Focus Group Interviewing for Human Dimensions of Wildlife Research

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Abstract: We investigated the usefulness of focus groups, an interview methodology, in human dimensions research. We used a focus group to interview people interested in wildlife conservation to determine the technique's efficacy in assessing public perception of wildlife habitat management on electric transmission line rights-of-way (ROWs). Most respondents had some basic knowledge of wildlife habitat needs and considered ROWs as potentially useful to wildlife. Respondents were concerned about the use of herbicides and generally preferred mechanical treatments. There was considerable distrust of information generated via government chemical approval processes, private company research, and popular media. While additional groups are needed to fully assess the range of attitudes this and other publics hold on this subject, our results suggest that focus groups can be an effective tool for baseline public perception of wildlife studies or as a precursor to quantitative surveys.

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Public perception is increasingly important in wildlife management (Mattfeld et al. 1984, Kruckenberg et al. 1992, Siemer and Brown 1992). Managers are required to evaluate complex biological criteria and simultaneously integrate a myriad of public interests into management regimes (Stout et al. 1992, Thomas and Verner 1992). Such demands require current and accurate sociological as well as biological information.

Quantitative survey methods such as written questionnaires and telephone

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interviews have been relied on heavily by wildlife professionals to meet their human dimensions information needs (e.g., Kellert 1977, U.S. Fish and Wildl. Serv. and U.S. Dep. of Commerce 1993). These methods are effective when properly used, but there are instances when a qualitative approach is warranted, such as when little or no research has been conducted on a subject or when researchers desire to formulate the most relevant quantitative surveys possible (Goldman 1962, Peterson 1975). Although qualitative research may not be amenable to statistical analyses, it can provide managers with critical baseline information necessary for maintaining rapport with their constituency (Axelrod 1975, Krueger 1988, Gamon 1992).

The focus group (Greenbaum 1988, Krueger 1988), or group depth interview (Goldman 1962, Wells 1974), is a qualitative technique that has been used recently in natural resource applications to uncover the nature and range of attitudes of publics of concern on a particular topic (Medlin and Machlis 1991, Blahna 1992, Decision Sci. 1992, Intelligent Marketing Systems 1993). This interview methodology was developed in the social sciences and has been used extensively for attitudinal research in marketing and advertising (Wells 1974, Reynolds and Johnson 1978), as well as in health care, education, and social work (e.g., Kirk and Gillespie 1990, Schinke et al. 1992, Schwaller and Shepherd 1992). The focus group is perhaps unique as an interviewing tool because it includes a social element—a component lacking in many research efforts though ubiquitous in respondents' normal habits (Lerner and Kelman 1952, Goldman 1962, Wells 1974, Greenbaum 1988, Krueger 1988).

While focus groups are not appropriate for testing hypotheses, they can serve at least 4 important purposes for wildlife researchers. Focus groups can: 1) give the researcher candid exposure to the knowledge levels and the nature and range of attitudes constituents hold on a particular subject (Goldman 1962, Krueger 1988); 2) provide baseline information for unresearched topics (Greenbaum 1988, Krueger 1988); 3) yield critical information necessary for administering quantitative surveys effectively (Peterson 1975, Percy 1981); and 4) reveal motivations for attitudes (Wells 1974, Krueger 1988).

We selected a wildlife management subject that had been investigated from many perspectives, but had never been studied with regard to public perception. Although public attitudes about powerline ROWs are extremely important (Hartman and Simmons 1981, Feher 1987, Slovic 1990, Priestley 1992), there have been no other published efforts directly addressing attitudes toward wildlife habitat manipulation on ROWs (Priestley 1992, Clark et al. 1995). We investigated the efficacy of focus groups for acquiring baseline data on public perception of powerline corridor management. The objectives of this study were to identify: the level of basic wildlife knowledge in a wildlife interest group, aspects of ROWs management programs that are viewed positively or negatively by this public, preferences with regard to ROWs vegetation and treatments, and attitudes about herbicide use in ROWs and for wildlife habitat management in the Knoxville, Tennessee, region.

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Methods

We contacted organizations in the Knoxville, Tennessee, area that were interested in wildlife conservation in order to recruit respondents for a pilot-test focus group. We announced our research topic and solicited participants at a regular meeting of a sport-hunting club and circulated a sign-up sheet for interested persons. The discussion date, time, and location were established 2 weeks prior to its occurrence, and potential participants from the club were recruited for that particular time and place. We telephone-screened and recruited interested club members who were 18 years or older, had not worked for an electric utility, and did not reside on property with an electric transmission line crossing. We offered refreshments and gifts as incentives for attending the focus group discussion. We asked participants not to research the discussion topic prior to the interview. Successfully recruited respondents were sent a confirmation letter with a reminder of the discussion date, time, general guidelines, and contact person information (Greenbaum 1988, Krueger 1988).

The focus group consisted of a moderator and a group of 6 participants meeting for a 1.5-hour discussion (Wells 1974, Greenbaum 1988, Krueger 1988). The moderator began creating a relaxed atmosphere and emphasizing the "expertise" of respondents as they arrived for the interview. A 15-minute period of "small talk" and refreshments preceded the actual interview, which was held in a comfortable, neutral setting—a University of Tennessee conference room (Greenbaum 1988, Krueger 1988). Informed consent documents were signed by participants to meet government human research regulations. The participants were assured confidentiality by the moderator orally and in writing. Permission to release results from the interview was secured from respondents with a signed release form.

The focus group moderator (graduate research assistant) was trained through a thorough literature review on the interview method, review of audio and video tapes of focus groups, and observations of focus groups in-process (Kolarcik 1987, Krueger 1988, Trenkner and Achterberg 1991, Gamon 1992). A professional market researcher was contracted to observe and critique the moderator during the pilot-test group. The moderator maintained neutrality in the group by avoiding leading phraseology, by refraining from suggestive body language, and by avoiding being perceived as an expert on the topic of discussion. The departmental affiliation of the moderator was not divulged to further reduce possible bias.

Focus group moderators follow a guide, or questioning route, which typically begins with general questions and progressively narrows in focus to a cen-

tral issue or idea (e.g., Krueger 1988:68–71). The guide consists of carefully designed questions formulated based on research objectives. Our moderator's guide was developed through a thorough literature review, consultation with professional focus group moderators and the research sponsors, and review by several people not involved in the research.

We asked open-ended questions on right-of-way treatments, wildlife habitat manipulation and quality, and other environmental considerations potentially important to respondents. The moderator probed as necessary to gain response depth and clarity, and to encourage each respondent's participation and group interaction. Sample questions were: "What comes to your mind when you hear the words 'wildlife habitat?'" and "How would you feel if you heard that herbicides were being used to manage wildlife habitat in a particular area?" Photographic slides of ROWs and important definitions were used as aids in the interview. At the conclusion of the discussion, respondents were given the opportunity to express any unspoken opinions. A demographic questionnaire was then administered to collect information on age, education, income, and other standard variables. The moderator presented gifts to respondents and expressed his appreciation for their involvement in the research.

The discussion was audio-taped and later transcribed. We maintained respondent confidentiality by using only first names in the interview and by using a coding system on transcripts to identify each participant. Three researchers independently reviewed the focus group audio tape and transcripts for accuracy. Focus group results were analyzed by comparing comments from all respondents to each question. Trends in attitudes and the range of concerns expressed were recorded. Specific comments and concerns and the tone in which they were voiced by respondents were also documented when applicable.

Results

Respondents revealed a basic knowledge about wildlife habitat. When asked "What comes to your mind when you hear the words 'wildlife habitat?'" respondents associated it with "food, water, and cover" and other terms frequently used in wildlife management. Some respondents identified wildlife and habitat as complex subjects, alluding to "biodiversity," "anything man doesn't grow for profit . . . [not just] animals you can hunt or fish," and even the "transitional and migratory" status of many species which creates the demand for "many homes," even for a single species.

The participants expressed diverse sentiments regarding herbicides. In a free association with "herbicide," the following phrases were used by respondents, respectively:

"It's bad news for wildlife because it destroys the habitat;"

"Herbicide is a weed killer, and a weed [is] an undesirable plant, and to one person [a given plant is] a weed and to someone else it's not a weed;"

"Man-made products that destroy or control plant life. DDT and weed control and wildlife destruction and defoliage of trees;"

"A plant-control chemical. For example, Roundup, AAtrex, and so forth. [It] must be used with care and caution, and according to the manufacturer's tests and directions;"

"A chemical used by man to control plant growth. It may be selective, it may not. It may cause pollution or runoff problems, it may not. And like everyone else said, it might damage wildlife;" and

"A chemical used to control plant life."

Most respondents were concerned that a herbicide's "long-range effects" and "life in a system" may not be known. Agent Orange and DDT were referred to in the discussion of herbicides, although there was skepticism of the conclusiveness of Agent Orange's toxicity to humans. The principal herbicide-use issue voiced was "careful" and "proper" use.

When questioned about powerline ROWs management, respondents acknowledged potential trade-offs between different vegetation treatments. Economics, human health issues, and differing habitat conditions were identified as variables involved in the ROWs management decision-making process as respondents perceived it. Three respondents asserted that cooperative agreement between landowners and utilities to establish cultivated plants in ROWs was the most cost-effective and beneficial option for wildlife.

Initially, the group was definitively against herbicide use on utility corridor habitats in lieu of other methods of vegetation management. Respondents mentioned brush-hogging, hand-cutting and control burning as alternatives. Later, however, participants stated that herbicide use for managing habitat may be permissible "depend(ing) on the location," the "type of habitat" and the selectivity of the herbicide. Participants acknowledged that "disruption" of habitat may periodically occur with the implementation of any vegetation management measure. The group viewed indiscriminate chemical treatments on ROWs habitats less favorably than selective ones due to a perceived loss of wildlife food and cover.

Participants also expressed a desire for objective and conclusive information on herbicides and their effects on people and wildlife. Group members were critical not only of information on chemicals received from media sources and chemical manufacturers but also the U.S. government chemical approval process.

Discussion

The results from our pilot-test focus group indicate that this qualitative technique can be a valuable tool for human dimensions of wildlife researchers. We discovered a diversity of attitudes and terminology even within a public with presumably similar wildlife values. For example, some respondents spoke of wildlife in terms of a multiplicity of organisms whereas others defined wildlife narrowly as game. The definitions and associations with "herbicide" were similarly varied, ranging from "wildlife destruction" to "plant control."

These preliminary results should not be interpreted as representative of the entire Knoxville, Tennessee, population. Additional focus groups are required to more completely assess the range of attitudes and language of this and other publics. It is recommended to conduct 2 or more such interviews with any particular public (Krueger 1988). Trends across groups and by demographic distinctions can then be identified. Also, focus group results are not extrapolable and should be proceeded by quantitative measures when entire population measures are needed (Axelrod 1975, Percy 1981, Krueger 1988).

By using focus groups, investigators can explore emotional as well as intellectual bases for opinions. Because people's thoughts and actions have an emotional component, it may be important to assess the role of feelings in certain attitudes (Wells 1974, Bellenger et al. 1976). The group dynamic and unstructured format of focus group discussions can enable observers to gauge this component (Goldman 1962, Axelrod 1975, Krueger 1988).

Perhaps the greatest strengths focus groups can lend to human dimensions research are the social setting and the spontaneity and depth of responses (Axelrod 1975, Greenbaum 1988, Krueger 1988). With focus groups, wildlife researchers can not only identify attitudes, but probe the motivations behind attitudes as well. For example, quantitative researchers inquiring as to the public's perception of herbicide use for habitat management may never have found that DDT and Agent Orange are presently associated with herbicides by some members of the public. This association may be a factor in public aversion to herbicide use in some areas and clearly demonstrates the need for more public education on this topic. As demonstrated here, focus groups can yield understanding of rationale, not just face-value opinions.

Focus groups also allow researchers to conduct investigations without undue *a priori* assumptions. The rigidity of stand-alone questionnaires may limit responses and possibly bias results. Using focus groups to precede quantitative techniques can reduce the potential for such biases by providing insights into the mindset of constituents and their language, thus facilitating more precise hypotheses and more accurate surveying (Bellenger et al. 1976, Lewis and Yetley 1992).

Based on our results and the supporting literature, focus group interviewing is a potentially valuable tool for human dimensions of wildlife researchers. For identifying the nature and range of public attitudes on an unresearched subject, elucidating motivations underlying attitudes, formulating hypotheses, and as a precursor to quantitative surveys, this technique may prove to be indispensable. Where moderators are carefully selected and results prudently interpreted (Bellenger et al. 1976, Krueger 1988), qualitative focus group interviews can be an important asset for public attitudes research.

Literature Cited

Axelrod, M. 1975. Marketers get an eyeful when focus groups expose products, ideas, images, ad copy, etc. to consumers. Marketing News 8(16):6–7.

Bellenger, D. N., K. L. Bernhardt, and J. L. Goldstucker. 1976. Qualitative research techniques: focus group interviews. Pages 7–28 *in* J. B. Higginbotham and K. K. Cox, eds. Focus group interviews: a reader. Am. Marketing Assoc., Chicago, Ill.

Blahna, D. J. 1992. Forest recreation and urban minorities: a small group interview approach. Unpubl. rep. Utah State Univ., Logan. 30pp.

Clark, B. N., J. M. Fly, D. A. Buehler, and R. M. Evans. 1995. Public perception of powerline rights-of-way management. Pages 446–449 *in* G. J. Doucet, C. Seguin, and M. Giguere, eds. Proceedings of the fifth international symposium on environmental concerns in rights-of-way management. Hydro-Quebec, Montreal, Que.

Decision Sciences Inc. 1992. Urban attitudes related to natural resource conservation education. U.S. Dep. Agric., For. Serv., North Central For. Exp. Stn., Chicago, Ill. 89pp.

Feher, J. S. 1987. Developing a research agenda on public perception of transmission lines. Pages 439–442 *in* W. R. Byrnes and H. R. Holt, eds. Proceedings of the fourth international symposium on environmental concerns in rights-of-way management. Pundue Univ., West Lafayette, Ind.

Gamon, J. A. 1992. Focus groups—a needs assessment tool. J. Ext. 30(1):39–40.

Goldman, A. E. 1962. The group depth interview. J. Marketing 26(3):61–68.

Greenbaum, T. L. 1988. The practical handbook and guide to focus group research. D. C. Health, Lexington, Mass. 191pp.

Hartman, L. B. and T. Simmons. 1981. Public issues and regulatory change: a Minnesota experience. Pages 9.1–9.9 *in* R. E. Tillman, ed. Proceedings of the second symposium on environmental concerns in right-of-way management. Electric Power Res. Inst. Palto Alto, Calif.

Intelligent Marketing Systems Inc. 1993. Northern Ontario remote fishing tourism choice model: quantitative specification and computer simulation of critical decision variables. Ontario Ministry of Nat. Resour., Fish. and Tourism Res. Unit, Thunder Bay, Ont. 11pp.

Kellert, S. R. 1977. Attitudes toward animals and characteristics of various animal activity groups other than hunters. U.S. Fish and Wildl. Serv. Working Pap. Washington, D.C. 35pp.

Kirk, M. C. and A. H. Gillespie. 1990. Factors affecting food choices of working mothers with young families. J. Nutrition Education 22:161–168.

Kolarcik, G. R. 1987. Radio programming and focus group research: a case study. M.S. Thesis, Univ. Tenn., Knoxville. 106pp.

Kruckenberg, L. L., D. Lockman, and W. Gasson. 1992. Reaching the new constituency—one agency's approach. Trans. North Am. Wildl. Nat. Resour. Conf. 57:147–155.

Krueger, R. A. 1988. Focus groups: a practical guide for applied research. Sage Publ., Beverly Hills, Calif. 197pp.

Lerner, H. H. and H. C. Kelman. 1952. Group methods in psychotherapy, social work, and adult education. J. Social Issues 8(2):1–88.

Lewis, C. J. and E. A. Yetley. 1992. Focus group sessions on formats of nutrition labels. J. Am. Dietetic Assoc. 92:62–66.

Mattfeld, G. F., D. J. Decker, T. L. Brown, S. L. Free, and P. R. Sauer. 1984. Developing human dimensions in New York's wildlife research program. Trans. North Am. Wildl. Nat. Resour. Conf. 49:54–65.

Medlin, N. C. and G. E. Machlis. 1991. Focus groups: a tool for evaluating interpretive services. U.S. Dep. Int., Natl. Park Serv., Washington, D.C. 48pp.

Percy, L. 1981. Using qualitative focus groups in generating hypotheses for subsequent quantitative validation and strategy development. Pages 57–61 *in* A. A. Mitchell, ed. Advances in Consumer Research. Vol. IX. Assoc. Consumer Res., St. Louis, Mo.

Peterson, K. I. 1975. The influence of the researcher and his procedures on the validity of group sessions. Pages 146–148 *in* E. M. Mazze, ed. 1975 Combined Proc., Am. Market. Assoc., Chicago, Ill.

Priestley, T. 1992. Perceived impacts of electric transmission facilities. Edison Electric Inst., Washington, D.C. 104pp.

Reynolds, F. D. and D. K. Johnson. 1978. Validity of focus-group findings. J. Advertising Res. 1978(3):21–24.

Siemer, W. F. and T. L. Brown. 1992. Public attitudes toward wildlife and its accessibility. Identification of wildlife management action needs: participation parameters of nonconsumptive wildlife recreationists in New York and their propensity to support management. New York State Dep. Environ. Conserv., Ithaca, N.Y. 80pp.

Schinke, S. P., M. A. Orlandi, R. F. Schilling, and C. Parms. 1992. Feasibility of interactive videodisc technology to teach minority youth about preventing HIV infection. Public Health Rep. 107:323–330.

Schwaller, M. B. and S. K. Shepherd. 1992. Use of focus groups to explore employee reactions to a proposed worksite cafeteria nutrition program. J. Nutrition Education 24:33–36.

Slovic, P. 1990. The legitimacy of public perceptions of risk. J. Pesticide Reform 10:13–15.

Stout, R. J., D. J. Decker, and B. A. Knuth. 1992. Evaluating citizen participation: creating communication partnerships that work. Trans. North Am. Wildl. Nat. Resour. Conf. 57:135–140.

Thomas, J. W. and J. Verner. 1992. Accommodation with socio-economic factors under the Endangered Species Act—more than meets the eye. Trans. North Am. Wildl. Nat. Resour. Conf. 57:627–641.

Trenkner, L. L. and C. L. Achterberg. 1991. Use of focus groups in evaluating nutrition education materials. J. Am. Dietetic Assoc. 91:1577–1581.

U.S. Fish and Wildlife Service and U.S. Bureau of the Census. 1993. 1991 National survey of fishing, hunting, and wildlife-associated recreation—Tennessee. U.S. Dep. Int., Fish and Wildl. Serv. and U.S. Dep. Commerce, Bureau of the Census, Washington, D.C. 41pp.

Wells, W. D. 1974. Group interviewing. Pages 2:133–2:146 *in* R. Ferber, ed. Handbook of marketing research. McGraw Hill, New York.