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A COMPARISON OF ATTITUDES HELD BY WILDLIFE DAMAGE MANAGERS AND ANIMAL RIGHTS ACTIVISTS

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Abstract: We designed an instrument to measure attitudes about a variety of animal use issues, collect information on animal-related activities, and determine demographic characteristics of the sample. We administered the instrument to 151 Animal Rights Information and Education Service (ARIES) and 150 National Animal Damage Control Associaton (NADCA) members. Based on analysis of the data, we concluded that these 2 groups differ greatly on their attitudes about human use of animals. In addition, they differ greatly in background and types of activities in which they participate. Thus, attempts to bring these groups together for discussion must start with the realization they are beginning with very little common ground between the groups. We offer these observations not to discourage attempts at dialogues but simply as a caveat to those involved.

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Key Words: animal rights, animal use, animal welfare, attitudes, wildlife damage management.

Direct and indirect communication between groups and individuals holding different attitudes is essential and often inevitable. Frequently, key individuals from differing groups are brought together for discussion in hope that they might: (1) establish some common ground for future cooperative efforts, or (2) gain a better understanding of the viewpoints or attitudes of detracting groups. Within the wildlife management arena, recent examples of this include a symposium on hunting, and focus groups brought together for strategic planning within United States Department of Agriculture, Animal and Plant Health Inspection Service (APHIS), Animal Damage Control. An understanding of the attitudes held by groups on both sides of an issue may facilitate dialogue by eliminating preconceived notions that might hinder effective communication. In addition, proponents on both sides of the issue will affect future policies.

In Tract II of Morals, Plutarch discussed vegetarianism, cruelty to animals, animals as creations equal to humans, and justice to other living creatures (Goodwin 1889). These, and other animal use issues, are with us today. Schmidt (1989a) observed that while the majority of the general public may not support animal rights, it is apparent that animal welfare issues concern most people. There is a clear demarcation between animal rights and animal welfare issues. Underlying philosophies of animal rights and animal welfare are complex and difficult to summarize. In general, animal rightists believe that animals have the same right to life as people, whereas animal welfarists are concerned with reducing pain and suffering to animals (Schmidt 1989b). However, it is unfair to attribute the animal rights movement with extreme stances such as supporting the right of an animal to vote. More accurately, animal rights proponents believe that animals are sentient beings that experience the same emotions as humans and should be treated with the same respect afforded humans. In addition, animal welfare advocates are involved in developing standards for housing and care of animals. In reality, the distinction becomes vague as individuals confuse philosophies, or are sympathetic to portions of each. What is clear is that animal rights groups have rallied a segment of the population to their cause (Int. Assoc. Fish and Wildl. Agencies [IAFWA] 1990). As animal rights groups focus more attention on wildlife-related activities, public opinion about the role of wild animals in society will be impacted (Hooper 1988, Schmidt 1989a,b).

Several studies have provided insight into the attitudes, skills, and demographics of animal rights activists. Research-based studies have described animal rights activists as "highly-educated, relatively well-to-do, female professionals" (Richards and Krannich 1991) who will "continue to challenge both the methods and objectives of wildlife damage management" (Wywialowski 1991). Within the popular literature devoted to animal rights, activists have been described as well-organized and well-informed in techniques such as media manipulation (Animals' Agenda 1989a, Greenville 1989, People for the Ethical Treatment of Animals [PETA] 1991a), crowd psychology (Plous 1989), educational methods (Finch 1988, Schwartz 1989), and protest skills (Animals' Agenda 1989b). The image promoted by animal rights groups is that of a young, articulate, and dedicated activist (PETA 1991b).

While studies of animal rights activists are not unique, little research compares directly their attitudes to those of groups involved in professional wildlife management. We developed a measurement tool to assess attitudes and demographics of these groups. Herein, we consider the communications barriers raised by attitudinal differences evidenced by analysis of our data.

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METHODS

We developed and administered an instrument designed to address a broad array of animal use issues ranging from classroom dissection of laboratory specimens to lethal trapping of nuisance animals. Our attitude scale differs from others that have been developed primarily in the scope of animal use topics addressed.

Instrument Development

The attitude scale was divided into 5 sections. Part I related to the range of organisms included in the respondent's definition of the term "animal." Respondents chose from 7 animal categories: mammals, birds, fish, amphibians, reptiles, insects and spiders, and other invertebrates. Part II of the instrument consisted of 40 attitude statements. Topics for attitude items were based on a review of literature related to animal use and included: general attitudes about animal use, farming and ranching, research, teaching, personal decoration, and wildlife management. Part III contained 8 items dealing specifically with the types of rights an animal might be granted. Items for Parts II and III were of a Likert design where respondents chose one of 5 answers ranging from strongly disagree (value of 1) to strongly agree (value of 5). An "uncertain" category was given a value of three. Part IV contained 12 dichotomous choice items related to the respondent's involvement with animal-related activities and organizations. Part V of the instrument was designed to collect demographic/life history information. The 11 items in this section asked for information about age, gender, race, hometown population size, professional goals, and exposure to rural life.

We used structural equation modeling (Bentler 1986), which supported a 1 factor model that allowed us to total scores over the entire test. We determined content validity by expert review and pilot testing with groups representing polar views toward the issue of animal treatment by humans. One group consisted of animal rights activists attending a regional rally in Atlanta, Georgia; the second, members of the National Animal Damage Control Association (NADCA) attending a symposium in Kansas City, Missouri. Pilot testing showed the instrument to be effective in discriminating between groups. To refine the instrument further, we conducted pilot testing with college students enrolled in a variety of academic majors. Based on comments and questions by the pilot groups, we refined or removed any ambiguous items.

Reliability estimates, or Cronbach's alpha (Crocker and Algina 1986), were high for the groups independently and in combination. Cronbach's alpha for the combined groups was 0.99, the pro-use group had a reliability estimate of 0.92, and the anti-use group estimate was 0.95.

The attitude portion of the test instrument was recoded to score on a scale of 1-5 with a higher score indicating greater opposition to the use of animals and a lower score suggesting greater support for human use of animals. For example, Item 1 reads, "The only rights an animal has are those that are as-

signed to it by humans." We predicted that animal rights proponents would disagree with that statement, and therefore the item score was recoded so that strong disagreement was given a score of 5. Data were analyzed using SPSS/PC+ (SPSS, Inc. 1990). An *a priori* alpha < 0.05 was determined.

Sampling Procedure

The 2 samples were drawn from the subscriber list of the Animal Rights Information and Education Service (AR-IES) and the NADCA membership list. The ARIES Magazine synthesizes animal rights activities across the nation and is therefore of interest to anyone concerned with following the issue. The NADCA is a professional organization for animal damage control practitioners and researchers. Members of NADCA are involved in lethal and nonlethal techniques of wildlife damage management. Therefore, we hypothesized that this group would be more supportive of human use of animals than were ARIES members.

Survey protocol was consistent with that prescribed by Dillman (1978). The ARIES members (n = 151) and NADCA members (n = 150) were randomly chosen from the sampling frame. We mailed cover letters and instruments to 301 subjects in the summer of 1992. We followed up with a reminder/thank you post card 1 week later. At the end of 3 weeks, we mailed a more earnest cover letter and another copy of the instrument to those who had failed to respond. Each mailing of the instrument was accompanied by a self-addressed, stamped return envelope. Instruments returned as undeliverable were dropped from the sample.

Response Rate

When adjusted for non-deliverable surveys, the total combined response rate was 88% (n = 259). The response rate for ARIES was 82% (n = 121). Four respondents were dropped from the sample because of inaccurate addresses. Response rate for NADCA was 94% (n = 138). Three names were dropped from the sample when the instruments were returned as undeliverable.

No attempt to assess nonresponse bias for the prouse group was made because of the high response rate (Kurzejeski et al. 1992). Attempts were made to contact a sample of ARIES nonrespondents. However, due to high initial response rates by both groups, it was difficult to contact nonrespondents; many had unlisted phone numbers, failed to return calls, or simply did not wish to participate in the study. Three nonrespondents were contacted eventually, but the small sample size made it impractical to draw comparisons.

RESULTS AND DISCUSSION Attitudes Toward Animal Use

While the results cannot be generalized to all animal rights activists or all wildlife damage managers, the information provides insight into how 2 samples from these groups compare (Table 1).

Total recoded mean for NADCA members (\overline{x} = 1.76, SE = 0.032) was significantly lower (F = 1901.98, 1 df, P < 0.001) than the recoded ARIES mean (\overline{x} = 4.29, SE = 0.043).

Table 1. Mean scores of National Animal Damage Control Association (NADCA) and Animal Rights Information and Education Service (ARIES) respondents (n = 261) to individual items on a scale to measure attitudes towards animal use.^a

	Ab	RIES	NADCA		
m	$\overline{\mathbf{X}}$	SE	<u> </u>	SE	
Total score	4.329	0.043	1.762	0.032	
A. Human/animal relations					
1. The only rights an animal has are those that					
are assigned to it by humans.	4.783	0.058	2.066	0.096	
2. There are humane ways to kill animals.	2.517	0.126	1.529	0.058	
3. If an animal of any type is allowed to be					
born, it should be allowed to live out its					
natural life.	4.109	0.097	1.765	0.069	
4. People are more important than animals.	4.127	0.090	1.606	0.079	
5. The government should fund research to find					
ways to reduce animal suffering.	4.292	0.096	2.796	0.097	
6. Research involving animals should be more					
strictly regulated.	4.851	0.050	2.518	0.086	
7. Government funds should be allocated for					
animal welfare societies.	4.091	0.097	1.358	0.056	
8. Animal species should have legal					
representation.	4.542	0.066	1.533	0.079	
9. The primary function of animal life is to					
benefit humans.	4.885	0.035	2.970	0.111	
10. Human needs should have priority over animal					
needs.	4.242	0.075	1.787	0.080	
11. Using animals is immoral if the animal suffers					
in any way.	4.438	0.090	1.788	0.067	
12. Animals should have legal rights similar to					
those for humans.	4.070	0.091	1.219	0.048	
B. Farming/ranching					
13. Farmers have the right to kill birds that					
damage their crops.	4.289	0.075	1.763	0.075	
14. Raising animals for their meat is cruel.	4.512	0.082	1.263	0.040	
15. Farmers should be allowed to kill deer that					
damage crops.	4.190	0.081	1.460	0.050	
16. Ranchers have the right to kill coyotes who					
prey on livestock.	4.410	0.070	2.088	0.076	
17. Dogs and cats that roam loose and attack					
livestock should be destroyed.	4.508	0.065	1.577	0.059	
C. Research					
18. New medical procedures should be tried on					
animals before they are tried with humans.	4.455	.085	1.577	0.064	
19. Researchers should find alternatives to using					
animals.	4.918	.025	2.691	0.092	
20. Animals should not be used for research					
purposes.	4.483	.084	1.431	0.055	
21. Experimentation with animals is legitimate if					
it saves human lives.	4.328	.086	1.387	0.053	
22. I support university research that is done					
with animals.	4.653	.070	1.547	0.059	
23. Research that uses but does not injure animals					
is acceptable.	3.730	.110	1.779	0.077	
D. Teaching					
24. It is not cruel to use and dispose of live					
microscopic animals for classroom purposes.	3.529	.111	1.599	0.073	
25. It is morally wrong to use animals in					
classrooms.	4.322	.089	1.431	.055	

Table 1. Continued

	ARIES		NADCA		
Item	$\overline{\mathbf{x}}$	SE	$\overline{\mathbf{x}}$	SE	
D. Teaching (continued)					
26. It is all right to use dead animals in class					
laboratories if the animals were raised and					
killed humanely.	4.372	0.083	1.532	0.054	
27. Medical and veterinary students need to					
practice on animals to perfect their skills.	4.084	0.110	1.331	0.040	
E. Personal decoration					
28. It is wrong to kill animals for their fur.	4.852	0.057	1.381	0.058	
29. It is more acceptable to get fur from					
farm-raised rather than wild animals.	4.661	0.076	4.138	0.072	
30. Make-up should not be used if it has been					
tested on live animals.	4.746	0.060	1.813	0.074	
31. Consumers should boycott companies that					
routinely use animals for testing their					
products.	4.836	0.050	1.518	0.057	
32. Animals should be used to test personal		0.000	2,010	3,30	
products, such as soap, before they are					
marketed for people.	4.811	0.055	1.986	0.068	
F. Animal management	7.011	0.055	1.500	0.000	
33. Hunting is not an acceptable means for					
controlling overpopulation in wild animals.	4.631	0.070	1.317	0.071	
34. Animal shelters should not destroy strays.	3.327	0.110	1.309	0.045	
35. Household invaders such as mice and rats	3.341	0.110	1.309	0.04.	
	2.700	0.005	1 446	0.066	
should be destroyed in and around the house.	3.700	0.095	1.446	0.066	
36. There should be federally supported animal	4 1 1 7	0.000	1 707	0.07	
shelters.	4.115	0.090	1.727	0.071	
37. Animals, such as caterpillars, that damage					
gardens should be exterminated within the					
garden area.	3.504	0.100	1.655	0.054	
38. Trapping is acceptable if it kills the					
animal swiftly.	4.818	0.050	1.791	0.084	
39. Trapping is never acceptable for any reason.	4.562	0.085	1.180	0.048	
40. Unwanted dogs and cats must be destroyed.	3.899	0.105	1.848	0.080	
G. Animal rights					
41. Research involving animals should be more					
strictly regulated.	4.823	0.052	2.399	0.084	
42. If an experiment will cause an animal to					
suffer it should not be done.	4.683	0.066	1.906	0.064	
43. Animals possess rights, but these are violated					
by humans.	4.731	0.050	1.558	0.065	
44. An animal has as much right to live as a					
human.	4.636	0.076	1.638	0.082	
45. Our decisions about animal uses should not be					
based on whether or not it has rights.	3.728	0.143	1.986	0.091	
46. Zoos violate the right of wild animals to		-72.10		0.03	
remain free.	4.215	0.082	1.856	0.076	
47. Animals are entitled to the same rights as	25	5.50 <u>2</u>	1.550	0.070	
humans.	3.823	0.110	1.245	0.043	
48. Animals have as much right as people to remain	5.025	0.110	1.∠→J	0.04.	
free.	4.492	0.077	1.599	0.076	
	サ・サンム	0.077	1.ファブ	0.070	

The 2 groups differed (P < 0.001) on each of the 48 attitudinal items. In no instance did the NADCA sample have a higher recoded score than the ARIES group. The extreme disparity between ARIES and NADCA scores on all 48 attitude variables provides evidence that the groups are very different in their attitudes toward animal use. While this may not be surprising, it casts doubt on the success of "joint" meetings to arrive at "common ground." The evidence presented here suggests that both groups would have to undergo extreme attitudinal shifts on many issues to approach agreement on just about any animal use issue. This seems doubtful. However, wildlife damage managers and animal welfare advocates may not be as far apart attitudinally and as such, might experience greater progress through dialogue.

Phylogenetic Ratings

Respondents were asked to indicate those categories included in their general definition of animal (Table 2). AR-IES and NADCA respondents differed significantly ($P \le 0.001$) in how they rated all but 1 category of animals. Both groups categorized mammals as animals, but fewer NADCA respondents categorized the remaining groups as members of the animal kingdom. How one interprets a certain word may influence one's attitudes about issues involving that word. In this study we found a lack of similarity between NADCA and ARIES respondents relative to the phylogenetic rating of animals. When NADCA respondents speak of animal use they are referring primarily to vertebrates. However, an ARIES respondent involved in the same discussion would more likely include invertebrates in their paradigm. Given the number of invertebrate species in the world as compared to vertebrate species, discussions about humane treatment of animals must encompass a much broader range of organisms for an ARIES respondent.

Participation

The ARIES and NADCA members tended to differ in the types of animal-oriented activities in which they participated (Table 3). In only 2 instances did the 2 groups fail to differ: membership in a local zoological garden organization $X^2 = 2.02$, 2 df, P = 0.365), and past pet ownership ($X^2 = 2.42$, 3 df, P = 0.489). Neither group tended to have membership in zoological gardens, and most members of both groups had owned pets in the past. Leisure and professional activities provided little opportunity for interaction between ARIES and NADCA respondents. NADCA respondents were more involved with consumptive uses of wildlife (i.e., hunting and fishing). Even in membership in a zoological garden (where the groups did not differ significantly), the similarity was in lack of participation by either group.

Demographic Characteristics

There was a significant gender difference in demographic characteristics between the 2 groups ($X^2 = 138.56, 2$ df, P < 0.001) (Table 4). Males dominated the NADCA sample (95.7%, n = 133), while females were the most frequent respondents in the ARIES sample (73.8%, n = 90).

All age categories were represented in both samples, but there was a significant difference between the ARIES and NADCA groups ($X^2 = 12.97, 6 \text{ df}, P = 0.004$). A greater proportion of ARIES members were 40 years of age or less (50.8% ARIES vs. 40.3% NADCA). Respondents within both ARIES and NADCA were overwhelmingly white (96.7% and 95.0%, respectively).

Groups did not differ with regard to populations of their hometowns ($X^2 = 16.86, 9 \text{ df}, P = 0.051$). However, groups did differ significantly on childhood environment ($X^2 = 15.55$, 3 df, P = 0.001); more NADCA respondents indicated a rural background than did ARIES respondents. A profile of the typical respondent from both groups revealed few similarities. Only 2 of the demographic variables were not significantly different. Perhaps of greater practical significance was the fact that NADCA respondents grew up in a more rural environment. Because most ARIES respondents grew up in bigger cities, there may be little common background on which to build.

If age and gender differences combine to hinder communications (La Fontaine 1978), then animal rights activists and wildlife damage professionals might be expected to have communication difficulties. The ARIES group was dominated by females, 40 years old or less, in contrast to the NADCA group which was composed primarily of men, 40 years old or older.

Table 2. Respondents including category in definition of "animal"	Table 2.	Respondents	including	category	in d	efinition	of "animal"
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Category	ategory ARIES NADCA		X ²	dfa	P	
Mammals	122	136	0.23	1	0.630 ^b	
Birds	118	111	14.94	2	0.001	
Fish	115	97	23.34	2	0.000	
Amphibians	116	99	23.24	2	0.000	
Reptiles	116	102	20.37	2	0.000	
Insects	93	70	19.14	3	0.000	
Invertebrates	100	71	27.99	3	0.000	

a degrees of freedom vary due to nonresponse and illegible categories.

^b groups did not differ significantly.

RECOMMENDATIONS

Wildlife damage management would seem a legitimate component of the wildlife management profession as evidenced by the existence of a working group of The Wildlife Society (TWS) devoted to the topic and several TWS position statements (i.e., Responsible Human Use of Wildlife; Traps, Trapping, and Furbearer Management; Wildlife Damage Con-

trol) in support of scientific wildlife damage management. We do not claim that NADCA, and the results of this study, are representative of the attitudes of all wildlife professionals, nor do we claim that ARIES represents all animal rights activists. Nonetheless, the results raise some provoking questions as to the disparity between 1 component of wildlife management and a group that, for the most part, are in opposition to current

Table 3. Respondents answering "yes" to participation comparisons as a measure of people's attitudes towards animal use.

	AI	RIES	NA	DCA			
m	n	%	n	%	X ²	df	P
A. Are you currently a member							
of any hunting organization?	2	1.6	77	55.4	87.11	2	0.000
B. Do you subscribe to any							
type of hunting magazine?	4	3.3	94	67.6	111.22	1	0.000
C. Are you currently a member							
of any fishing organization?	2	1.6	18	12.9	12.99	2	0.002
D. Do you subscribe to any					_		
type of fishing magazine?	5	4.1	39	28.1	27.16	1	0.000
E. Are you a member of your							
local zoological garden							
(zoo) organization?	8	6.6	7	5.0	2.02	2	0.365^{a}
F. Do you subscribe to any							
nature or wildlife							
publication (other than							
those concerned with animal							
rights, hunting or							
fishing)?	57	46.7	108	77.7	25.82	1	0.000
G. Do you subscribe to any							
type of animal rights or							
animal welfare							
publication?	117	95.9	6	4.3	215.07	2	0.000
H. Are you a member of any							
animal rights organization?	100	82.0	9	6.5	155.82	2	0.000
I. Are you a member of any							
animal welfare organization?	100	82.0	9	6.5	155.82	2	0.000
J. Do you raise or gain							
income from livestock?	2	1.6	24	17.3	19.09	2	0.000
K. Did you donate any money							
in the past year to animal							
rights or animal welfare							
causes?	113	92.6	7	5.0	204.33	2	0.000
L. Did you donate any money							
in the past year to any							
causes opposing animal							
rights?	4	3.3	61	43.9	55.48	2	0.000
M. Have you owned pets							
in the past?	117	95.9	137	98.6	2.42	3	0.489^{a}
N. Do you currently own a pet?	110	90.2	104	74.8	13.24	3	0.004
O. Were you raised on							
a farm or ranch?	14	11.5	44	31.7	16.98	2	0.000

a =groups did not differ significantly on these variables.

Table 4. Demographic comparisons between respondent groups on a measure of people's attitudes towards animal use.

	AR	IES	NA	DCA			
Category	n	% ° a	$\frac{1}{n}$	% a	X^2	df	P
Gender		-			138.56	2	0.000
Male	30	24.6	133	95.7			
Female	90	73.8	5	3.6			
Age					12.97	6	0.044
18 - 25 years	8	6.6	1	0.7			
26 - 30 years	12	9.8	8	5.8			
31 - 40 years	42	34.4	47	33.8			
41 - 50 years	32	26.2	41	29.5			
51 - 60 years	17	13.9	33	23.7			
> 60 years	11	9.0	8	5.8			
Race					8.07	8	0.426^{b}
White	118	96.7	132	95.0			
Black	0	0.0	1	0.7			
Hispanic	1	0.8	2	1.4			
American Indian	0	0.0	2	1.4			
Asian	1	0.8	0	0.0			
Hometown population					16.86	9	0.051 ^b
Less than 5,000	1	9.8	29	20.9			
5,000 - 10,000	11	9.0	18	12.9			
11,000 - 50,000	32	26.2	40	28.8			
51,000 - 500,000	25	20.5	19	13.7			
501,000 - 1,000,000	9	7.4	14	10.1			
greater than 1,000,000	22	18.0	0	0.0			
Not from a town	3	2.5	6	4.3			
Childhood environment					15.55	3	0.001
Urban	61	50.0	45	32.4			
Rural	51	41.8	91	65.5			
Suburban	7	5.7	2	1.4			

^a percentages are not additive due to some nonresponse or illegible answers.

wildlife management practices. When involved in formal and, if possible, informal discussions with animal rights activists, wildlife damage professionals would do well to remember the potential attitude barriers highlighted in this study.

LITERATURE CITED

Animals' Agenda. 1989a. The terrorist label: how to neutralize it. The Animals' Agenda 9:39-42.

Animals' Agenda. 1989b. How to hold a protest. The Animals' Agenda 9:35.

Animals' Agenda 1990. Fur industry seeking friends. The Animals' Agenda 10:28-29.

Bentler, P.M. 1986. Theory and implementation of EQS: A structural equations program. BMDP Statistical Software, Inc. Los Angeles, Calif.

Crocker, L., and J. Algina. 1986. Introduction to classical and modern test theory. Holt, Rinehart and Winston, New York, N.Y. 527pp.

Dillman, D. A. 1978. Mail and telephone surveys: the total design method. John Wiley and Sons, New York, N.Y. 325pp.

Finch, P. 1988. The crucial role of humane education. The Animals' Agenda. 7:18-19.

Goodwin, W. W., editor. 1889. Plutarch's miscellanies and essays comprising all his works collected under the title of "Morals". Little, Brown, and Company, Boston, Mass. 532pp.

Greenville, D. P. 1989. Media diary III: the myopic tube. The Animals' Agenda 9:44-46.

Hooper, J. K. 1988. Teacher cognitions of wildlife management concepts. J. Environ. Ed. 19:15-18.

International Associations of Fish and Wildlife Agencies. 1990. Proactive strategies for fish and wildlife management. IAFWA, Washington, D.C. 9pp.

Kurzejeski, E. W., L. W. Burger, Jr., M. J. Monson, and R. Lenkner, 1992. Wildlife conservation attitudes and land

^b groups did not differ significantly on these variables.

- La Fontaine, J. S. 1978. Sex and age as principles of social differentiation. Academic Press, New York, N.Y. 188pp.
- People for the Ethical Treatment of Animals. 1991a. Letter writing: a voice for the animals. PETA Factsheet.
- People for the Ethical Treatment of Animals. 1991b. Report prepared for the Harvard University office of Government and Community Affairs. PETA Factsheet.
- Plous, S. 1989. Toward more effective activism: advice from a psychologist. The Animals' Agenda 9:24-26.
- Purdy, K. G. and D. J. Decker. 1989. Applying wildlife values information in management: the wildlife attitudes and values scale. Wildl. Soc. Bull. 17:494-500.
- Richards, R. T. and R. S. Krannich. 1991. The ideology of the

- animal rights movement and activists' attitudes toward wildlife. Trans. North Am. Wildl. and Nat. Resour. Conf. 56:363-371.
- Schmidt, R.H. 1989*a*. Vertebrate pest control and animal welfare. Vertebr. Pest Control and Manage. Materials 6:63-68.
- Schmidt, R.H. 1989b. Animal welfare and wildlife management. Trans. North Am. Wildl. and Nat. Resour. Conf. 54:468-475.
- Schwartz, S. 1989. Humane education. The Animals' Agenda 9:12-13.
- SPSS, Inc. 1990. Statistical Package for the Social Sciences. SPSS/PC+4.0. SPSS, Inc. Chicago, Il.
- Wywialowski, A.P. 1991. Implications of the animal rights movement for wildlife damage management. Proc. Great Plains Wildl. Damage Control Workshop 10:28-32.