RECORD OF PUBLIC COMMUNICATIONS FOR THE H.J. ANDREWS EXPERIMENTAL FOREST

A Brief Summary and Analysis
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INTRODUCTION

This report documents and briefly examines the public communications record of the H.J. Andrews Experimental Forest since about 1980 and the associated research-management partnership defined in 1991 as the Cascade Center for Ecosystem Management. These records provide a listing, brief summary, keywords, and analysis of the record of printed public communications concerning the Andrews Forest site, its programs of research, education, and management, and people with high levels of engagement with the Andrews Forest. The intended audience of the communications examined here is the general and informed public. The principal outlets are newspaper, newsletter and magazine articles, journalistic accounts of issues in science journals (e.g., BioScience and Science), books covering science and social issues in the region and nation, and publications of science organizations (e.g., USDA Forest Service Pacific Northwest Research Station) intended for general, informed readers. Also documented is a small number of books that include discussion of the Andrews Forest program. Several of the communications are opinion pieces authored by Andrews Forest scientists and published in newspapers. This record is distinguished from publications by scientists intended for an audience of other scientists accessed via the scientific literature; the Andrews Forest program record of that type is summarized in the bibliographic database for the Andrews Forest located via the web at http://www.fsl.orst.edu/lter/pubs/biblio.cfm?topnav=41.

The intent of compiling this record and initial analysis of newspaper articles, magazine stories, and books is to provide basic information on this aspect of the outreach program from the Andrews Forest, including the Long-Term Ecological Research (LTER) program based there. This resource can be used for future studies assessing the roles of programs such as that at the Andrews Forest in

affecting public perception, management, and policy for ecosystems and natural resource systems. These themes have been addressed in historical and social science analyses by Antypas (1998), Luoma (1999), Busby (2002), Lach et al. (2003), Geier (in review), and others.

Other communications that might be considered part of the overall Andrews Forest public communications program include television and radio interviews; public presentations, field tours, and forums (these are documented in annual listings available from the Cascade Center for Ecosystem Management web page; http://www.fsl.orst.edu/ccem/learning/presentations.html); and video tapes for distribution through outlets such as the Oregon State University Forestry Media Center (http://fmc.cof.orst.edu/).These forms of communications are not included in this summary and analysis. See Table 6.1 in the Andrews Forest program LTER4 proposal (http://www.fsl.orst.edu/lter/pubs/grants/lter/lter4.cfm?topnav=120) and Table 5.1 in the LTER5 proposal (http://www.fsl.orst.edu/lter/pubs/grants/lter/lter5.cfm?topnav=120) for listings of other types of communications among the Andrews Forest program, the general public, and policy makers, including congressional testimony and service on National Academy of Sciences/National Research Council committees by Andrews Forest scientists.

METHODS

This documentation and analysis are based on a collection of articles and books that have been published since 1980. The collection is filed in the Ecosystem and Landscapes Research Team at the Forestry Sciences Laboratory, 3200 SW Jefferson Way, Corvallis, Oregon. Fred Swanson accumulated this collection of articles over time and without a consistent search of the literature. The records reported here were based on first determining what communications to attribute to the Andrews Forest program; second, considering the completeness of this record; third, ranking the items in terms of strength of representation of the Andrews Forest program and people. Finally, numbers of communications per year since 1980 are displayed for categories of (1) geographic scope of outlet (i.e., local, regional, or national publications), (2) type of communication (i.e., newspaper/newsletter, magazine, scientific journal, book), and (3) initiation of the story (i.e., “base level” science reporting to the public, policy/management event, or natural disturbance event).

Criteria for inclusion of items in the record

It is quite challenging to decide what to include as part of the Andrews Forest program and what to exclude. We used the criterion that the Andrews Forest and/or a person highly involved with the Andrews Forest program are mentioned or quoted in terms relevant to the Andrews Forest. In some instances it is difficult to make a clear interpretation of when a person is appropriately considered Andrews Forest-relevant, especially when a person’s engagement with the Andrews Forest has varied over time. Some coverage is given to articles concerning other study sites and research programs, notably Mount St.

Helens and Wind River Experimental Forest Canopy Crane programs, where a major participant at the Andrews Forest is cited for work or communications efforts at those sites. No attempt has been made to provide complete coverage of public communications for those other sites and their associated programs, which have had voluminous communications.

For some of the analyses that follow, both the full record compiled on the basis of the above criteria (n=132) and also the sub-set of publications that make specific mention of the Andrews Forest (n=70) were considered.

Completeness of the record

This record is not complete. We expect that it is nearly complete since about 1988 and is most complete for the major items and outlets, but articles in earlier years and those in more obscure and geographically removed outlets may be missing. In several cases we have a citation, but not the original article, so our records are incomplete and the items are not fully accounted for in the analysis. Only one article in our collection pre-dates 1988; we believe that the amount of communications during this earlier period was much less than in the 1990s, but some activity did occur and is missing from our records. We have not attempted to make that record more complete or to make a consistent search.

Rating of relevance of the Andrews Forest and its people

To provide a rough measure of the role of the Andrews Forest in the article, we separately rated the prominence of site and personnel. In each category the communication is given a relevance rating of n/a, low, med, or high with corresponding points.

Site: n/a = no mention of Andrews Forest (0 points)
Low = Andrews Forest mentioned once (1 point)
Med = Andrews Forest mentioned multiple times (2 points)
High = focus of article is Andrews Forest (3 points)

Personnel: n/a = no Andrews Forest personnel mentioned (0 points)
Low = one Andrews Forest person mentioned (1 point)
Med = 2+ Andrews Forest personnel mentioned/one mentioned is focus of article (2 points)
High = multiple Andrews Forest personnel mentioned/multiple personnel focus of article (3 points)

The site and personnel points are summed for a total point relevancy rating. The site and personnel points are summed for a total point relevancy rating. For example, a communication that simply mentions an Andrews Forest scientist (i.e. Franklin) would receive a score of 1 point. In contrast, a communication focusing on the Andrews Forest and its personnel (mentioning numerous scientists) would receive a score of 6 points.

Disposition of records

A bibliographic database with citations, annotations, and measure of relevance of all communications items in this analysis was developed and is accessible via the Andrews Forest data catalog (SS001). In addition, the citations for these communications are included in the Andrews Forest publications bibliography available via the web at http://www.fsl.orst.edu/lter/pubs/biblio.cfm?topnav=41.

RESULTS

Since 1988 the Andrews Forest, research-education-management program, and key leaders have appeared in the pubic print media in at least 132 articles and books that we have documented. These communications range from brief mention in local newspapers to a full book featuring the Andrews Forest program and people (Luoma 1999). Only 10 to 20 articles, approximately one per year, are quite significant in terms of profile of the Andrews Forest, depth of content, and scope of readership reached.

Geographic scope and communication type

Of the total of 132 inventoried communications, 32% originated from local sources, 44% from regional sources, and 24% from national sources (Table 1a). Local publications include the Corvallis *Gazette-Times* and the Oregon State University *The Daily Barometer*. Publications, such as *The Portland Oregonian* and *Evergreen Magazine*, are representative of regional outlets; and national outlets include *The New York Times* and *Discover* magazine. Of the local communications, 100% were in newspapers or newsletters. In general, we find journal and especially books proportionately more common outlets at the broader geographic scales simply because these outlets are designed for and marketed at the broad scale. Regional newspapers and newsletters account for the most communications (49) of any outlet/publication type category, and made up 84% of the total regional record. Magazine articles accounted for 10%, and journals 5%. At the national, scale newspaper/newsletter communications account for only 19% of the record. Magazines are the most numerous outlets nationally, accounting for 38%. Journals contained 19% of national communications, and books 25%. These results suggest that at broader geographic scales more publication types are represented.

We also consider only the subset of communications that explicitly mention the Andrews Forest (Table 1b). Of these 70 communications, 40% were local, 27% regional, and 33% national. In contrast to the full record, dominated by regional publications, this sub-set record contains higher proportions of local and national publications. Local newspaper/newsletter communications are the majority (28). This suggests that perhaps locally the Andrews Forest is well known as a site, whereas regionally its scientists are called upon by the media as experts. Within the local category 100% of publications are found in newspaper/newsletter, which is similar to the distribution for the full set of communications (Table 1a). Regionally, 89% of communications are newspaper/newsletter and 11% are magazine. Nationally, the largest category is books, representing 35%. A mere

26% of publications were found in newspaper/newsletter, 22% in magazines, and 17% in journals. Like the full record, the national category for publications mentioning the Andrews Forest includes all types of sources.

Numbers of communications over time

Numbers of communications over time cataloged in terms of types and outlets can be interpreted in terms of base line versus pulsed triggers of communication (Figures 1a-d). Considering the full record of communications (Figures 1a-b), we see a paucity of articles in 1980-1987 when we feel that the record is quite incomplete. A few communications in 1988 is followed by peak years in 1989 and 1990, reflecting the old growth/spotted owl debate that raged in the Pacific Northwest in the early 1990s. Many communications cite Eric Forsman's spotted owl research, and later, "New Forestry," a management approach to the old-growth Forest conflict put forward by Jerry Franklin and other Andrews Forest-related personnel. This debate was addressed in 1993 and 1994 with the Northwest Forest Plan. After 1993 there is a drop in numbers of communications. However, expanded recognition of the Andrews Forest in the early 1990s may have created public awareness and contacts with journalists that continued to fuel a base level of communications higher than in the pre-1990 period. The general pattern of communications over time is similar between the simple count of articles (Figure 1a) and tracking of the points assigned to publications per year (Figure 1b), although changes from year-to-year are less drastic in the point assessment. This may have occurred because the issues in 1990, for example, featured experts speaking without reference to the Andrews Forest, but lingering notoriety of the issues led to some articles that involved both personnel and follow up visits to the Andrews Forest.

Analysis of the subset of communications that make reference to the Andrews Forest (Figures 1c-d) suggest many publications simply name Andrews Forest scientists, but do not explicitly reference the site. However, the patterns of communications over the years do not differ much between the full-set and the subset.

Initiation of communications and outlet type over time

The numbers of communications for the full record (Figure 2a, Table 2a) and only those that name the Andrews Forest (Figure 2b, Table 2b) are plotted over time distinguished by the three categories of initiation considered here: base level, policy/management event, and natural disturbance event.

For total record, 63 publications were identified as part of base level communications (48%), 61 were initiated by policy/management events (46%), and 8 were initiated by natural disturbance events (6%). For local communications the majority was base level (60%), whereas at both regional and national scales the majority of communications was initiated by policy/management events (50% and 53%, respectively). Communications initiated by natural disturbance events were published in 1990 on the tenth anniversary of the Mount St. Helens eruption, and in 1996 after several record floods in western Oregon, including one in the Andrews Forest. In the period

1989 to 1993 the majority of communications was initiated by policy/management events: the old-growth/spotted owl dilemma, the NW Forest Summit convened by President Clinton and Vice President Gore, the Northwest Forest Plan, and related news items. However, in the later 1990s, base level communications rose as policy/management communications diminished. While our record before 1989 is incomplete, we do believe that base level communications of science findings to the public picked up substantially at the beginning of the 1990s as public attention to old-growth, northern spotted owls, and forestry issues in general increased dramatically. Only after the policy/management issues exploded did the public learn much about basic science (base level) conducted at the Andrews Forest. Perhaps the boom created a curiosity to learn more basic information about forest ecosystems, the Andrews Forest, and its scientists. Since 1999 no print communications have been initiated by policy/management events.

Local news items dominated the early 1990s, but dropped off sharply in the later 1990s. Regional and national communications have dominated from 1993 to the present. During the period of policy transition there may have been a demand for policy/management news at the local level, where information would be relevant to the daily lives of citizens. And in the later 1990s, when management issues had been somewhat resolved and public interest may have waned, there was a slow-down in local news of the Andrews Forest program. National and regional news dropped off less precipitously; perhaps indicating continued larger national and regional demand for base level, basic science articles.

For the record that specifically cites the Andrews Forest (Figure 2b; Table 2b), 35 publications were base level (50%), 32 were initiated by policy/management event (46%), and 3 were initiated by a natural disturbance (4%). Some of the differences between initiation factors between the full record and the subset reflect the prominent role of Jerry Franklin in the “New Forestry” debates, which did not involve recognizing his association with the Andrews Forest.

CONCLUSIONS

The Andrews Forest program has been rather consistent over the past decade and a half in base level communications concerning the science and management of Pacific Northwest forest ecosystems and watersheds. Pulses of communication activities occurred periodically in response to events either in the social domain, such as the New Forestry and Northwest Forest Plan debates of the early 1990s, or in terms of natural processes, such as headline events associated with the 1996 floods or anniversaries of the 1980 eruptions of Mount St. Helens. In cases where the issues became very big, the role of the Andrews Forest program became more difficult to identify. Communications to the general public from the Andrews Forest program have consistently and positively reflected on the program and its people, although some issues closely associated with the Andrews Forest, such New Forestry, have been hotly disputed.

This record of public communications from the Andrews Forest is a rich resource for addressing questions, such as: What has been the impact of the Andrews Forest program or similar ecosystem research programs on how large issues in public forest policy have been framed and addressed? What was the role of the policy/management explosion in the early 1990s in raising the profile of the Andrews Forest program and forestry and ecosystem science in general? What have been the short- and long-term effects of this type of communication to advance public understanding? How does development of the public communications record of the Andrews Forest program compare with other sites with similar ecosystem research programs? In this regard, is there a common theme of public conflict raising the profile of a place and a program so that more general science education can follow? What are the implications for managing future communications efforts, to the extent they can be managed? We invite use of this database to address these and other questions.

LITERATURE CITED

Antypas AR. 1998. Translating ecosystem science into ecosystem management and policy: a case study of network formation. PhD dissertation, Univ. Washington. 240 p.

Busby PE. 2002. Preserving “old growth:” Efforts to salvage trees and terminology in the Pacific Northwest. BA thesis, Harvard Univ.

Geier MG. in review. Necessary work: Discovering old forests, new outlooks, and community on the H.J. Andrews Experimental Forest, 1948-2000. USDA Forest Service, PNW General Technical Report.

Lach D, List P, Steele B, Shindler B. 2003. Advocacy and credibility of ecological scientists in resource decisions making: a regional study. BioScience. 53(2):170-178.

Luoma JR. 1999. The hidden forest: The biography of an ecosystem. New York, Henry Holt and Co. 229p.

Table 1. Numbers and percent of communications distinguished by geographic scope of outlet and type of communication.

Table 1a. Full Record (n=132).

	Type of Communication				
Geographic Scope	Newspaper/ Newsletter	Magazine	Journal	Book	**Totals**
LOCAL					
#	42	0	0	0	42
%	100	0	0	0	32
REGIONAL					
#	49	6	3	0	58
%	84	10	5	0	44
NATIONAL					
#	6	12	6	8	32
%	19	38	19	25	24

Table 1b. Only communications that specifically mention the Andrews Forest (n=70).

	Type of Communication				
Geographic Scope	Newspaper/ Newsletter	Magazine	Journal	Book	**Totals**
LOCAL					
#	28	0	0	0	28
%	100	0	0	0	40
REGIONAL					
#	17	2	0	0	19
%	89	11	0	0	27
NATIONAL					
#	6	5	4	8	23
%	26	22	17	35	33

Table 2. Numbers of communications per year for local, regional, and national outlets for the three initiation types distinguished.

Table 2a. Full Record (n=132).

	local			regional			national		
year	**base level**	**policy event**	**natural disturbance**	**base level**	**policy event**	**natural disturbance**	**base level**	**policy event**	**natural disturbance**
1980	1	0	0	0	0	0	0	0	0
1988	0	0	0	1	0	0	0	0	0
1989	1	1	0	1	6	0	0	0	0
1990	6	7	1	3	8	1	3	6	1
1991	7	2	0	6	0	0	2	2	0
1992	5	2	0	1	4	0	2	3	0
1993	0	3	0	1	8	0	0	0	0
1994	0	0	0	0	1	0	1	2	0
1995	0	0	0	3	0	0	3	1	0
1996	0	0	1	1	1	4	0	1	0
1997	0	0	0	1	0	0	0	1	0
1998	2	0	0	1	0	0	1	1	0
1999	0	0	0	0	1	0	1	0	0
2000	0	0	0	1	0	0	0	0	0
2001	0	0	0	2	0	0	1	0	0
2002	3	0	0	2	0	0	0	0	0
Summary statistics									
TOTAL	25	15	2	24	29	5	14	17	1
%	60	36	5	41	50	9	44	53	3

Totals	#	%		#	%
Base Level	63	48	local	42	32
Policy/ Management	61	46	regional	58	44
Natural Disturbance	8	6	national	32	24

Table 2b. Only communications that specifically mention the Andrews Forest (n=70).

	local			regional			national		
year	base level	policy event	natural disturbance	base level	policy event	natural disturbance	base level	policy event	natural disturbance
1980	1	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0
1989	1	1	0	0	0	0	0	0	0
1990	4	4	1	1	5	0	0	4	0
1991	4	2	0	4	0	0	2	2	0
1992	2	1	0	1	0	0	2	2	0
1993	0	1	0	0	3	0	0	0	0
1994	0	0	0	0	0	0	1	2	0
1995	0	0	0	1	0	0	1	1	0
1996	0	0	1	1	0	1	0	1	0
1997	0	0	0	0	0	0	0	1	0
1998	2	0	0	0	0	0	1	1	0
1999	0	0	0	0	1	0	1	0	0
2000	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	1	0	0
2002	3	0	0	1	0	0	0	0	0
Summary statistics:									
TOTAL	17	9	2	9	9	1	9	14	0
%	61	32	7	47	47	5	39	61	0

Totals	#	%		#	%
Base Level	35	50	local	28	40
Policy/ /Management	32	46	regional	19	27
Natural Disturbance	3	4	national	23	33

Figure 1. Plot of communications activities from the Andrews Forest program per year. a. and b. full record (n=132); c. and d. for sub set of the record that specifically mentions Andrews Forest (n=70); a. and c. numbers of communications; b. and d. numbers of points representing relevance of the Andrews Forest program.

Figure 1a

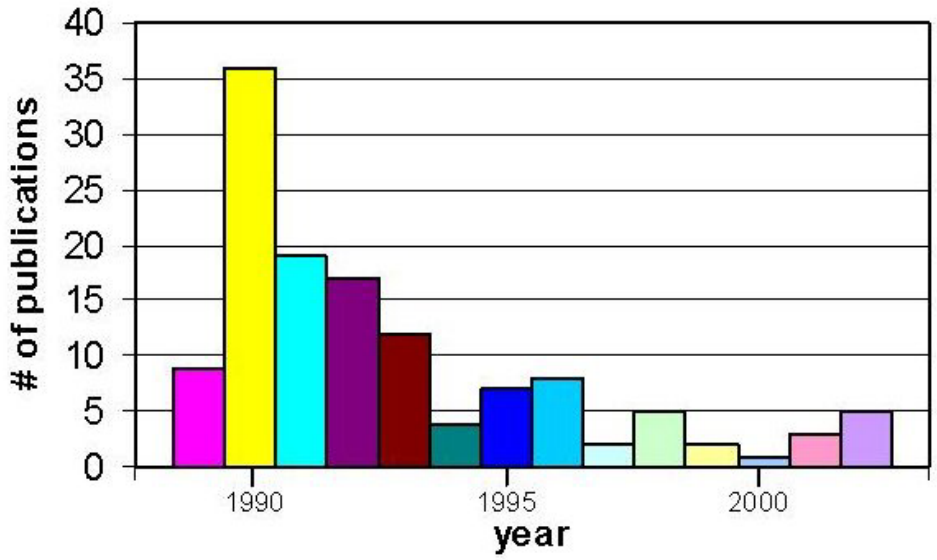


Figure 1b

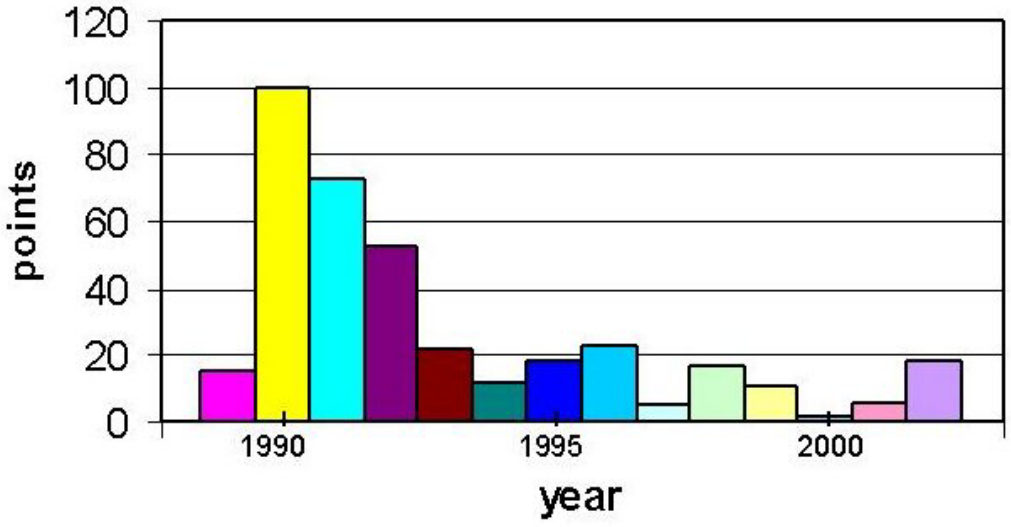


Figure 1c

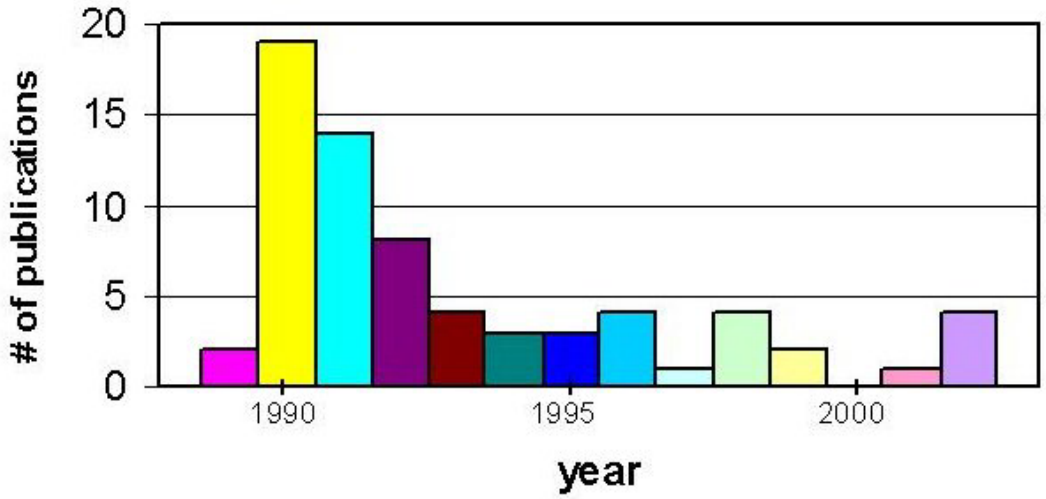


Figure 1d

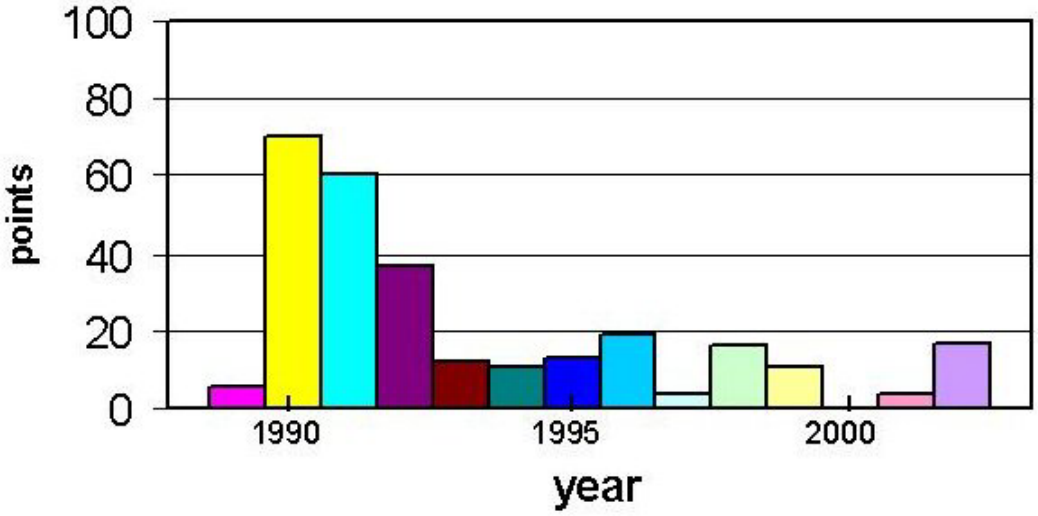


Figure 2. Plot of numbers of communications from the Andrews Forest program per year distinguished by geographic scope of outlet (local, regional, national) and initiation of the communication (base level public science communication, policy/management event, natural disturbance event). a. full record (n=132); b. only communications that specifically mention the Andrews Forest (n=70). (nd = natural disturbance triggers of communication; policy = policy event trigger; base = base-level communication.)

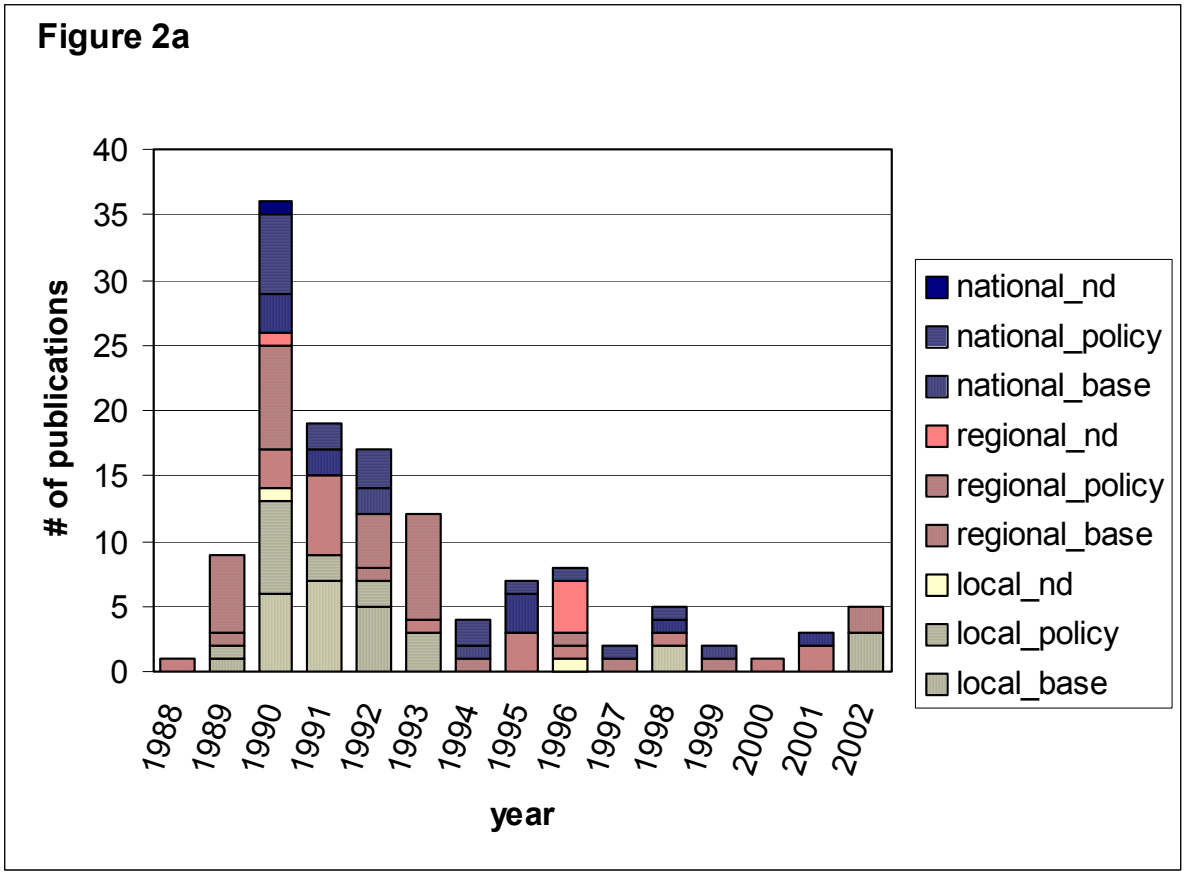
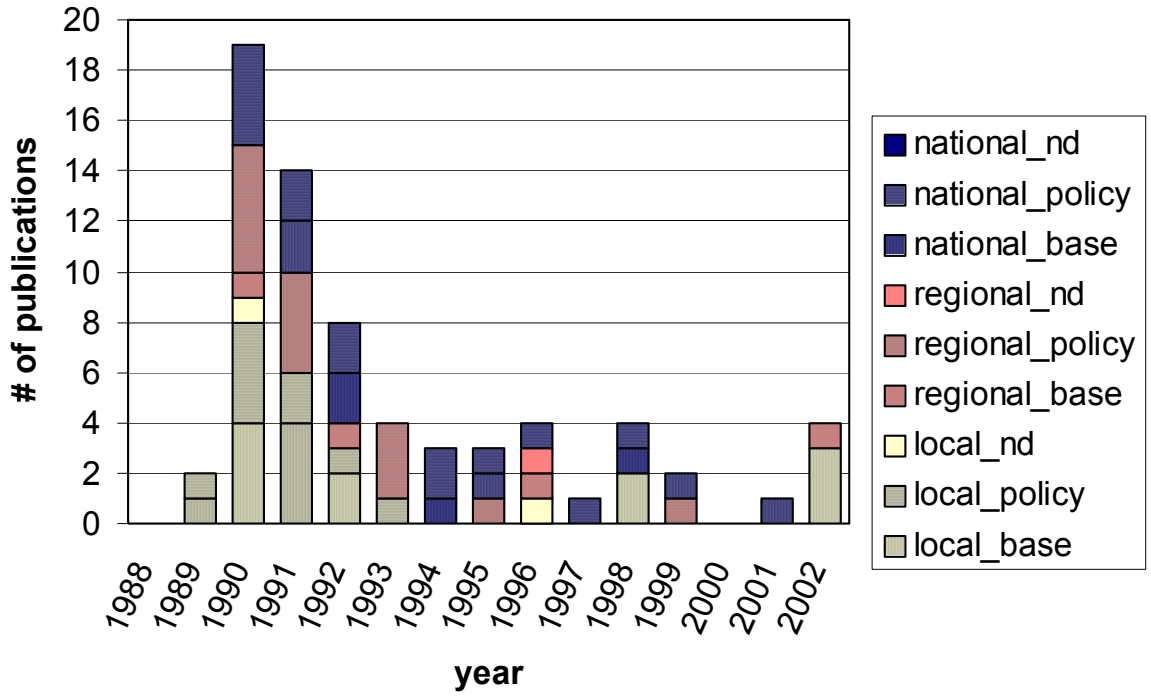


Figure 2b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