with those suggested by authors of EFI Growth Trends report, were discussed.

## **3.3 PRESS REACTIONS IN OTHER EUROPEAN COUNTRIES**

### **3.3.1 General Remarks**

Press reactions outside of Germany were seldom direct reactions on the Growth Trends report or the EFI conference held in Freiburg. Many scientists who contributed to the report also made an additional publication for the forest press of their own country, informing about their own particular results and shortly mentioning the whole context. Thus, press reactions in these countries were mostly reactions on a particular part of the Growth Trends report. The material for this paper’s analysis consists mainly of articles received as a result of a questionnaire distributed among authors of the Growth Trends report. These articles must be regarded as a partial view into press reactions on the Growth Trends report outside of Germany. In France, Sweden and Finland the press reactions mainly concerned the preliminary results of the Growth Trends project.

### 3.3.2 Swiss, Austrian and French Press Reactions

#### (1) Swiss common press

The results of the Growth Trends report were connected with forest decline also in Switzerland. The development of Swiss forest decline discussions has a similar history to those in Germany and is well documented in the doctoral thesis of Wolfgang Zierhofer (1997; cf. 1.1): the boom of forest decline discussions began at the end of 1981 by confessing German messages and was followed with forest condition monitoring. The first carefully expressed doubts concerning the pessimistic prognosis of the forests future were made as early as 1985 and based on the results of the Swiss Federal Institute for Forest, Snow and Landscape Research (*WSL/FNP*). With the new director of *WSL/FNP*, Rodolphe Schläpfer (1987-1996), the institution received even more attention and the forest decline discussion took on a strongly personal aspect during its further development. More optimistic research results were regarded by environmentalists as propaganda of the automobile industry and ignored by the press because they were not suitable for headlines.

Swiss press reactions on the Growth Trends report were published a little later than German ones because the results of the Swiss forest condition monitoring (1995) were published in the beginning of September 1996. These results were intensively discussed in the press and the *WSL/FNP* was strongly criticized, mainly by environmentalists.

The *WSL/FNP* gave out two press releases in September, 1996, entitled: (1) “*European forest experts in Emmental selection forests*” (06.09.96) and (2) “*No contradiction to needle loss, Swiss forests are growing better today*” (14.09.96). The second press release reported on the results of Swiss case studies, which had been published in the Growth Trends report, but also the further main results of the report were summarized and connected to the results of Swiss forest monitoring.

The resonance of this news in the Swiss press was remarkable, but it remained secondary news after the results of the Swiss forest condition monitoring. During the following few months the *WSL/FNP* collected 57 related articles, two of them from Liechtenstein (see appendix C). These articles consisted of general reports as well as the comments of journalists and readers’ opinions. Many newspapers received the news from the Swiss press agency, and the same article was often published in several newspapers.

While the titles of several articles were provocative, the information about the EFI meeting in Freiburg, the main results of the Growth Trends report and the Swiss study results were seriously reported. Explanations to the causes of increased forest growth were based on the statements of Swiss forestry scientists Andreas Zingg, Matthias Dobbertin and Otto Bräker (*WSL/FNP*). Swiss forestry professionals and politicians did not give public statements to the same extend as in Germany.

The role of the German press as a source was obvious in the news, which presented the results of the Kuusela study as results of the Growth Trends report. The highlighted reactions to the Growth Trends report in the German press were also mentioned in most Swiss articles.

The emotional sensitivity of the topic was expressed in the many readers’ opinions, written mostly by environmentalists and communal politicians. Three readers’ opinions in the Sunday newspaper *SonntagsZeitung* (22.09.96) were published under the unit title

“*strongly simplified way of thinking*”. This was a citation of a comment made by a Swiss Greenpeace representative, Andreas Kunz. He meant that by thinking “*the increased forest growth, promoted by increased nitrogen deposition, is an expression of forest health*” one could ignore the complexity of the situation.

Although Swiss Greenpeace generally wanted to go on fighting for damaged forests, a small sign of flexibility can be seen in the comment of their representative Christoph Wiedmer about earlier visions concerning the future of forests: “*in the perplexity caused by forest damage at that time [in the past], one really reacted too rapidly by forecasting the death of forests ten years later*” (*Appenzeller Zeitung/Der Volksfreund* 07.09.96).

In addition to the opinions of organized environmentalists, the readers’ opinions can be differentiated by criticism directed against: (1) politicians, (2) environmentalists, and (3) the media. Ulrich Giezendanner, *Nationalrat Rothrist (AG)*, for example, demanded that politicians confess and correct their mistakes in the earlier planning of large-scale projects concerned with forest damage (*SonntagsZeitung* 22.09.96).

Alex Reichmuth criticized the previous behavior of environmentally minded groups in respect to forest damage: for more than ten years these groups relate the overestimated forest damage to air pollution. If somebody carefully questioned this relationship or used the expression “*forest damage*” instead of “*forest decline*” he/she was stamped as “*not being conscious of reality*” or as “*autolobbyist*”. The effect of the negative news turned against the environmentalists themselves as the overestimated role of air pollution in this connection had to be later corrected (*Basler Zeitung* 08.11.96).

Thomas Meier, a communal politician, strongly argued against the media because of the media-wisdom “*Good news is bad news*” (*Die Vorstadt* 19.09.96). That is why positive results of forest growth could not have been made public until now.

Connected with the results of the forest condition monitoring, the reports of increased forest growth influenced a discussion on the validity of monitoring methods (cf. 3.2) and of the expression “*forest decline*”. Politicians generally agreed that it is correct to talk about “*forest damage*” or “*forest disease*” instead of “*forest decline*”. They further stated that “*if one has made mistakes [in earlier years] it is only because of the resistance of forests, which is obviously stronger than expected*” (*Neue Zürcher Zeitung* 27.02.97).

## **(2) Swiss and Austrian forest press**

Except for a short note forecasting the Growth Trends seminar in the journal *Internationaler Holzmarkt* (08.1996) and an even shorter note after the seminar in *Österreichische Forstzeitung* (11.1996) about the results of the report, both the Austrian forest press and the common press expressed very little interest. One explanation for this is that forest decline discussion did not play such an important role in the Austrian press as it did in Germany or Switzerland.

Peter Bachmann, Professor for Forest Resources and Forest Growth at *ETH Zürich*, Switzerland, reacted with some statements in the Swiss forest press. He also referred to the results of the Growth Trends report in his presentation at a conference of *Schweizerische Interessengemeinschaft Industrieholz* (Swiss Society for Industrial Wood). This presentation was published in the journals *Wald und Holz* (5/1997) and *Österreichische Forstzeitung* (5/1997). The results of the Growth Trends report were confirmed by the results of the Second Swiss Forest Resource Inventory (1993-1995) which showed a



remarkable increase in growing stock and in forest growth. Bachmann supposed that in maintaining sustainability as the principal goal of forestry, the problems of today are mostly economical.

A book review on the Growth Trends report was made by Bachmann and published in *Schweizerische Zeitschrift für Forstwesen* (9/1997). It reviewed the results of the individual studies and the summarizing discussion of the report. Bachmann criticized reactions on the publication because of their one-sided and subjective view of observation. According to him, “*the greatest value of the report can be seen in the comparative compilation of research results from different parts of Europe as well as in the possibility to evaluate advantages and disadvantages of different monitoring and analyzing methods. The results are not meant to give reason to relax, but to give reason for careful observation and behavior in order to reduce or prevent risks*”.

### (3) French press

French press reports concerning results of forest research differ quite considerably from those in Germany or Switzerland. Since the early 1980s, topics about damaged forests have been published in the French press, however this issue never became as emotional as in neighboring countries. Thus, the public has been continuously informed about forest damage as well as the results of forest growth research.

The main results of the Growth Trends report were already made public during the 20th IUFRO World Congress (1995) in Tampere, Finland. *Le Monde* (22.09.95) reported on this international meeting with the headline “*Forest trees are growing faster today than earlier*”. Three possible factors for the increased growth of European forests were mentioned: climatic warming, increased nitrogen and CO<sub>2</sub> levels in the atmosphere and silvicultural measures. All of these factors were explained in accordance to the research results presented in Tampere. In addition, examples of growth decreases caused by industrial pollution were presented.

In many later press reports about French forest research the role of nitrogen and CO<sub>2</sub> as a growth stimulating factors received particular attention. However, the Growth Trends report was not mentioned.

The forestry journal *La Forêt Privée* (231/1996) informed readers of the Growth Trends seminar in Freiburg via a short summary of the main results of the report, possible causes and possible consequences of increased forest growth.

### 3.3.3 Swedish and Finnish Press Reactions

#### (1) Swedish press

According to Elfving (pers. comm. 1998), there were hardly any press reactions on the Growth Trends report in Sweden. Only the most widespread independent Swedish forest journal, *Skogen* (12.1996), had a short note entitled “*Unexpected high growth*”. It mentioned nitrogen and climatic changes as possible causes for increased forest growth and that highly dense forests are more susceptible to storms and insects as a possible consequence. The conclusion was: “*According to the institute [EFI], new markets for wood as well as better public understanding of forest use are needed*”.

Prior to this article, preliminary results of a Swedish forest growth trend study were published by Elfving and Tegnhammar in *Fakta Skog* (18/1995). According to Elfving (pers. comm. 1998), this publication was often cited in Swedish media. Other types of public response were very seldom: only a short summary but no evaluation, in *Skogen* (05.1996) as well as a few forestry journals in Southern Sweden.

## (2) Finnish press

Preliminary results of the Growth Trends project were presented during the 20th IUFRO World Congress (1995) in Tampere, Finland. At that time, several daily newspapers (cf. appendix C) reported on the main results of the study connecting them with increased nitrogen deposition and increased CO<sub>2</sub> in the atmosphere. The greater acceleration of forest growth in Central Europe as compared to Finnish forest growth was attributed to differences in nitrogen deposition: *“the influences of nitrogen deposition and increased CO<sub>2</sub> cannot be seen in the growth of Finnish pines, so far”* (Etelä-Saimaa 08.08.95). Because of a lack of knowledge, no prognosis was made concerning the further development of influences because of increasing nitrogen deposition.

This background must be known when regarding later reactions on the results of the Growth Trends report in the Finnish press. Another point is that the most recent results of the Finnish forest inventory were published about the same time. With the exception of a short note in the *Helsingin Sanomat* (05.09.96) entitled *“Good news about forests”*, reports concerning the Growth Trends report had negative headlines. The press reports primarily informed readers about the results of the inventory of the last decade which proclaimed: *“the growth of Finnish forests has slowed down by nearly 2%”* (Karjalainen 07.09.96). Natural periodic variations were regarded as the main factor for slower forest growth, the measurement period being *“at the bottom of the well”* (according to Professor Erkki Tomppo of the Finnish Forest Research Institute). However, the secondary news of these reports was *“increased forest growth in European forests mainly caused by high nitrogen depositions”*. In addition, a long period of increasing growth does not exclude periodic lower growth due to natural growth variations. Articles of the Finnish press agency containing the information summarized above were published in different newspapers (e.g. Karjalainen 07.09.96; cf. appendix C).

In a comment of Arja Leppänen, a journalist for the *Helsingin Sanomat* (13.09.96), forest decline and forest growth were discussed: *“the forest does not grow in accordance to forecasts”*. She presented two prognoses, one about the dying forests of Germany and another about the positive forecasts of Finnish forest growth at the beginning of 1980s. Neither occurred. In agreement with the actual forest research she concluded: *“needle loss lasting a couple of years, as well as reduced forest growth do not necessarily indicate large-scale dying of forests”* and *“Natural periodic variations are known by the forest industry, but being under the pressure of new harvesting methods and conservation proposals the forest industry has to “make noise” as soon as an occasional growth reduction becomes visible, giving them reason to loosen harvesting regulations and reduce conservation areas”*. The author further recommended making future prognosis more carefully.

One forest scientist publicly, but anonymously, criticized the Growth Trends report (*Helsingin Sanomat* 07.09.96). He argued that no large-scale forest areas, but just selected

best-growing trees were included and investigated during the 40 years. He further stated that Finnish case studies presented in the Growth Trends report also expressed the common positive growth trend. Finally, he argued that the positive effects of nitrogen deposition were altered by negative ones a long time ago.

Kari Mielikäinen, co-editor of the Growth Trends report, responded to this article (*Helsingin Sanomat* 11.09.96) and showed that the anonymous scientist had not read the report at all before criticizing it.

The Finnish forestry journal *Metsälehti* (06.09.94) had already presented preliminary results of the Growth Trends report in accordance to an interview with Spiecker: “*natural effects on forest decline have been underestimated, so far*”.

A further interview with Spiecker was made by *Metsälehti* (16.11.96) after the EFI conference in Freiburg and published with the headline “*Europe has the capacity for a huge allowable cut*”. It is interesting to see the differences in interpretations between the Finnish and German press. Quite opposite to this Finnish interpretation, German journalists viewed increased forest growth in European forests as advantageous for the Finnish forest industry (cf. 3.2.2, 3.2.3 and 4.).

### 3.3.4 Press Reactions in Additional Countries

The South Tyrolian newspaper *Die Südtiroler Illustrierte* (21.09.96) conducted an interview with Spiecker, the content of which was similar to all other interviews conducted with him (cf. 3.2.3). An interesting journalistic point of the article was its introduction which asked “*Is he an agent of the Finnish forest industry, a harmless person or an incorruptible scientist? Heinrich Spiecker ... has been caught in the crossfire of publicity*”. Only some further explaining words of the Growth Trends report and a short view of German press reactions were given before the possibility of forming an opinion based on the original statement of Spiecker arose.

Another international journal of science, *Nature* (19.09.96), shortly and neutrally presented the Growth Trends report and summarized the first reactions of scientists, conservationists and politicians with the headline “*Researchers contest reports of tree death*”.

The Growth Trends report does not contain case studies from the Czech Republic and Hungary, but some press reactions could be found in these countries too. In the Czech Republic, the national daily newspaper *Pravo* (1996) published a short report informing about an “explosive” growth of European forests due to pollutants. This report as well as two more short notes in even smaller newspapers were based on the *dpa* (German press agency) report and thus included the results of the Kuusela study as well.

Zoltan Somogyi from the Forest Research Institute in Budapest summarized the Growth Trends report with a three-part-article entitled “*Accelerating growth trend of European forests*” and published it in the Hungarian forestry journal *Erdeszeti Lapok* (1/1998, 2/1998 and 3/1998). The only reaction to his publication thus far has come from a Hungarian born French scientist, Jean Toth (according to Somogyi, pers. comm. 1998). In an unpublished statement, Jean Toth reassured the positive trend of forest growth by presenting his own data and experiences from Southern France. He argued that in the afforestations presented in the report tree species that possess a superior growth capacity

than traditional tree species were used. As further growth accelerating factors were supposed to be: the proper methodology of afforesting with a spacing network optimizing land utilization, regeneration with the same species giving young trees the possibility to use existing mycorrhizae connections, and the afforestation of bare land or marshes with species of great adaptive capacity.

According to Somogyi (pers. comm. 1998), public interest on the issue has been shown and he has been asked to write a report in the common Hungarian press as well.

According to Sennov (pers. comm. 1998) there have been no reactions in the Russian common press on the Growth Trends report. However, the results of individual Russian studies were published in a Russian forestry journal as preliminary results associated with the 20th IUFRO World Congress (1995) in Tampere, Finland (Sennov 1996).

### **3.3.5 Summary of Press Reactions in Other European Countries**

In addition to German press reactions, articles concerning the Growth Trends report could be found in Switzerland, Liechtenstein, Austria, France, Sweden, Finland, Italy and the Czech Republic. These press reactions were mostly reactions on a particular part of the Growth Trends report, whereas the whole context was mentioned shortly. In some countries, the press reactions mainly concerned the preliminary results of the Growth Trends project presented during the 20th IUFRO World Congress (1995) in Tampere, Finland. Depending on the differing importance of forest decline discussions in each country, the results were connected to forest decline with varying emotions. Concerning this point, Swiss press reactions were quite similar to those in Germany. In general, information about the Growth Trends report was correct and neutral. Of all the possible causes for increased forest growth, the role of nitrogen was most often discussed. To a certain extent, the consequences of accelerated forest growth were interpreted differently.

## **3.4 PRESS REACTIONS OUTSIDE OF EUROPE**

Press reactions on the results of the Growth Trends report came from the USA before the results were published in Europe. The original report was written by Rick Atkinson and published in several newspapers (see appendix D). Further reports in daily newspapers from different parts of the USA used his article as a source. The report of Atkinson was based on an interview with Spiecker conducted in early summer 1996. Another German forestry professional, Werner Schumacher of the Forest Research Institute of Baden-Württemberg, as well as the journalist Rudi Holzberger (cf. 1.1) were also cited in these articles.

A retrospective view of German forest decline with the earlier pessimistic prognosis of Germany without forests was given. In addition, a more optimistic time was shown according to the results of the Growth Trends report. While the following headlines (all by Atkinson) signalled different kinds of messages, neutral to provocative, the content of the reports was exactly the same: *“Germany’s Black Forest has ills, but far from dead”* (*The Sunday Oregonian* 01.09.96), *“Reports on death of Black Forest have been greatly*

*exaggerated*” (*Saint Paul Pioneer Press* 23.08.96), and “*Fast-Growing Black Forest Defies the Doomsayers*” (*International Herald Tribune* 15.07.96). The emotional relationship between German people and their forests was pointed out. The results of the Growth Trends report were appreciated by journalists without any criticism.



## 4 RADIO AND TELEVISION REPORTS

After the EFI press conference the results of the Growth Trends report were sent as daily/hourly news in German radio and television: **“European forests are growing faster”**. Short bits of information concerning forest decline discussions of the past were also broadcast. Afterwards many local radios wanted to have direct interviews with Spiecker.

In addition to short daily news, the following programs concerning the Growth Trends report and statements of Spiecker were broadcast via radio and television:

1. 00.10.1996: *“Does the forest die or do the trees grow to the sky”* in *Südwestfunk* (southwestern radio).
2. 02.11.96: *“Lunch time discussion”* in *Bayerischer Rundfunk II* (Bavarian radio).
3. 29.10.96: *“Forest decline, between myths and reality”* in *ARD*.
4. 04.11.96: *“Report”* in *ARD*.
5. 18.02.97: *“Is forest decline dead?”* in Swiss television.

The radio and television reports can be regarded as audible and visible versions of press reactions, except that the contents of the first reactions did not exist here. In all broadcasts, the Growth Trends report was regarded in connection with the forest decline discussion. A retrospective view of forest decline reporting with information of actual forest research was given. Research from different German forest research institutions as well as statements of scientists already mentioned in the German press (e.g. Michael Bredemeier 3.2.2; Bernhard Ulrich 1.1, 3.2.3 and 3.2.3) were included.

In addition to nearly neutral informative reports, a lively discussion with participants who were already well known in the German press (e.g. Heinrich Spiecker, Growth Trends project leader; Peter Schütt (cf. 3.2.3); Otto Kandler (cf. 3.2.3) and Helmut Klein (cf. 3.2.4)) was broadcast on Bavarian radio. Contradictory news about increased forest growth and the results of the forest condition monitoring were discussed with expressions of emotion similar to those in the statements analyzed above (3.2.3 and 3.2.4). The summarizing conclusion of the discussion leader Ludwig Gruber was: *“Black and white coloring is not helpful at all when discussing forest decline. Neither can we regard the issue as closed”*.

In German television, both the Growth Trends project leader and the European Forest Institute were accused of corrupt practices. Correct and neutral presentations of the research activities of the Institute for Forest Growth and Yield, University of Freiburg, and results of the Growth Trends report were associated with the cutting activities of *ENSO*, a Finnish forest enterprise in Russian Karelia. The following arguments were used (cf. also Klein in cap. 3.2.4 (d)): EFI and the German project leader received money from the Finnish Government for research with the purpose of finding out that growth in European



**Figure 2.** Announcement in *Neue Zürcher Zeitung*.

forests has increased and concluding the fact that higher growing stock demands higher cuttings. However, belief in these corrupt practices has not been thought out to the very end: If all European countries were able to cut timber, Finland would have difficulties in marketing its own timber. For a country that lives on its forests, this would result in great economic damage (cf. 3.3.4 (2)).

In addition to some programs in Swiss radio concerning the news of increased forest growth, Swiss television included the Growth Trends report in a program and showed a film made by NZZ (*Neue Zürcher Zeitung*). There was a half-page forecasting announcement in the newspaper *Neue Zürcher Zeitung* (15/16.02.97) listing the following topics (Fig. 2):

- in the mountains of Erzgebirge the forest has been destroyed
- in Göttingen the forest is covered with a roof
- in Europe the forest is growing better than ever
- in the [Swiss] National Park the forest is not a topic for discussion

More information on this topic can be found on the Internet at: <http://www.nzz.ch/format>.



Thirty titles that include the phrase “*Growth Trends in European Forests*” were found on the Internet. They contain citations from proceedings, publication lists and discussions on forestry excursions. According to this source of information, the results of the Growth Trends report were mentioned in a paper by Bernhard Ulrich entitled “*Patient forest – dying or showing good health*”, which was presented at the journalists’ seminar on environmental information, November 1996, in Germany. The Growth Trends results were also a neutral part of excursion reports concerning German forest condition monitoring and of reports including retrospective discussions on forest decline.

Furthermore, just one direct statement was found as a reaction to press articles concerning the Growth Trends report. Dr. Helmut Hass from Koblenz stated press citations (1) “*no more than 3-5% of all trees are connected with forest decline*” and (2) “*the forest growing stock has increased by 43% during the period of 1950-1990*”. The first citation was not a general part of the press reactions, but it has been found in *Münchener Merkur* (09.09.96) where a picture illustrating desiccated trees was entitled “*forest decline in the Harz-mountains. Only 3 to 5% of the trees in Europe are connected, according to a study*”. This information is not part of the Growth Trends report, but of earlier investigations by Spiecker which had been undertaken in southwestern Germany, concerning salvage cuttings of desiccated trees and trees killed by fungi and insects in percent of allowable cut.

The contribution of Hass was correct and did not contain any discrepancies to the Growth Trends report. His conclusions concerning the use of increased growth were also in agreement with the consequences suggested by EFI scientists.



## 6 CONCLUSIONS

There are many reasons for differing interpretations of the press conference publishing:

1. Journalists are neither scientists nor multi-experts; the statements have to be easily understandable.
2. Journalists are always searching for sensational news; a discussion can be influenced by using or avoiding provocative keywords (i.e. *forest decline*).
3. Every journalist wants to be the first one to publish an article; one cannot use too much time for additional research.
4. Most journalists use secondary sources for their articles (i.e. *dpa*, the German press agency).
5. Journalists generally know what their readers will read.

In conclusion, the press release available to all participants of the press conference plays a key role in press reactions. In order to secure the correctness of basic information in the press, the desired information suitable for headlines and the most important contact information, as well as definitions for particular professional words or expressions, should be summarized in the press release. The statements should be made while keeping in mind the possible journalistic importance of their content as well as the topic's background.

While the European Forest Institute and the results of the Growth Trends report were made public on a large-scale, the general public was hardly convinced of EFI being an independent institution because of many contributions arguing against its neutrality and because *negative news as good news* will be remembered. More information about EFI and its research is needed in the form of regular contributions, not only in the forest press, but also in the common press.

The message of the Growth Trends report concerning its goal "*to find out whether site productivity has changed*" and its methods "*to utilize existing growth research data from different countries*", which is the general way of research at EFI, hardly reached public understanding. This is quite opposite to the report's main results about increased forest growth. However, this report was published by a well-known publisher and available at bookshops all over the world, thus allowing a person to refer to discussions in the report. By December 1998, 534 copies of the Growth Trends report have been sold. The reactions of the scientific community have been positive, but these positive reactions have not been visible to the general public.

In spite of all the provoking and upsetting interpretations in the media, the publication of the Growth Trends report must be seen as an important contribution to the necessary change in forest discussions concerning forest decline. Because the study was connected

with forest decline in the press, the existence of forest decline, the validity of forest condition monitoring methods and weaknesses in the information strategy concerning forestry news were discussed publicly. Thus, the general public has become aware of the actual state of forest decline discussions (not being one-sided, but quite controversial) and has therefore formed its own opinion concerning this emotional topic.

Concerning discussions on the validity of monitoring methods and the expression *forest decline*, not only did Swiss politicians generally agree to talk about *forest damages* or *forest diseases* instead of *forest decline*, but the same tendency can also be seen in Germany. The scientific validity of the former interpretation of forest condition monitoring results has even become questionable ever since the former methods of forest condition monitoring were evaluated (*Frankfurter Allgemeine Zeitung* 29.10.97). The results of the evaluation confirmed the need for additional criteria defining the health of trees. Estimation of needle loss as the only criterion for the monitoring of forest condition has been proven unsatisfactory.

The existence of severe damage in forest stands located near big emission sources is not denied even today and pressure for further reductions in air pollution persist. Varying weather conditions and increased nitrogen deposition have been intensively discussed as important forest growth influencing factors as well as possible environmental threats. Parallel to the general demands for a reduction in nitrogen and ammonia deposition, forests with “overweight” because of increasing nitrogen deposition are winning journalistic importance as it is comparable to human overweight, the common sickness of modern society.

The German initiator of forest decline not only confessed publicly that his prognosis of large-scale forest death (Ulrich et al. 1979) did not occur, because concentrations of air pollution were reduced as a result of his warning, but also that it was a mistake of scientists that positive news on forest growth was not made public to the same extent as negative news in the early 1980s (cf. 3.2.3). A retrospective view of observation concerning this topic shows, however, that the reduction in air pollution had already been initiated before Ulrich’s prognosis was published. That is why an analysis of publications concerning the development of forest decline discussions during the last two or three decades could be undertaken, in comparison to the journalistic analysis of Holzberger (1995, cf. 1.1), from the forestry point of view.

Even if the Growth Trends report was, and still is, controversially discussed and sometimes criticized in the media, its professional acceptance can be seen in numerous further publications, press releases and internal information papers of the scientific community, forest managers, forest industry, special interest groups and the general public. These publications confess increased forest growth and the high growing stock of forests, including recommendations to use timber as a renewable material and instructions for silvicultural measures in order to create nature conforming mixed forest stands.

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### A Overview of German Institutions Mentioned in the Common Press

- Forest Research Institute of Niedersachsen, Göttingen (*Niedersächsische Forstliche Versuchsanstalt*)
- Forestry Administration of Baden-Württemberg (*Landesforstverwaltung Baden-Württemberg*)
- Forestry Administration of Unterfranken (*Forstdirektion Unterfranken*)
- Forestry Faculty of University of Munich (*Forstwissenschaftliche Fakultät der Universität München*)
- Forestry Faculty of University of Freiburg (*Forstwissenschaftliche Fakultät der Universität Freiburg*)
- Forestry Highschool of Rottenburg (*Forstliche Fachhochschule Rottenburg*)
- German Environmental Office (*Umweltbundesamt*)
- German Federal Ministry of Agriculture and Forestry (*Bundesministerium für Landwirtschaft und Forsten*)
- German Federal Ministry of Nutrition (*Bundesernährungsministerium*)
- German Forest Protection Society (*Schutzgemeinschaft Deutscher Wald*)
- Ministry of Agriculture and Forestry of Baden-Württemberg (*Ministerium für Landwirtschaft und Forsten des Landes Baden-Württemberg*)
- Ministry of Environment of Nordrhein-Westfalen (*Umweltministerium des Landes Nordrhein-Westfalen*)
- Nature Protection Society of Germany (*Naturschutzbund Deutschlands*)
- Research Centre for Forest Ecosystems, Göttingen (*Forschungszentrum Waldökosysteme Göttingen*)
- Robin Wood
- Society for Environment and Nature Protection of Germany (*BUND*)
- Society of German Foresters (*Deutscher Forstverein*)
- Society of German Forest Owners (*Arbeitsgemeinschaft Deutscher Waldbesitzerverbände*)
- University of Bayreuth, Institute of Plant Ecology (*Lehrstuhl für Pflanzenökologie der Universität Bayreuth*)
- University of Munich, Institute of Botany (*Botanisches Institut der Universität München*)

**B.1 Articles Published in the German Common Press**

Date	Source	Title
00.09.96	Enz-Bote	Totgesagte leben länger: Der Wald gedeiht
00.09.96	Nürnberger Nachrichten	Lassen vermeintliche Waldkiller in Wirklichkeit die Bäume schneller wachsen
00.09.96	Staatsanzeiger BW	Wachsen Bäume immer schneller?
00.09.96	Süddeutsche Zeitung	Nur ein Rauschen im Blätterwald erzeugt
00.09.96	TM	Waldsterben: die Nachricht war falsch
02.09.96	Backnanger Kreiszeitung	Totgesagte leben länger: Der Wald gedeiht
02.09.96	Backnanger Kreiszeitung	Wald-Wucher
02.09.96	Backnanger Kreiszeitung	Der Wald wächst wieder schneller
02.09.96	Badisches Tagblatt	Die Bäume waschen europaweit schneller
02.09.96	Bild-Zeitung	Unsere Bäume wachsen wieder
02.09.96	Darmstädter Echo	Von einem Waldsterben kann keine Rede mehr sein
02.09.96	Express	Der Wald wächst aber warum?
02.09.96	Frankfurter Rundschau	Bäume wachsen jetzt schneller
02.09.96	Kölnische Rundschau	Bäume wachsen schneller in ganz Europa
02.09.96	Neue Osnabrücker Zeitung	Europas Bäume wachsen schneller – Experten stehen vor einem Rätsel
02.09.96	Nürtinger Zeitung	Der Wald wächst wieder schneller
02.09.96	Nürtinger Zeitung	Totgesagte leben länger: Der Wald gedeit
02.09.96	Nürtinger Zeitung	Wald-Wucher
02.09.96	Ostsee-Zeitung	Vom Sterben keine Rede mehr – In Europa wachsen die Bäume schneller
02.09.96	Rheinpfalz	Vom Sterben keine Rede mehr
02.09.96	Robin Wood- Presseinformation	“Holzwissenschaftler mit Brett vorm Kopf”
02.09.96	Ruhr Nachrichten	EU: Keine Rede mehr vom Waldsterben
02.09.96	Schwäbische Zeitung	Europas Wälder wachsen immer schneller
02.09.96	Schwarzwälder Bote	Forstwissenschaftler legen neue Studie vor
02.09.96	Stuttgarter Zeitung	Bäume wachsen schneller – Europäisches Forstinstitut bestreitet Waldsterben
02.09.96	Süddeutsche Zeitung	Europas Bäume wachsen schneller als früher
02.09.96	Südkurier	Forstexperten: Bäume wachsen schneller
02.09.96	Südkurier	Von Waldsterben keine Rede mehr
02.09.96	Südkurier	Vorsicht
02.09.96	Westfalen-Blatt	Unerträglich starkes Stück
02.09.96	Westfalen-Blatt	Der wald stirbt nicht – er wuchert wie nie
03.09.96	Backnanger Kreiszeitung	Wald-Diagnose löst Empörung aus – Wissenschaftler reagieren auf neue Studie: Starker Zuwachs an Holz kein Grund zur Entwarnung
03.09.96	Badische Neueste Nachrichten	Noch keine Entwarnung
03.09.96	Badisches Tagblatt	Sorge um Patient Wald
03.09.96	Badisches Tagblatt	Ende des Waldsterbens? Experten winken ab
03.09.96	Darmstädter Echo	“Das satte Grün ist trügerisch”
03.09.96	Die Welt	Der Wald wächst immer schneller
03.09.96	Frankfurter Rundschau	Chronisch gestreßt und labil
03.09.96	Kölner Stadtanzeiger	Wald-Wuchs kein Signal für Gesundheit – Experten und Politiker kritisieren Forst-Institut
03.09.96	Nürtinger Zeitung	Wald Diagnose löst Empörung aus
03.09.96	Oberbadisches Volksblatt	Jeder fünfte Baum in Europa ist krank
03.09.96	Oberbadisches Volksblatt	Forstwissenschaftler legen neue Studie vor



Date	Source	Title
03.09.96	Oberbadisches Volksblatt	Freiburger Studie löst heftige Proteste aus / Neues Krankheitssymptom bei Bäumen
03.09.96	Offenburger Tageblatt	Kein Grund zur Entwarnung
03.09.96	Offenburger Tageblatt	Wir müssen Bäume fällen, um unsere Wälder zu retten
03.09.96	Rhein Zeitung	Unsere Wälder sterben weiter
03.09.96	Rhein Zeitung	Geliebter Baum
03.09.96	Rhein-Main Zeitung	Waldsterben: Sattes Grün ist trügerisch
03.09.96	Saarbrücker Zeitung	Nach der Angst vorm Sterben kommt die Angst vorm Wuchern
03.09.96	Schwäbische Zeitung	Das Wachstum der Bäume ist allein kein Zeichen für die Gesundheit des Waldes
03.09.96	Schwarzwälder Bote	Die Bäume platzen aus allen Nähten
03.09.96	Schwarzwälder Bote	Der deutsche Wald leidet an Übergewicht
03.09.96	Stuttgarter Zeitung	“Keine Entwarnung beim Waldsterben”
03.09.96	Stuttgarter Zeitung	Die Bäume stehen nach wie vor “unter Streß”
03.09.96	Süddeutsche Zeitung	Umweltexperten: Keine Entwarnung bei Waldsterben
03.09.96	Südkurier	Kein Ende des Waldsterbens – Schnelleres Wachstum Alarmsignal – “Kernaussagen des EFI falsch”
03.09.96	unknown	Streit um Waldsterben neu entbrannt – Wissenschaftler und Politiker gegen Forststudie – “Keine Entwarnung”
03.09.96	Usedom-Kurier	Das satte Grün im Wald ist trügerisch – Experten staunen über Entwarnungsmeldung
04.09.96	Süddeutsche Zeitung	Voreilige Freude über frohe Botschaft – Neue Studie provoziert mit Zweifeln am Waldsterben Widerspruch
05.09.96	Badische Zeitung	“Wir wissen überhaupt nicht, wie es mit dem Wald weitergeht”
06.09.96	Frankfurter Allgemeine Zeitung	Zunahme der Waldschäden in Europa
06.09.96	Frankfurter Rundschau	Jeder fünfte Baum ist krank
06.09.96	Stuttgarter Zeitung	“Der Baum wird in die Zange genommen”
06.09.96	Stuttgarter Zeitung	Studie zum Waldsterben falsch interpretiert: Viel Lärm um nichts
07.09.96	Backnanger Kreiszeitung	Dopingsünden im Wald
08.09.96	Backnanger Kreiszeitung	Nur Holzproduzenten können sich freuen
08.09.96	Sonntag Aktuell	Nur Holzproduzenten können sich freuen
08.09.96	Sonntag Aktuell	Darwin lesen
08.09.96	Süddeutsche Zeitung	Holzwege und andere Irrtümer
08.09.96	Westfalen-Blatt	Das Thema heißt: Baumsterben – die Wälder leben
09.09.96	Münchener Merkur	Der Wald wuchert üppiger denn je
10.09.96	Badische Zeitung	Zu wenig Wald wird geschützt
10.09.96	Süddeutsche Zeitung	Milliardenschäden an den Wäldern beklagt
11.09.96	Hamburger Morgenpost	Wie schlecht geht es dem Wald denn wirklich?
12.09.96	Frau im Spiegel	Der Wald: Gesund oder sterbenskrank?
13.09.96	Die Woche	Öfter mal was Neues
13.09.96	Kölner Stadtanzeiger	Überraschung im Wald
15.09.96	Süddeutsche Zeitung	Wunderheiler und andere Grünschnäbel
17.09.96	Backnanger Kreiszeitung	Nur noch Holzgerippe erinnern an die grüne Pracht
17.09.96	Nürtinger Zeitung	Nur noch Holzgerippe erinnern an die grüne Pracht
17.09.96	Stuttgarter Nachrichten	Nur noch Holzgerippe erinnern an die grüne Pracht
18.09.96	Neue Solidarität	Das Waldsterben und die Neurosen der Baumpsychologen
19.09.96	Süddeutsche Zeitung	Und der Wald stirbt doch
24.09.96	Frankfurter Rundschau	Soviel Holz gab es lange nicht
01.10.96	Frankfurter Rundschau	Entwarnung für den Wald kann nicht gegeben werden

**B.1 Articles Published in the German Common Press (continued)**

Date	Source	Title
08.10.96	Stuttgarter Zeitung	Der Wald stirbt weiter
08.10.96	Süddeutsche Zeitung	Und der Baum stirbt immer noch
21.10.96	Frankfurter Rundschau	Der Wald hat gegen die Kassandras gestimmt
11.11.96	Der Spiegel	Waldschäden: Immer nur Schokolade
12.11.96	Die Welt	Die unterschiedliche Vitalität der Bäume
17.11.96	Merkur-Journal	Wachstum trotz Krankheit: Der Patient Wald gibt den Forschern Rätsel auf
20.11.96	Frankfurter Allgemeine Zeitung	Der Wald stirbt – und er wächst in den Himmel
21.11.96	Die Woche	Totgesagte leben länger
21.11.96	Die Woche	Das Waldsterben – eine Erfolgsgeschichte
21.11.96	Hannoversche Allgemeine	“Der Wald wächst heute schneller als vor 50 Jahren”
22.11.96	Die Welt	Vielfach ist das Wetter der größte Feind des Waldes
22.11.96	Frankfurter Allgemeine Zeitung	Kein Patient
00.12.96	Globus	
00.12.96	Globus	
00.00.97	Agronomical (1/1997)	Stirbt der deutsche Wald oder wächst er schneller?
00.00.97	Natur und Landschaft	Wie geht's dem Wald
00.00.97	Natur und Landschaft	Waldzustand nur langfristig zu beurteilen
00.01.97	Sielmanns Abenteuer Natur	Alles nur ein Medien-Bluff?
15.02.97	Badische Bauern Zeitung	Waldschäden und gesteigerter Holzzuwachs sind kein Widerspruch
29.10.97	Frankfurter Allgemeine	Waldschadensstatistik wissenschaftlich nicht Zeitung haltbar
00.07.98	Erlanger Nachrichten	Die Katastrophe blieb aus

**B.2 Articles Published in the German Forest Press**

Date	Source	Title
16.09.96	Holz-Zentralblatt	Europas Wälder wachsen schneller
00.10.96	Der Waldwirt (23. Jg.)	Waldsterben nicht bagatellisieren
00.10.96	Unser Wald (5/96)	Waldsterben verharmlost – Waldzustand ist kein Indiz “Die Kriterien sind falsch”
10.10.96	Hessischer Wald	Waldsterben nicht bagatellisieren besitzerverband (4/96)
10.10.96	Hessischer Wald	Gröbl: Keine Entwarnung bei Waldschäden besitzerverband (4/96)
00.11.96	BDF Aktuell	Neuartige Waldschäden gefährden das Ökosystem
00.11.96	BDF Aktuell	Zwischen den Bäumen – Wachstum statt Siechtum
11.11.96	AFZ/Der Wald	Wachstumstrends in europäischen Wäldern
20.11.96	Holz-Zentralblatt	Holznutzung kein Widerspruch zu Waldschäden
23.12.96	Holz-Zentralblatt	Ökologische und ökonomische Folgen der aktuellen Wachstumstrends in europäischen Wäldern
1/1997	Unser Wald	Ist “Das Waldsterben” tot?

## B.2 Articles Published in the German Forest Press (continued)

Date	Source	Title
1/1997	Unser Wald	Sogenannte "Blattverluste" = Kein sicheres Maß für Waldschäden
1/1997	Unser Wald	Waldzustand nach wie vor kritisch
1/1997	Unser Wald	Stirbt der Wald noch?
1/1997	Forstwissenschaftliches Zentralblatt	Spiecker et al. 1996 book review by P. Biber

Wachsen Europas Wälder wirklich schneller denn je? Anmerkungen zur "Spiecker-Studie des EFI. By H. Klein (1997, unpublished)

## C Articles Published in Other European Countries

Press release (WSL/FNP; 06.09.96): Europäische Forstprominenz im Emmentaler Plenterwald (Exkursion des Europäischen Forstinstitutes)

Press release (WSL/FNP; 14.09.96): Die Schweizer Wälder wachsen heute besser – Kein Widerspruch zu Kronenverlichtung

### Swiss, Liechtenstein and French common press

Date	Source	Title
22.09.95	Le Monde	Les arbres des forêts grossissent plus vite qu'autrefois
07.09.96	Appenzeller Zeitung	Die "Genesung" eines Totgeweihten Der Volksfreund Gossauer Zeitung Wiler Zeitung
15.09.96	Sonntags Zeitung	Die Schweizer Wälder legten an Jahresringen zu
17.09.96	Andelfinger Zeitung	Beschleunigtes Wachstum der Bäume
17.09.96	Appenzeller Volksfreund	Die Bäume wachsen schneller
17.09.96	Badener Tagblatt	Schlechte Luft als "Dünger"?
17.09.96	Basler Zeitung	Bäume wachsen schnell
17.09.96	Berner Oberländer	Buche, Weissstanne, Fichte sind grösser
17.09.96	Berner Volkszeitung	Die Bäume wachsen in den letzten 20 Jahren immer schneller
17.09.06	Berner Zeitung	Die Bäume wachsen schneller
17.09.96	Blick	Bäumiges Wachstum Die Bäume wachsen besser
17.09.96	Bündner Zeitung	Bäume wachsen schneller und schneller
17.09.96	Bund	Kranker Wald
17.09.96	Der Landbote	Bäume wachsen schneller
17.09.96	Der Tagesspiegel	Schneller und schneller
17.09.96	Der Zürcher Oberländer	Wachstumsschub "dank" Luftverschmutzung?
17.09.96	Die Ostschweiz	Ungeachtet der Waldsterbediskussion: Die Bäume gedeihen immer besser
17.09.96	24 heures	La pollution ferait grandir les arbres
17.09.96	Journal de Geneve Gazette de Lausanne	La forêt suisse grandit. Grace a la pollution?

**Swiss, Liechtenstein and French common press (continued)**

Date	Source	Title
17.09.96	La Liberté	Les arbres poussent plus vite
17.09.96	La Tribune de Geneve	La pollution ferait grandir les arbres
17.09.96	Le Nouveau Quotidien	Les arbres poussent plus vite
17.09.96	Liechtensteiner Volksblatt	Bäume wachsen seit 20 Jahren schneller in den Himmel
17.09.96	Limmattaler Tagblatt	Schlechte Luft als "Dünger"?
17.09.96	Linth-Zeitung	Luftverschmutzung: Dünger für die Bäume?
17.09.96	Luzern heute	Bäume wachsen schneller und schneller
17.09.96	Neue Zürcher Zeitung	Schnelles Wachstum der Waldbäume
17.09.96	Rheintalische Volkszeitung	Ungeachtet der Waldsterbediskussion: die Bäume gedeihen immer besser
17.09.96	Sarganserländer	Bäume wachsen schneller
17.09.96	St. Galler Tagblatt	Abschied vom "Waldsterben"
	Amriswiler Anzeiger	
	Appenzeller Tagblatt	
	Fürstenland/Toggenburg	
	Ostschweizer Tagblatt	
	Rheintal/Werdenberg	
	Schweiz. BodenseeZeitung	
17.09.96	Tages-Anzeiger	Bäume wachsen besser
17.09.96	Thuner Tagblatt	Bäume wachsen immer schneller
17.09.96	Walliser Bote	
17.09.96	Weinländer Zeitung	Beschleunigtes Wachstum der Bäume
17.09.96	Zürichsee-Zeitung	Bäume sind schneller gewachsen
	Allgemeiner Anzeiger vom Grenzpost am Zürichsee Zürichsee	
19.09.96	Die Vorstadt	Neues vom Waldsterben
19.09.96	Neu Zürcher Zeitung	Ist der Wald jetzt krank, oder ist er gesund?
19.09.96	Revue Automobile	Von Waldsterben keine Spur
21.09.96	Liechtensteiner Vaterland	Bäume wachsen schneller und schneller
22.09.96	SonntagsZeitung	"Stark vereinfachte Sichtweise"
22.09.96	Tagesspiegel	Die Verunsicherer
26.09.96	Engadiner Post	Bäume wachsen schneller und schneller
26.09.96	Schweiz. Schreinerzeitung	Der Wald lebt
09.10.96	Uerner Wochenblatt	Luftverschmutzung als Dünger?
30.10.96	Basler Zeitung	Selbst mit wenig Nadeln machen Fichten eine gute Figur
08.11.96	Basler Zeitung	Waldschäden
15./16.02.97	Neue Zürcher Zeitung	Ist das Waldsterben tot?
27.02.97	Neue Zürcher Zeitung	Bundesrat beschreitet Vorwurf der Waldsterbe-hysterie

**Swiss, Austrian and French forest press**

Date	Source	Title
00.00.96	La Forêt Privee (231/1996)	Une etude de l'European Forest Institute (EFI) conclut a l'augmentation du taux de croissance des forets europeennes
00.08.96	Internationaler Holzmarkt (8/1996)	Tagung zur europäischen Waldforschung
00.11.96	Österreichische Forstzeitung	Beschleunigtes Baumwachstum
00.00.97	Österreichische Forstzeitung (5/97)	Wachsen unsere Bäume anders als früher?
00.00.97	Schweizerische Zeitschrift für Forstwesen 148 (1997) 9: 733-735	Wachstumstrends in Europas Wäldern
00.00.97	Wald und Holz	Die Bäume wachsen schneller–was nun?

**Swedish and Finnish press**

Date	Source	Title
06.09.94	Ilta-Sanomat	Luonnon vaikutuksia "metsänkuolemiin" on pahasti aliarvioitu
00.00.95	Fakta Skog, SLU (18/95)	Varför ökar tillväxten?
08.08.95	Etelä-Saimaa Hyvinkään Sanomat Itä-Häme Koillissanomat Turun Sanomat	Typen ja hiilidioksidin vaikutus ei näy vielä Suomen männyissä
08.08.95	Keski-Uusimaa	Typpi ja hiilidioksidi ei näy vielä männyissä
08.08.95	Lalli	Ilmastomuutos kasvattaa Keski-Euroopan metsiä
08.08.95	Lapin Kansa	Suomen metsissä ei typpipommi tikitä
08.08.95	Länsi-Suomi	Typpi ja hiilidioksidi ei lisännyt mäntyjen kasvua
15.08.95	Hämeen Sanomat	Metsätietoa Tampereelta
18.08.95	Turun Sanomat	Metsien ennätyskasvu ilmansaasteiden ansiosta
19.08.95	Helsingin Sanomat	Metsäkongressi synnytti uhkakuvia ja kysymyksiä
28.05.96	Skogen (5/96)	Varför ökar tillväxten?
05.09.96	Helsingin Sanomat	Hyvä uutinen metsistä
06.09.96	Finnish press agency	Metsien kasvu hidastunut pari prosenttia
07.09.96	Helsingin Sanomat	Metla on jarrutellut metsän kasvutietojen julkistamista
07.09.96	Kaleva	Metsien kasvu hidastunut hieman
07.09.96	Karjalainen	Suomen metsien kasvu hidastui pari prosenttia
07.09.96	Lapin Kansa	Metsien kasvu hidastunut pari prosenttia
11.09.96	Helsingin Sanomat	Metsien notkahdus on normaalia kasvuvaihtelua
13.09.96	Helsingin Sanomat	Metsä ei elä ennusteiden mukaan
16.11.96	Metsälehti	Euroopalla varaa jättihakkuisiin
00.12.96	Skogen (12/96)	Ovántat hög tillväxt

**Further European press:**

Date	Source	Title
00.00.96	MF Dnes	Lesy v Evrope nyne rostou rychleji, tvrdi odbornici
00.00.96	Pravo	Evropske lesy rostou jako z vody – díky zplodinám
19.09.96	Nature	Reseachers contest reports of tree death
21.09.96	Die Südtiroler Illustrierte	Ist das Waldsterben nur ein großer Irrtum gewesen? Der Wald, ein Traum. Le Waldsterben
24.09.96	Rovnost	Evropske lesy rostou rychleji nez drive
00.10.96	EFI News	Europe's Forests Are Growing Faster
1/1998	Erdeszeti Lapok	Gyorsulo fanövekedesi trendek Europaban I. (Accelerating growth trend of European forests I.; by Z. Somogyi)
2/1998	Erdeszeti Lapok	Gyorsulo fanövekedesi trendek Europaban I. (Accelerating growth trend of European forests I.; by Z. Somogyi)
3/1998	Erdeszeti Lapok	Gyorsulo fanövekedesi trendek Europaban I. (Accelerating growth trend of European forests I.; by Z. Somogyi)

Statement of J. N. Toth concerning the article of Somogyi: Hazzosozolas Dr. Somogyi Zoltan: "Gyorsulo fanövekedesi trendek Europaban I., II es III." Cimu cikkehez

**D Articles Published Outside of Europe**

Date	Source	Title
12.07.96	The Washington Post	Germany's Immortal Beloved
12.07.96	The Washington Post	German Fears of Early Death for Forest Apparently Are Premature
15.07.96	International Herald Tribune	Fast-Growing Black Forest Defies the Doomsayers
23.08.96	Sait Paul Pioneer Press	Reports on death of Black Forest have been greatly exaggerated
01.09.96	The Sunday Oregonian	Germany's Black Forest has ills, but far from dead