



Cows and Fish Staff Interaction Evaluation Report

Cows and Fish

Alberta Riparian Habitat Management Society Report No. 025

Acknowledgements

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About Cows and Fish

Riparian areas are those areas along rivers, streams, lakes, wetlands, springs and ponds that are strongly influenced by water and are recognized by water-loving vegetation. Cows and Fish is striving to foster a better understanding of how riparian areas function and how improvements in management strategies in riparian areas can enhance landscape health and productivity for the benefit of livestock producers, their communities and others who value these landscapes.

Cows and Fish Partners: Producers and community groups, Alberta Beef Producers, Trout Unlimited Canada, Canadian Cattlemen's Association, Alberta Agriculture Food and Rural Development, Alberta Sustainable Resource Development, Alberta Environment, Fisheries and Oceans Canada, Prairie Farm Rehabilitation Administration-Agriculture and Agri-food Canada, Alberta Conservation Association

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Working with producers and communities on riparian awareness

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COWS AND FISH - STAFF INTERACTION

EVALUATION REPORT

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EXECUTIVE SUMMARY

BACKGROUND, METHODOLOGY AND STANDARDS

In continuing its commitment to ongoing program improvement in delivery of stewardship actions, Cows and Fish requested an evaluation to examine those characteristics which riparian health assessment/inventory participants viewed as being essential for the program staff to demonstrate when working with landowners and communities on riparian issues. The evaluation also examined awareness and practice change outcomes resulting directly from contact with staff. A mixed-method research design incorporating a mail survey and personal interviews was used. The evaluation was conducted by an independent evaluator using professional program evaluation standards that focused on objective and accurate information useful to program managers in decisions required to modify programming. Since the evaluation was conducted retrospectively, it was not possible to design the evaluation in such a way that results could be statistically generalized to a broader population. However, the integrated research design imparting both quantitative and qualitative information provided a reliable foundation from which evaluation users may make reasonable judgments, based on their own expertise and familiarity with the program, about the extent to which results reflect on, or can be applied to, the program's constituency generally.

EVALUATION GOALS

This evaluation had three goals. The primary goal was to explore those characteristics that should be demonstrated consistently by program staff when working with landowners and communities on riparian issues. Note that the evaluation examined the characteristics that should be demonstrated by staff in a general sense, and neither focused on specific staff members nor anyone's job performance individually. The nine staff interaction characteristics examined are listed below.

1. Knowledgeable about riparian management.
2. Understand the practicalities of living and working near riparian areas.
3. Enthusiastic.
4. Able to motivate.
5. Unbiased.
6. Credible.
7. Reliable.
8. Respectful
9. Helpful.

The second goal of the evaluation was to examine some of the specific outcomes of interactions with staff, such as whether respondents raised their awareness. The third goal of the evaluation was to determine whether practice change had occurred as a direct result of contact with Cows and Fish staff. In the context of Cows and Fish program design and delivery, awareness means helping people to recognize what riparian areas look like, how they function, and what their values are; and to understand options available to improve, protect and sustain those areas. Practice change means adopting management actions that maintain and restore the health of riparian areas by a process of informed, voluntary decision-making at the local and/or individual scale.

KEY EVALUATION FINDINGS

A total of 207 individuals participated in the evaluation, including five staff members. Survey response rate was very high at 44% (n=178), while interview response rate was 97% (n=29). Just under half of respondents were members of riparian community groups, while almost three-quarters (71%, n=146) were agricultural producers. Fifteen percent of the producers (n=22) were associated with lentic rather than lotic riparian areas. A total of 34 separate municipal jurisdictions were represented by those who participated, reflecting the breadth of coverage now being achieved by Cows and Fish program delivery.

Goal #1 – Agreement on Staff Characteristics

As indicated in the table below, the characteristic that respondents agreed most (87%) that staff demonstrated was being knowledgeable about riparian management, while more than three-quarters of respondents agreed that staff were also enthusiastic; respectful; credible; reliable; helpful; unbiased; and able to understand the practicalities of living and working near riparian areas. Seventy percent agreed that staff were able to motivate others to raise their awareness and/or change management practices. When asked to rate the importance of the characteristics, respondents indicated by a very notable margin that knowledge about riparian management and understanding the practicalities were the two most important characteristics required to raise awareness and to promote practice change. Therefore, there was strong concordance between what respondents indicated they needed and wanted, and what has been delivered by program staff. Further, agency/organization representatives working on riparian issues had a generally higher range of agreement across all characteristics compared to other respondents. This indicates the high professional regard that they hold for the manner in which Cows and Fish staff have conducted themselves and worked in partnership with others, providing a very clear endorsement of the partnership element of the Cows and Fish process. This was noteworthy given the practical challenges and barriers that can sometimes exist as a result of different organizational mandates among working partners.

Agreement on Staff Characteristics Overall	
Characteristic	Strongly and Moderately Agree (% in descending order)
Knowledgeable about Riparian Management	87
Enthusiastic	86
Appropriate Overall with Self	86
Respectful	84
Credible	84
Reliable	83
Helpful	82
Unbiased	82
Appropriate Overall with Others	78
Able to Understand the Practicalities of Living and Working Near Riparian Areas	77
Able to Motivate	70

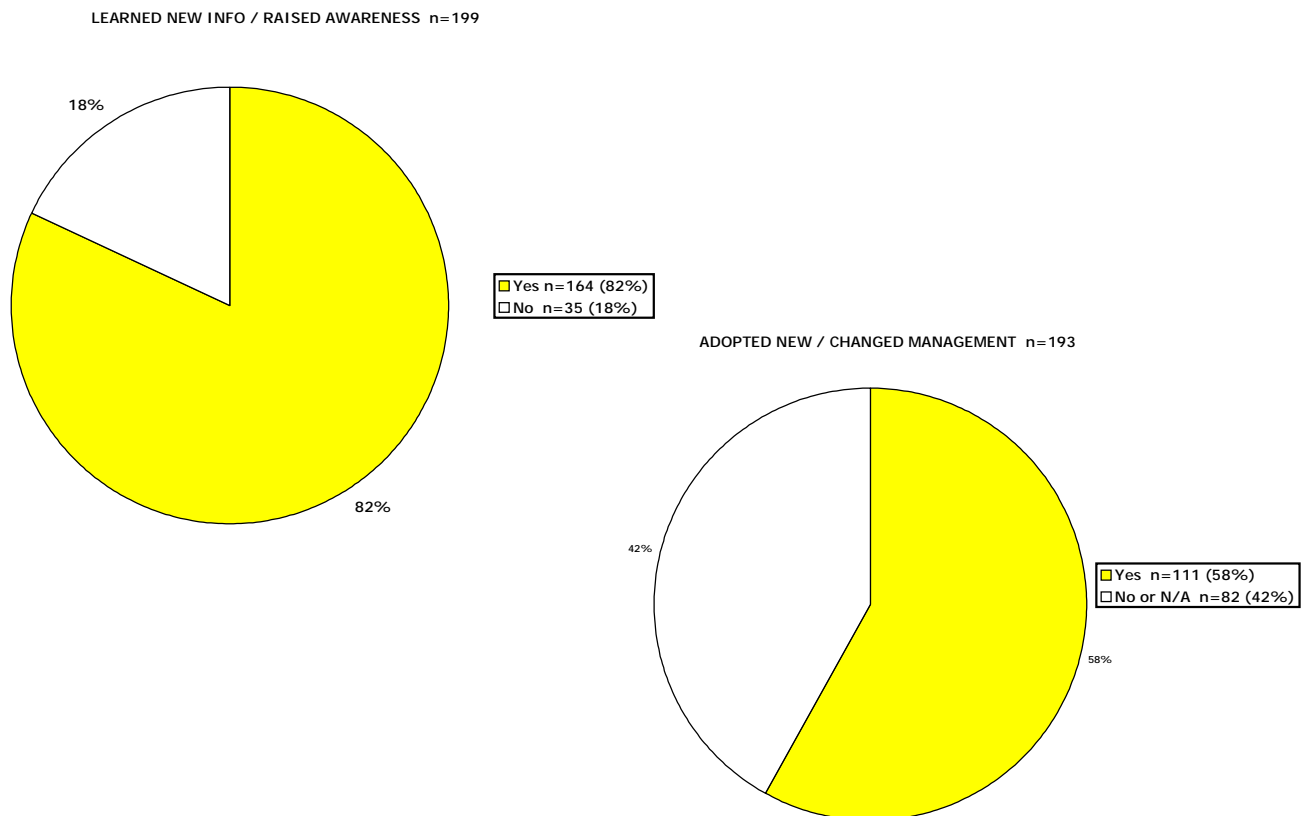
Further, there was a strong, direct and positive relationship between amount of contact that respondents had with staff and their agreement that staff demonstrated the key characteristics; that awareness was raised; and that practice change occurred. Ability to motivate, for example, rose from 59% for those with very little contact to 95% for those with frequent contact, while understanding the practicalities rose from 68% to 91% respectively. The more frequent the opportunity to interact with staff, the greater was the opportunity for developing the foundation for productive working relationships over time.

Goals #2 and #3 - Raising Awareness and Achieving Practice Change

A notably high proportion (82%) of all respondents raised their awareness as a direct result of contact with Cows and Fish staff. However, 100% of those with frequent contact with staff raised their awareness, compared to 70% of those with very little contact (still a very good result). Membership in a community riparian group played a vital role in this process, since 91% of group members raised their awareness compared to 72% who were not group members.

Similarly, while 58% of respondents overall reported practice change (note there was no ability within the evaluation to determine whether a respondent actually needed to make change), 91% of those with frequent contact with staff did so, compared to just 42% of those with very little contact.

Raising awareness and changing management was clearly attributable to Cows and Fish staff, the community-based program structure within which staff have worked, and their personal and professional abilities to interact appropriately with community members.



While these results are excellent overall, some moderate variation on raising awareness and achieving practice change was noted across producers/non-producers and across lake/non-lake respondents. This suggests that, in general, staff have been consistent in interacting appropriately with a variety of audiences, including agricultural and recreational property/cottage landowners. However, some specific examples of staff being somewhat more challenged in dealing with non-producer audiences were reported, possibly due to staff feeling less familiar with issues and solutions associated with those landowners, or having available fewer awareness tools that might have facilitated that process. For producer audiences, ability to motivate was moderately limited by respondents acknowledging that the decision to make change was ultimately their own; that numerous complex factors such as economics and age influenced their ability to make change; and that external industry factors such as BSE, drought and debt load create barriers to making change at the individual level.

The inherent design of program awareness tools played an important role in respondents agreeing that staff demonstrated the key characteristics; that respondents raised their awareness; and that they made practice change. Those with exposure to staff through some combination of both indoor and outdoor programming tools were twice as likely to raise awareness, and to make practice change, than those exposed to staff through less personalized awareness tools such as telephone contact only or attendance at slide presentations only. A mix of programming tools, therefore, seemed to work cumulatively together to achieve awareness and practice change by providing a variety of opportunities to visualize and discuss ecological function and management options. These findings are consistent with those of prior Cows and Fish program evaluations.

Overall, Cows and Fish was seen as an organization with a fundamental commitment to riparian health and to excellent staff training. With only minor exceptions, the staff reflected these qualities by keeping their interactions neutral and by focusing on ecological function and flexibility in management responses. In most cases, the knowledge, skills, commitment and willingness of staff to assist landowners and communities provided the foundation from which staff were able to successfully communicate awareness messages and begin to mitigate the barriers to practice change.

Accordingly, the design of the Cows and Fish program, which afforded a variety of opportunities for ongoing personalized, hands-on interaction with staff over time, appears to be fundamentally sound and supportive of stewardship actions. Contact with and access to well-trained, personable and empathetic staff appears to have played an important role in this process.

However, moving from successful awareness programming to achieving practice change still has some challenges. In particular, respondents continued to state the need for additional management-specific information so that they could put their awareness into action. Providing that extension service to Alberta landowners realistically falls outside the mandate of Cows and Fish alone, given its current mandate, funding and staff complement. However, respondents (i.e. from partner organizations) expressed the wish to continue to work together with Cows and Fish to clarify roles and responsibilities so that greater efficiencies and enhanced learning can occur.

The results of this evaluation may be useful to other groups and agencies engaged in stewardship, to provide a design for development and delivery of effective stewardship programming.

I. EVALUATION GOALS, METHODOLOGY AND STANDARDS

1. EVALUATION GOALS

Based on prior evaluations of various aspects of Cows and Fish and on anecdotal evidence (Bateman, 2001a; Fitch, personal communication, 2003), it is believed that much of the strength of the program has been the ability of its staff to interact positively with individuals and community groups on a credible, personalized basis.

Accordingly, this evaluation had three goals. In continuing the Cows and Fish commitment to ongoing program improvement in delivery of stewardship actions through formal program evaluation, the primary goal of this evaluation was to explore those characteristics that should be demonstrated consistently by program staff when working with landowners and communities on riparian issues. In essence, these characteristics are tools that reflect the core of the program's philosophy and approach, keeping in mind that the role of Cows and Fish is to aid in the development and support of stewardship actions that lead to a higher degree of landscape function.

By obtaining a better understanding of how community members respond to staff interactions, and exploring the context of why, Cows and Fish can thus continue to encourage and promote the most effective characteristics that staff should demonstrate when providing information, technical assistance and support on riparian areas. Improving the interaction between staff and landowners in these ways will, accordingly, enhance the process of working toward maintaining healthy riparian areas.

It is important to state that the evaluation was about the characteristics that all staff should demonstrate in a general sense, not about any specific staff member nor any individual's job performance.

The second goal of the evaluation was to examine some of the specific outcomes of interactions with staff, such as whether respondents raised their awareness change as a direct result of their contact with Cows and Fish staff. The third goal of this evaluation was to determine whether practice change had occurred as a direct result of contact with Cows and Fish staff. In the context of Cows and Fish program design and delivery, awareness means helping people to recognize what riparian areas look like, how they function, and what their values are; and to understand options available to improve, protect and sustain those areas. Practice change means adopting management actions that maintain and restore the health of riparian areas by a process of informed, voluntary decision-making at the local and/or individual scale.

Accordingly, throughout this report, evaluation results are presented following these three focal areas.

1. Agreement on staff characteristics.
2. Raising awareness.
3. Achieving practice change.

2. METHODOLOGY

This evaluation used a mixed-method research design incorporating a mail survey (Appendix A) and a telephone interview (Appendix B). The mail survey technique is an efficient and relatively inexpensive way to obtain feedback in quantitative form from a large number of people about what their views are, for example when it is not feasible to contact them all in person. It provides consistency in responses and is straightforward in terms of quantitative analysis. The use of a mail survey in this evaluation was an effective means to obtain feedback from as many riparian health assessment/inventory (“RHA”) participants as possible.

The interview technique, as with other types of in-person verbal data collection techniques, provides an opportunity to explore in greater depth the context, rationale or explanation for the views held by the respondent about a program, in this case Cows and Fish. In particular, it affords the opportunity to understand not simply what respondents felt, but explains why they felt they way they did about their interactions with program staff. The depth of qualitative detail obtained when using an interview helps to formulate issue themes and to guide recommendations arising out of the evaluation. It also adds strength to the evaluation overall by providing additional verification of the quantitative results obtained from the survey (referred to as triangulation).

Together, the two techniques as used here built a solid foundation on which to collect and understand information about the Cows and Fish program and the nature of staff interactions with respondents. The use of these techniques is a common choice for evaluations such as this one, in particular when true-experiment research designs (described below under Applicability of Results) are not feasible. Accordingly, the research design employed here reflected the evaluation purpose (Chelimsky, 1997), which was to seek out and understand contextual meaning as experienced by program participants for the benefit of those associated with the program (Greene, 1998).

The survey was mailed to landowners who had participated in RHAs conducted by Cows and Fish between 1997 and 2003. The mailing list (i.e. the sampling frame) was developed from the RHA database housed by Cows and Fish. Names and addresses were provided to the evaluator for one-time use only for the purpose of this evaluation. In total, 453 surveys were mailed.

In addition to the five Cows and Fish co-ordination staff identified for interviewing, 25 other interviewees were selected through a process of purposive sampling, in order to obtain feedback from individuals with varying involvement with Cows and Fish.

The aim of the purposive sampling was to identify a group of individuals for interviewing that broadly represented the program's audience but that had a range of exposure to the program and its staff. Therefore, based on their experience in the program, staff worked together with the program manager (and independently of the evaluator) to pre-select a group of interviewees that represented as many regions of the province as possible but who also had reasonably different:

- amounts of involvement in the program and degrees of familiarity with the staff (determined by subjective input from the staff members involved in the evaluation);
- understanding of the program (i.e. those believed by staff to be positive supporters of the program as well as those unsure of or unfamiliar with its goals); and
- roles (including agricultural producers, representatives of community riparian groups, municipal agency field staff such as agricultural fieldmen, representatives of Cows and Fish partner agencies; and representatives of private organizations that also work on riparian issues). Roles are described more fully on the next page.

The questions asked in the interview were essentially the same as those contained in the mail survey, but additional questions were incorporated to enable the interviewee, by way of explanation, to share contextual examples or illustrations about their experiences with staff, thereby providing the qualitative data in this evaluation.

All respondents, whether interviewees or recipients of the mail survey, were asked:

- the amount and type of their contact with Cows and Fish;
- their landowner type;
- their level of agreement on whether staff demonstrated nine personal interaction characteristics (described later in this section) using a five-point Likert scale where 1 meant strongly agree and 5 meant strongly disagree;
- whether awareness was raised as a direct result of contact with Cows and Fish staff (and examples thereof);
- whether practice change had been made as a direct result of contact with Cows and Fish staff (and examples thereof);
- the most important characteristics required to raise awareness and to promote practice change;
- the role of staff in the respondent participating, understanding and using the RHA and its results; and
- home municipal jurisdiction.

Amount of contact was ascertained by asking respondents to self-report their involvement subjectively (i.e. on the basis of their own criteria), using one of three possible categories:

- very little contact; or
- a moderate amount of contact; or
- a lot of frequent or in-depth contact.

Type of contact was ascertained by asking respondents to classify the nature of their involvement with Cows and Fish using one of the following six possible categories:

- only contact was by telephone; or
- only contact was by personal on-site visit(s); or
- only contact was through attendance at instructional field days held outdoors; or
- only contact was through attendance at community meetings/workshops held indoors; or
- contact was through two or three of the above categories; or
- contact was through all of the above categories.

Frequency of each type of contact was not requested since amount of contact was more efficiently ascertained by asking respondents to classify amount of contact overall, as described in the previous paragraph.

Landowner type was ascertained by asking respondents to describe themselves using two possible categories. The categories were not mutually exclusive, meaning that any individual respondent could potentially be categorized for analysis purposes by one or both descriptions, specifically whether they were:

- an agricultural producer:
 - meaning the respondent was active on a full-time or part-time basis in agricultural production;
 - in this report, the terminology “producer” and “non-producer” is used to distinguish respondents based on their answer to this question;

and/or

- a lakeshore resident or landowner, regardless of whether seasonal or permanent:
 - this enabled analysis based on whether the respondent was associated with lentic or lotic riparian areas;
 - in this report, the terminology “lake” and “non-lake” is used to distinguish respondents based on their answer to this question;

Further, respondents were asked to describe their role with regard to Cows and Fish, selecting from a number of non-mutually exclusive categories. Categories for roles used in this evaluation included whether the respondent:

- represented or belonged to a community group working on riparian issues:
 - meaning they were associated with a local riparian group, such groups being a common component to the community-based action that is central to the Cows and Fish process;
 - in this report, the terminology “group members” and “non-group community members/landowners” is used to distinguish respondents based on their answer to this question;

and/or

- represented a government agency or large organization working on riparian issues:
 - meaning e.g. municipal agency field staff such as agricultural fieldmen or representatives of Cows and Fish partner agencies such as Alberta Sustainable Resource Development, or other private organizations such as Ducks Unlimited;
 - in this report, the terminology “agency/organization representatives” is used to describe respondents who answered “Yes” to this question.

A small number of respondents were distinguished by role based on whether they were Cows and Fish staff members, or described themselves in a way that did not fit the categories already provided (e.g. industry representatives). The roles of these respondents are described in this report by using the terminology “staff” and “miscellaneous”.

With respect to staff interaction, all respondents were asked to indicate the extent of their agreement using the five-point Likert scale that Cows and Fish staff:

- demonstrated each of nine personal interaction characteristics (Table 1);
- acted appropriately overall in their contact with respondents, considering all nine characteristics together; and
- acted appropriately overall in their contact with others who had contact with staff (based on what respondents may have heard from those others).

Table 1
Nine Staff Characteristics Examined

	Characteristic	Descriptive Meaning Provided to Respondents
1.	Knowledgeable about Riparian Management	Offer well-informed ideas and options
2.	Understand the Practicalities of Living and Working Near Riparian Areas	Familiar with the realities of daily agricultural operations or of lake living
3.	Enthusiastic	Seem motivated to work on behalf of landowners and the community
4.	Able to Motivate	Encourage learning and/or proactive adoption of riparian management solutions
5.	Unbiased	Communicate information and ideas in a neutral and fair manner
6.	Credible	Present information and ideas in a sincere and reasonable manner
7.	Reliable	Trustworthy in meeting expectations and building trust in working relationships
8.	Respectful	Value and show regard for the knowledge and experience of others, including landowners
9.	Helpful	Provide ideas, information and/or resources in a practical, positive manner

These characteristics were chosen because, from the program manager’s point of view, they reflected the Cows and Fish philosophy and approach when working with community members and partners on riparian issues, and to varying degrees would be sought out as part of any staff recruitment process.

3. PROGRAM EVALUATION STANDARDS

The Cows and Fish staff interaction evaluation was carried out in 2003-2004 by an independent professional evaluator who is a member of the Canadian Evaluation Society. In carrying out the evaluation, the evaluator applied generally accepted principles of evaluation practice (Rossi et al., 1999) as well as the Program Evaluation Standards of utility, feasibility, propriety and accuracy (Joint Committee on Educational Evaluation, 1994).

These four keystone standards ensure that an evaluation is carried out in such a way that it:

- serves the information needs of the intended users;
- is realistic, prudent and practical;
- is conducted objectively, legally, ethically and fairly with due regard to the rights and privacy of all who participate; and
- impartially reveals and conveys technically adequate information about the features of the program (or aspects of it, in this case staff interaction and its impact) that determine its worth or merit.

In particular, the Program Evaluation Standards require that:

- any potential conflict of interest, e.g. by the evaluator, be disclosed;
- a complete and fair assessment of any strengths and weaknesses of the program be examined and recorded, and disclosed to those affected;
- valid data collection procedures be used so that interpretations arising from them are valid, for both quantitative and qualitative data; and
- the information collected be analyzed systematically in such a way that it addresses the evaluation's purpose.

3(a) Evaluator Disclosure

It is disclosed here that in recent years the evaluator has formed working relationships with the Cows and Fish program managers and staff. Their accessibility and input has allowed the evaluator to gain a better understanding of the program and of the evaluation requirements and, accordingly, enhanced the ability to ensure quality control in the evaluation, as well as interpret and prioritize the volume of data arising from the evaluation. At the same time, a potential exists for developing positive bias toward the program when interpreting evaluation data.

However, as described here, the consistent use of the Program Evaluation Standards, as well as tenets of social science research that require neutrality by application of the criteria relating to qualitative data (described below), indicate that no foundation for positive bias exists with regard to objectively evaluating the program's operation or outcomes.

3(b) Selected Steps Taken to Apply the Program Evaluation Standards

Generally accepted practices and procedures required for collecting, analyzing and reporting both quantitative (Judd et al., 1991) and qualitative (Creswell, 1994) data were used in this evaluation. All quantitative data was entered, analyzed and stored in SPSS statistical software, designed specifically for quantitative analysis. The analysis of qualitative data followed the stringent requirements of social science to ensure a direct link between the viewpoints expressed by the interviewees and the findings that are reported. Applying these requirements ensures that the evaluation is credible, transferable, dependable, confirmable and authentic (Guba and Lincoln, 1989; Mertens, 1998). Selected steps taken to meet the five quality control criteria for qualitative data are described below.

Overall, every effort was made to make the evaluation process and results transparent, including involving the staff (who were the indirect subjects of the evaluation) in discussions about its purpose, content and intended use. It also involved ensuring that landowners and other respondents were provided with an appropriate explanation as to why the evaluation was being done, why and how they were chosen for participation, and how the evaluation results would be used (i.e. in both the mail survey cover letter and the interview preamble). Participation by both staff and other respondents was voluntary.

While most evaluations can understandably lead to sensitivity about the results, on the part of those involved, a degree of caution was expressed at the outset of this evaluation by staff about the practicality of the evaluation process and outcomes, and about the potential for the evaluation to reflect on individuals within the Cows and Fish program, rather than the program generally. Importantly, it was explained to staff that the evaluation was not intended to be a staff performance appraisal, and was neither designed nor implemented as such. Rather, the focus was to identify, through feedback from those who have dealt with the program through its core staff, the most appropriate characteristics that together will best reflect the values and goals of Cows and Fish when its representatives are working with others on riparian issues.

Accordingly, the development, implementation and reporting stages of the evaluation involved interaction between the evaluator and program managers, and between program managers and staff. Both of the data collection instruments were developed with consensus, and phrased in such a way to ensure clear and impartial wording. Instruments were also pre-tested to address any concerns or confusion about completeness, accuracy, fairness or potential bias. During the analysis stage, issues or questions needing clarification were raised and addressed openly with the program managers or other staff, where appropriate.

Equally important, a number of discussions occurred between and among staff and the program managers about the purpose, content and use of the evaluation. Staff consent was obtained for their participation, to collect information about them from other evaluation respondents, and to ascertain the extent that each staff member wanted staff-specific information (should any be provided by evaluation respondents) to be shared by the evaluator. Both interim and final written evaluation results were shared and discussed with staff, and any staff-specific information arising from the evaluation was communicated verbally in a private setting with the relevant staff member (but only in cases where both the respondent and the staff member provided consent to share such information).

Overall, particular attention was paid to respecting the privacy of staff and respondents who participated in the evaluation. While the Cows and Fish database of RHA participants was used as a basis for contacting evaluation respondents, no information other than name, address and year of participation in the RHA was provided to the evaluator, and the evaluator did not have access to RHA results. No identifying information was asked for nor included with mail surveys that were returned to the evaluator, so no linkage between any respondent's feedback and, for example, their RHA health data was possible. At their discretion, a respondent could voluntarily provide their mailing address to the evaluator in order to receive a token provided as thanks for taking the time to participate in the evaluation. Any such addresses as received by the evaluator were retained in private off-site records not accessible by Cows and Fish, with the exception being that changes of address were routed to Cows and Fish for the purpose of keeping their records current. Any records, such as interview transcripts that may potentially identify individuals, have been retained permanently off-site by the evaluator, and have not and will not be shared with Cows and Fish.

3(c) *Selected Steps Taken to Apply the Quality Control Criteria for Qualitative Data*

To illustrate that this evaluation meets the requirements of quality control in qualitative research, Table 2 sets out some of the steps taken by the evaluator to meet these criteria.

Table 2
Selected Steps Taken to Meet the Five Criteria for Quality Control of Qualitative Data

Criteria	Objective	Selected Steps Taken
Credibility	Ensures correspondence between respondent perceptions and how the evaluator portrays them	Prolonged and persistent observation, with confidence that themes and examples are repeating and that they sufficiently identify salient issues; a sufficient number of interviews were conducted; reasonable and fair questions were asked; respondents were provided the opportunity to expand on existing or new topics; the evaluator was sufficiently familiar with both the program and the requirements of the staff in delivering it in order to make reasonable contextual judgments; several iterations of commentary review and theme development were conducted; themes and ideas were checked and reviewed for reasonableness with the program staff; multiple methods were used to achieve a degree of triangulation; more than one source of information was accessed (surveys and interviews involved producers, lake residents, agency representatives, community group members, organizations involved in land use management etc.).
Transferability	Provides sufficient detail to enable the reader to make a judgment, it being the reader's burden to determine similarity between the group examined and the broader context	Careful description is provided in the content analysis to enable those familiar with the program, and the users of the results, to determine the reasonableness of whether results reflect a broader context
Dependability	Records the development of the analysis in such a way that it can be tracked and verified by others	Interviews recorded verbatim in electronic text format; permanent records created and maintained that reflect the development of themes and recommendations
Confirmability	Ensures data can be tracked to their source and that the process of synthesizing data to reach conclusions can be confirmed	All data analysis documents prepared and retained long-term in manual and electronic format, showing each iteration of development, as drawn directly from verbatim interviews
Authenticity	Presents a balanced view, with different interpretations considered and presented, and potential conflicts articulated for purposes of fairness and learning	A range of themes/interpretations are presented from a variety of data sources; results (and uses thereof) discussed openly with users

4. APPLICABILITY OF RESULTS

With regard to the findings arising from the qualitative data in this evaluation (and as with all qualitative analysis), it remains the evaluation reader's/user's responsibility to judge the extent to which findings may be reasonably applied to the Cows and Fish constituency, that broader group of people potentially reached by the program. That judgment relies on the reader's/user's sphere of expertise and familiarity with their program (Mertens, 1998).

With regard to quantitative data in this evaluation, and as is often the case with program evaluations (Cronbach, 1982; Patton, 1997; Rog, 1994), it was not feasible, for all practical purposes, to use a true-experiment research design. True experiments require that each potential participant be selected randomly from the entire population, and then assigned (also randomly) to either a control or intervention group for comparison purposes (Cook and Campbell, 1979; Judd et al., 1991, Rog, 1994). Had a true experiment been possible in this case, the group randomly exposed to Cows and Fish could have been compared using statistical analysis to the random group not exposed to Cows and Fish, and any differences been interpreted reliably as being caused by the intervention of Cows and Fish. The strength of any cause and effect relationship between Cows and Fish and, say, practice change, would be determined in part by the sample size, which would have needed to be approximately double that obtained in this evaluation (note, the entire sampling frame available from the RHA database was only 453). Only with the use of true-experimental research designs with at least 400-500 respondents is it possible to determine causality and to statistically generalize that result to the population at large (Gardner, personal communication, 2004; McGrew and Monroe, 1993; Rowntree, 1981).

The absence of a true experimental research design was in no way a limitation of the Cows and Fish program, nor of the evaluation, but rather it was entirely a circumstance of the nature of the program and its stage of development. Participation by a community member in Cows and Fish is voluntary, and the only records available to contact those who have participated were drawn from individuals already predisposed to participation (i.e. they have volunteered, which negates the requirement of statistically random selection in being able to generalize results). Even if it had been practical to attempt to contact those in the general population whom it was believed have had no contact with Cows and Fish, for the purpose of establishing a control group, Cows and Fish is a known entity within the public. The potential error rate caused by that unknown degree of selection bias would significantly reduce the validity of any results obtained in the experiment.

- Due, therefore, to the principles of statistical analysis relating to random selection and generalization, it was not technically possible to extrapolate the quantitative results in this evaluation to that of a broader population.
- However, here the benefits of the mixed-method research design chosen for this evaluation assist the evaluation users in making reasonable judgments about the applicability of findings to a broader context. Again, it is the evaluation user's responsibility to make the final determination, based on their knowledge of the program and its activities, about the reasonableness of applying the evaluation findings to the population generally, with the assurances that the evaluator has, in carrying out the evaluation, reasonably and fairly applied the standards and principles described herein that provide a strong foundation on which any such judgment can be made by the user.

II. INTERVIEW AND SURVEY QUANTITATIVE RESULTS

1. OVERVIEW

Section II describes evaluation results drawn from the quantitative portions of both the personal interview and mail survey data collection procedures, relating to the primary goal of the evaluation, namely examining key staff characteristics. The qualitative results drawn from both data collection procedures are described in Section III of this report.

1(a) Response Rate

Twenty-nine of the 30 individuals identified for personal interviews agreed to participate, giving a response rate of 97%. Of these 29 interviewees, about half (48%, n=14) were landowners, one-third (35%, n=10) represented government agencies or other organizations, and the remainder (17%, n=5) were Cows and Fish staff. About two-thirds of the landowners (64%, n=9) were associated with community groups working on riparian issues, while about one-third (36%, n=5) were community members or landowners not associated a community riparian group. Overall, just over half of all interviewees (52%, n=15) were agricultural producers. One interviewee indicated they were associated with lake riparian areas.

In response to the 453 surveys mailed, 36 were returned by Canada Post as undeliverable, 10 respondents declined participation or their returned surveys were unusable, and three surveys were received too late for inclusion in the analysis. This left the number of potential surveys at 404, of which 178 were received by return mail (direct to the evaluator rather than to Cows and Fish), and hence were available for use in calculating the results presented here. This equated to a 44% response rate, as summarized in Table 3.

Table 3
Survey Response Rate

Surveys Mailed	453
Less: address undeliverable	-36
Less: deceased, declined or unusable	-10
Less: received too late for analysis	-3
	404
n = Useable Surveys Received	178
Response Rate (178/404)	44.06%

As a general rule, mail survey response rates of over 30% are rare (Alreck and Settle, 1985) unless numerous specific techniques are incorporated into survey design and implementation to maximize response rate by several percentage points (Dillman, 1978; Fox et al., 1988). The relatively high response rate for this project's mailed survey is likely attributable to two factors. First, the respondents were targeted based on their prior involvement with Cows and Fish and, accordingly, were likely to have a greater than average commitment to, and interest in, issues relating to riparian awareness and practice change, both being key areas of emphasis for Cows and Fish staff when carrying out their responsibilities.

Second, a number of techniques known to increase survey response rate (Dillman, 1978) were used in the design and delivery of the survey instrument. For example, this project's budget permitted the use of the following techniques designed to maximize response:

- using a cover letter (Appendix C) indicating the transparency of the project, specifically explaining the social benefit of both Cows and Fish and the survey to the respondent and others in the community interested in addressing riparian issues; welcoming access to evaluation and program staff in case of questions; providing contact information for those staff; explaining how results will be used; and providing an assurance of respondent anonymity;
- providing a return stamped envelope;
- including in the survey instructions an estimated time to complete, i.e. 10-15 minutes;
- mailing a brief reminder notice approximately one week after the surveys themselves were mailed;
- offering a token to respondents (a Cows and Fish ruler) available upon their request; and
- utilizing several design features in the content and format presentation of the mail survey instrument to maximize ease of use.

1(b) Participants in the Evaluation

Taking interview and survey respondents together, 207 individuals participated in the Cows and Fish staff interaction evaluation project:

- 86% (n=178) were survey respondents (Figure 1), giving a valid response rate of 44.06% on the survey;
- the remaining 14% (n=29) were interviewees, of which five were Cows and Fish staff members;
- across all 207 respondents, 45% (n=93) were community group members, 11% (n=22) were agency/organization representatives; 3% (n=6) were drawn from miscellaneous backgrounds such as industry; 2% (n=5) were Cows and Fish staff; and the balance of 39% (n=81) were non-group community members/landowners (Figure 2);
- across all respondents, 71% (n=146) were producers and 29% (n=61) were non-producers (Figure 3);
- across all respondents (excluding five staff), 23% (n=46) were associated with lake riparian areas while 77% (n=156) were not (Figure 4); and
- 15% (n=22) of producers were associated with lake riparian areas.

In terms of geographical distribution across Alberta, respondents were asked to identify the municipal jurisdiction in which the primary riparian area(s) they were associated with was/were located (Figure 5). Thirty-four separate municipal jurisdictions were reported by respondents, reflecting the extensive coverage of Cows and Fish work within the province:

- the highest representations by municipal jurisdiction were in southern Alberta, with Foothills at 11% (n=22), Willow Creek at 10% (n=20), Rockyview at 8% (n=17) and Pincher Creek and Wheatland, both at 6% (n=13 and n=12 respectively);
- 8% (n=16) reported more than one county (most were required to cover numerous jurisdictions within Alberta because of their employment mandate); and
- 6% (n=13) did not specify their location.

The distribution of remaining respondents across other municipal jurisdictions, all at less than 5% (n=<10), is set out in Table 4.

Table 4
Respondent Distribution by Municipal Jurisdiction

Distribution n=<10)	County, Municipal District, Special Area or Reserve
4% (n=8-9)	Flagstaff, Red Deer
3% (n=6-7)	Camrose, Lakeland, Lethbridge, Ranchland, Smoky Lake
2% (n=3-4-5)	Cypress, Kneehill, Mountainview, Paintearth, Wainwright, Warner
1% (n=1-2)	Athabasca, Beaver, Bighorn, Crowsnest, Forty Mile, Lac la Biche, Lac Ste. Anne, Lacombe, Leduc, Piikani Nation, Special Areas #2, St. Paul, Vermilion River, Vulcan, Westlock, Yellowhead

2. EVALUATION GOAL #1 - AGREEMENT ON STAFF CHARACTERISTICS

2(a) Respondents Overall

On eight of the nine staff characteristics that respondents were asked to consider, more than three-quarters (77% to 87%) (Figure 6) strongly and moderately agreed that staff demonstrated the characteristics, as summarized in Table 5.

Table 5
% Agreement on Characteristics by Respondents Overall

Characteristic	Strongly and Moderately Agree Overall (% in descending order)	Refer to Figure #
Knowledgeable about Riparian Management	87	7
Enthusiastic	86	8
Appropriate Overall with Self	86	16
Respectful	84	9
Credible	84	10
Reliable	83	11
Helpful	82	12
Unbiased	82	13
Appropriate Overall with Others	78	17
Able to Understand the Practicalities of Living and Working Near Riparian Areas	77	14
Able to Motivate	70	15

The characteristic that respondents agreed most that staff demonstrated was that staff were knowledgeable about riparian management (Figure 7). Eight-seven percent strongly and moderately agreed that staff demonstrated this characteristic.

The characteristic that respondents agreed least that staff demonstrated was their ability to motivate others to learn/adopt riparian management solutions (Figure 15). Notwithstanding, over two-thirds (70%) of respondents strongly and moderately agreed that staff demonstrated this characteristic.

When asked to consider whether staff acted appropriately overall with them, 86% (n=174) of respondents (Figure 16) agreed that staff did so, with 54% strongly agreeing and 33% moderately agreeing. This compares to 78% who strongly and moderately agreed that they thought others who have dealt with the staff found those interactions to be appropriate overall (Figure 17).

In summary, this indicates that Cows and Fish achieved excellent overall interaction with respondents, both on the discrete characteristics that respondents were asked about and in terms of general overall impressions about how the staff presented themselves to the respondents.

2(b) By Producers/Non-Producers

The characteristics were then examined based on whether the respondent was a producer or non-producer, to determine whether the two types of respondents perceived the program differently, based on interactions with staff. As illustrated in Table 6, agreement across producers and non-producers showed two features:

- a high degree of agreement across producers and non-producers (75% to 92% strongly and moderately agreeing):
 - on eight of the nine characteristics (Figures 18-25), the exception being ability to motivate (described below);
 - that staff acted appropriately overall with respondents, with agreement by 84% and 89% for producers and non-producers respectively (Figure 26); and with others, with agreement at 75% and 84% respectively (Figure 27).
- a similar pattern of agreement across producers and non-producers:
 - non-producers strongly and moderately agreed, to the same degree or more than producers did, that staff demonstrated eight of the nine characteristics, the exception being respectful (92% and 75% respectively). The lower ratings for non-producers on this characteristic may relate to whether Cows and Fish staff communicate an appreciation for issues important to non-producers, as well as the relevance of information they could offer to help deal with them;
 - the highest rating was for respectfulness, with 92% of producers agreeing that staff demonstrated this characteristic. Given the sensitivity that producers feel about being blamed for environmental damage, their independence in terms of decision-making about their own operations, and the frustrations of being unable to obtain helpful (or indeed any) practical assistance when they want to be proactive (Bateman, 2001a), it would appear that the ability of the Cows and Fish staff to establish trust with producers by conducting themselves in a way that shows respect for producers and their situations is crucial to the program's success. Further, respect as a foundation for trust in working relationships appears to be consistently demonstrated by staff, based on findings of earlier Cows and Fish program evaluations (Bateman, 2001a).

One characteristic, ability to motivate (Figure 28) showed a slightly more modest degree of agreement overall, with 66% of producers strongly and moderately agreeing, while 24% were neutral. This compared to non-producers, of whom 77% strongly and moderately agreed, with 15% being neutral. As described in Section III of this report, the somewhat lower ability to motivate producers may be related to factors outside the direct control of staff, or indeed producers themselves, given the complexity of agricultural operations; the potential for lead-times of years rather than months to plan and implement management change; the lack of funds to make desired changes; as well as industry issues such as the BSE crisis, drought, grasshopper infestations and so on. Further, given that most staff are not producers themselves, there may be a potential barrier, at least initially, to finding common ground between staff and producers that otherwise would lead more consistently to greater feelings of motivation. Refer to Section III for more discussion on these points.

Table 6
% Agreement by Producers/Non-Producers

Characteristic	Producer	Non-Producer
	% Strongly / Moderately Agree	
Knowledgeable about Riparian Management	86	88
Understand Practicalities of Living and Working Near Riparian Areas	77	78
Enthusiastic	85	89
Able to Motivate	66	77
Unbiased	77	78
Credible	83	87
Reliable	83	83
Respectful	92	75
Helpful	80	77
Appropriate Overall With Self	84	89
Appropriate Overall with Others	75	84

Comparing agreement about appropriateness of interactions overall, with respondents (Figure 26) and with others (Figure 27), degree of agreement was 75% or greater on both, but the pattern of agreement tended more toward the mid-range (i.e. moderately agree and neutral) for interactions with others compared to interactions with respondents themselves:

- more of both producers and non-producers moderately agreed or were neutral (57% and 62% respectively) about the appropriateness of staff interactions with others, compared to 40% and 44% respectively about interactions with respondents themselves.

Reasons are difficult to discern for the slightly lower degree of agreement on interactions with others compared to interactions with the respondents themselves. While agreement was high overall, the differences may perhaps reflect that, while the respondents may themselves have had a generally positive experience with staff, the question about interactions with others placed a demand on the respondents to make a judgment outside of their direct personal experiences. This may have caused respondents to feel compelled to recall an anecdote about others they knew of who had also dealt with Cows and Fish who may have been unfamiliar, unconvinced, or disagree with Cows and Fish. Notwithstanding the limitations of placing the demand on a respondent to speak about the experiences of others, it is important to acknowledge that, while the overall interactions with staff were clearly successful, as reported by respondents, the challenge remains for the program to continue to deliver consistent programming to help ensure consistent responses from those they work with.

In summary, with the differences described above relating to ability to motivate and respectfulness (both possibly relating to relevance of information and/or limited by external industry factors), there is only minor variation between producers and non-producers in their agreement that Cows and Fish staff demonstrated the characteristics under review. This suggests that the staff, in delivering the Cows and Fish program, appear to be operating in a generally consistent manner regardless of their audience.

2(c) By Lake/Non-Lake Respondents

As for producers described above, the staff characteristics were then examined based on whether the respondent was associated with a lake or non-lake riparian area, to determine whether the two types of respondents perceived the program differently based on their interactions with staff.

As illustrated in Table 7, more than three quarters (75%-87%) of both lake and non-lake respondents strongly and moderately agreed that staff demonstrated:

- seven of the nine characteristics (Figures 29-35), the exceptions being ability to motivate and understanding the practicalities, described below (Figures 36-37); and
- the ability to act appropriately overall with respondents, with agreement at 85% for both lake and non-lake respondents (Figure 38).

Table 7
% Agreement by Lake/Non-Lake Respondents

Characteristic	Lake	Non-Lake
	% Strongly / Moderately Agree	
Knowledgeable about Riparian Management	84	87
Understand Practicalities of Living and Working Near Riparian Areas	72	78
Enthusiastic	87	85
Able to Motivate	72	68
Unbiased	80	77
Credible	83	85
Reliable	79	84
Respectful	76	86
Helpful	77	83
Appropriate Overall With Self	85	85
Appropriate Overall with Others	74	78

The characteristic that lake respondents agreed most that staff demonstrated was being enthusiastic (87%). The characteristic that non-lake respondents agreed most that staff demonstrated was being knowledgeable about riparian management (87%). Note as a comparison that as set out in Table 5, producers rated respectfulness highest at 92%, likely due to the ability of staff to overcome the feeling that producers have reported of being targeted for environmental damage, which may not be a particular concern for lake respondents (yet). However, lake respondents appear to be responding to the staff's eagerness and positive approach to their work.

The characteristics that lake respondents agreed least that staff demonstrated were ability to motivate (72%) and understanding the practicalities (72%), although these are still positive results and the variation in agreement from all other characteristics is indeed moderate. Non-lake respondents also reported the least amount of agreement on ability to motivate (68%), as would be expected based on discussions described above about respondents overall and

producer/non-producer respondents. Ability to motivate and understanding practicalities appear to be related, since an ability to communicate an understanding of the issues or factors that are foremost in the minds of lake respondents is a precursor to being able to provide information or suggestions that realistically help an individual along the road to making practice change. Given that these two characteristics received the lowest (relatively speaking) degree of agreement, it suggests that some barriers exist to the program staff being able to offer information or solutions that landowners can reasonably act on. This may relate to either the content of that information, and/or be caused by factors outside of the control of staff. It may be explained partly by the watershed focus of Cows and Fish awareness programming, where an audience is exposed to many issues related to riparian health. Cottage landowners, for example, may not yet readily see the link between livestock, cultivation and industrial land uses (at a watershed scale), and the condition of their lake, whereas producers, having been targeted in the past for their own environmental practices, may be somewhat more conscious of other types of land use practices that contribute to watershed health. Cottage landowners, in general, may still be predisposed, by location, to think of just the shoreline and the issues associated with it.

While respondents consistently indicated a high degree of agreement on all characteristics (ranging from 68% to 87%), overall:

- lake respondents agreed slightly more than non-lake respondents on:
 - enthusiastic (87% vs. 85%);
 - unbiased (80% vs. 77%);
 - able to motivate (72% vs. 68%); and
- non-lake respondents agreed slightly more than lake respondents on:
 - knowledgeable about riparian management (87% vs. 84%);
 - respectful (86% vs. 76%); and
 - credible (85% vs. 83%);
 - reliable (84% vs. 79%);
 - helpful (83% vs. 77%);
 - understanding the practicalities (78% vs. 72%); and
 - acting appropriately overall with others (74% vs. 78%) (Figure 39).

There was equal agreement across respondents that staff acted appropriately overall with them (85%), again a very strong indication that the personal interaction with staff is indeed positive. Note, however, that respondents distinguish between their own experiences and anecdotal indications about the experiences of others with the staff, in that 74% of lake and 68% of non-lake respondents reported agreement that staff interacted appropriately overall with others.

In summary, there was only minor variation between lake and non-lake respondents in their agreement that Cows and Fish staff demonstrated the nine characteristics under review. As reported above when examining data based on respondents being producers or non-producers, this suggests that the staff, in delivering the Cows and Fish program, appear to be operating in a generally consistent manner regardless of their audience.

2(d) By Role with Regard to Cows and Fish

Agreement on characteristics was next examined based on the type of role that the respondents reported in terms of their interaction with Cows and Fish. The role categories used here are:

- staff;
- group members (representatives or members of a local community group working on riparian issues);
- non-group community members/landowners (generally, landowners involved in RHA but not as part of a community riparian group);
- agency/organization representatives (representatives of a government agency or other large organization working on riparian issues, whether formally partnered with Cows and Fish or not); and
- miscellaneous (a small number of respondents representing e.g. industry).

Of the five types of role that respondents played with regard to their interactions with Cows and Fish (Figures 40-50), the staff category had the greatest degree of agreement overall, followed by agency/organization representatives, group members, non-group community members/landowners, and miscellaneous respondents. Results are summarized in Table 8.

Table 8
% Agreement on Characteristics by Role with Cows and Fish

Characteristic	Staff n=5 (2%)	Agency/Org n=22 (11%)	Ctty Group n=93 (46%)	Non-Group Ctty Members/ Landowners n=78 (38%)	Misc n=6 (3%)
	Strongly and Moderately Agree %	Strongly and Moderately Agree %	Strongly and Moderately Agree %	Strongly and Moderately Agree %	Strongly and Moderately Agree %
Knowledgeable about Riparian Management	100	100	90	79	83
Understand Practicalities of Living and Working Near Riparian Areas	100	95	80	69	83
Enthusiastic	100	96	90	77	83
Able to Motivate	100	73	76	60	83
Unbiased	100	81	82	71	83
Credible	100	96	88	76	83
Reliable	100	86	85	77	66
Respectful	100	95	86	79	83
Helpful	100	95	89	73	83
Appropriate Overall With Self	100	96	81	75	83
Appropriate Overall with Others	100	81	82	65	100

All of the staff (n=5) strongly and moderately agreed that they demonstrated all nine characteristics and acted appropriately overall with both respondents and with others. With only five respondents in this category, there is little pattern of variation that can be commented on. However, by examining only the *strongly* agree responses of staff, some variation in staff agreement was noted:

- 100% of staff strongly agreed that they demonstrated knowledge of riparian management; understood the practicalities; were enthusiastic, respectful and helpful; and acted appropriately overall with respondents;
- 80% of staff strongly agreed that they were credible and reliable; and
- 60% of staff strongly agreed that they understood the practicalities; were able to motivate; were unbiased, and acted appropriately overall with others.

Among agency/organization representatives (n=22), very high agreement on most characteristics was reported. Between 95%-100% strongly and moderately agreed that staff were:

- knowledgeable about riparian management (100%);
- appropriate overall with respondents (96%);
- enthusiastic (96%);
- credible (96%);
- respectful (95%);
- helpful (95%); and
- able to understand the practicalities (95%)

Three-quarters or more of agency/organization representatives also agreed that staff were:

- reliable (86%);
- unbiased (81%);
- appropriate overall with others (81%); and
- able to motivate (73%).

The highest agreement from agency/organization representatives was on knowledgeable about riparian management (100%) while the lowest agreement was on ability to motivate (73%).

Well over three-quarters of community group members (n=93) strongly and moderately agreed that staff demonstrated eight of nine characteristics and acted appropriately overall. Agreement was just slightly less than that reported by agency/organization representatives, but was still very high. In descending order of degree of agreement, community group members strongly and moderately agreed that staff were:

- knowledgeable about riparian management (90%);
- enthusiastic (90%);
- helpful (89%);
- credible (88%);
- respectful (86%);
- reliable (85%);
- unbiased (82%);
- appropriate overall with others (82%);
- appropriate overall with respondents (81%);

- able to understand the practicalities (80%); and
- able to motivate (76%).

Following the same pattern as agency/organization representatives, the highest agreement from community group members was on knowledgeable about riparian management (90%) while the lowest agreement was on ability to motivate (76%).

Among non-group community members/landowners, degree of agreement was strong overall, but was modestly lower than agreement by both the group members and agency/organization representatives. Two-thirds or more (65% to 79%) of non-group community members/landowners strongly and moderately agreed that staff demonstrated eight of nine characteristics and acted appropriately overall.

In descending order of degree of agreement, non-group community members/landowners strongly and moderately agreed that staff were:

- knowledgeable about riparian management (79%);
- respectful (79%);
- enthusiastic (77%);
- reliable (77%);
- credible (76%);
- appropriate overall with respondents (75%);
- helpful (73%);
- unbiased (71%);
- able to understand the practicalities (69%);
- appropriate overall with others (65%); and
- able to motivate (60%).

Note the consistent pattern where knowledgeable about riparian management was again highest (79%) and ability to motivate was lowest (60%).

The small number of respondents classified as miscellaneous (n=6) strongly and moderately agreed (between 66% and 83%) that staff demonstrated all nine characteristics and that staff acted appropriately overall with them. There was 100% agreement by miscellaneous respondents that staff acted appropriately overall with others.

These results provide two very clear indications. First, resource management professionals, representing government agencies or large organizations, report a high regard for the manner in which Cows and Fish staff conduct themselves. This speaks well to the framework of partnership that is key to the Cows and Fish process. The individuals involved have a professional respect for Cows and Fish that has brought, and presumably will continue to bring, them into successful working partnerships on behalf of landowners. These other professionals, whether they facilitate access to funds for riparian projects or offer technical assistance in a watershed or community, represent a fundamental component of the partnership model, so their very strong agreement on the manner in which the Cows and Fish staff interact with them and community members indicates a clear endorsement for the Cows and Fish process. That support is particularly noteworthy given the practical challenges and barriers that can sometimes exist as a result of different organizational mandates among working partners. Some suggestions offered by these respondents for further improving the working arrangements between their organizations, and Cows and Fish, are discussed in Section III.

Second, by comparing results between group and non-group respondents, it appears that the mechanism of the community group provides an effective and meaningful forum in which the staff are able to interact most effectively with landowners. Degree of agreement by non-group members was lower on every characteristic compared to agreement by group members. This may be due to more structured and more frequent opportunities to interact, more opportunities to follow-up on a personal basis, or more consistent communication of ideas and information. While the outcomes of that interaction, such as raising awareness and making practice change (discussed in detail later in this Section), cannot be judged solely by how respondents rate the staff characteristics, these results do suggest that those characteristics are an important step in the community-based process that is fundamental to the Cows and Fish program.

In summary, regardless of their role with Cows and Fish, between three-quarters and 100% of agency/organization representatives and community group members agreed that staff demonstrated the characteristics under review. Indeed, as illustrated in Table 9, which compares the range of agreement percentages across all role categories, as well as producer/non-producer respondents and lake/non-lake respondents, agreement by agency/organization representatives is consistently at the high end of the agreement range on almost all characteristics. It is generally at the low end of the range for non-group members. This regular pattern of agreement suggests that the community-based process used by Cows and Fish has provided a constructive forum in which the staff can work effectively to assist landowners.

The most highly rated characteristic that appears to have lent legitimacy to that process was knowledge about riparian management, while ability to motivate remained the characteristic with the most challenges, for reasons likely outside the control of staff and even producers themselves (e.g. drought, BSE and so on).

Table 9
Comparative Range of Agreement on Characteristics Across All Respondent Categories

Characteristic	Producer	Non-Producer	Lake	Non-Lake	Agency/Org	Group	Non-Group	Misc	Overall	Range
	% Strongly/Moderately Agree									
Knowledgeable about Riparian Management	86	88	84	87	100	90	79	83	87	79-100
Understand the Practicalities of Living and Working Near Riparian Areas	77	78	72	78	95	80	69	83	77	69-95
Enthusiastic	85	89	87	85	96	90	77	83	86	77-96
Able to Motivate	66	77	72	68	73	76	60	83	70	60-83
Unbiased	77	78	80	77	81	82	71	83	82	71-83
Credible	83	87	83	85	96	88	76	83	84	76-96
Reliable	83	83	79	84	86	85	77	66	83	66-86
Respectful	92	75	76	86	95	86	79	83	84	75-95
Helpful	80	77	77	83	95	89	73	83	82	73-95
Appropriate Overall With Self	84	89	85	85	96	81	75	83	86	75-96
Appropriate Overall with Others	75	84	74	78	81	82	65	100	78	65-100

2(e) By Amount of Contact with Staff

Agreement on characteristics was next examined in relation to the amount of contact respondents reported they had had with staff (very little; moderate; or frequent or in-depth). As described early in this Section, a consistently high degree of agreement was reported overall on the staff characteristics under examination. Most notably, however, results indicate a highly positive direct relationship between the appropriateness of interactions with staff and the amount of contact that respondents had with staff, as illustrated in Table 10.

Between 91% and 100% of respondents with frequent/in-depth contact with staff strongly and moderately agreed that staff demonstrated all nine characteristics, and that they acted appropriately overall with respondents (Figures 51-59):

- this compares to between 81% and 89% for respondents with a moderate amount of contact, on all characteristics except ability to motivate (71%); and
- this compares to between 68% and 81% respectively for respondents with very little contact, on all characteristics except ability to motivate (59%).

Table 10
Positive Relationship Between Agreement on Characteristics
and Amount of Contact with Staff

Characteristic	Frequent/In-Depth Contact (in descending order)	Moderate Contact	Very Little Contact
	% Strongly / Moderately Agree		
Enthusiastic	100	89	77
Credible	100	88	75
Respectful	100	85	78
Helpful	100	84	73
Knowledgeable about Riparian Management	96	89	81
Reliable	96	86	75
Appropriate Overall with Self	95	89	78
Able to Motivate	95	71	59
Understand Practicalities of Living and Working near Riparian Areas	91	82	68
Unbiased	91	81	70
Appropriate Overall with Others	85	89	78

Recall that in results reported earlier in this Section, ability to motivate consistently had a somewhat lower degree of agreement, compared to other characteristics. However, when this characteristic was examined in terms of amount of contact with staff, it showed the greatest increase in agreement compared to all other characteristics, rising from 59% with very little contact, to 71% for moderate contact, to 95% for frequent/in-depth contact. This supports in a very fundamental way the approach to awareness and practice change taken by Cows and Fish as delivered by its staff. Specifically, the capacity-building among landowners in learning about

practical solutions, for example through ongoing or repetitive interactions, operation-specific discussions, demonstrations of the costs and benefits of management options, and even opportunities to facilitate funding, seemed to begin to mitigate the challenges faced by landowners in feeling that they could take actual steps to make change. Further, these results indicate that respondents attribute the increase in their motivation to act to Cows and Fish staff.

Note also that a similarly notable degree in increase occurred on understanding the practicalities as amount of contact increased (from 68% to 82% to 91%).

On four characteristics (enthusiastic, credible, respectful and helpful), 100% of respondents with frequent or in-depth contact with staff strongly and moderately agreed that staff demonstrated these characteristics:

- agreement on these four characteristics dropped by about 25% for respondents with very little contact, to 77%, 75%, 78% and 73% respectively. Again, the more opportunities respondents had for interaction with staff, the greater the strength of feeling that staff exhibited characteristics that landowners found appropriate in helping them address their riparian issues.

Similarly, on staff acting appropriately overall with respondents (Figure 60), 95% of respondents with frequent contact indicated they strongly and moderately agreed that staff did so. This compares to 86% of respondents who strongly and moderately agreed that they thought others who have dealt with the staff found those interactions to be appropriate overall (Figure 61):

- as with those with frequent/in-depth contact, those with moderate contact showed a similar pattern of less agreement on interactions with others (84%) than with respondents themselves (89%); and
- the same pattern was evident for those with very little contact, at 66% and 78% respectively.

Overall, these results represent very strong endorsements of staff interactions, even for those respondents reporting very little contact with staff. This suggests that first impressions on initial contact are positive, and again that more frequent opportunities to interact show the staff to be consistent in their conduct, providing the foundation for developing meaningful working relationships over time.

While the degree of agreement ranged from 66% to 95% on the appropriateness of interactions overall with both respondents and others, the pattern of agreement tended more toward the mid-range (i.e. moderately agree and neutral) when respondents considered interactions with others compared to interactions with themselves:

- regardless of amount of contact, more respondents moderately agreed or were neutral (41% of those with frequent or in-depth contact, 58% of those with moderate contact and 65% of those with little contact) when reporting about others, compared to 23%, 36% and 56% respectively when reporting about themselves. This result was consistent with the patterns reported earlier in this Section.

In summary, results indicated a consistent and distinct positive relationship between degree of agreement on the characteristics under review, and degree of contact with staff. Staff were viewed positively both on initial contact and throughout the period of time in which they were working with respondents. Further, the design of the program, which afforded opportunities for continued interaction over time (during which both staff and respondents presumably became more familiar with each other and what both had to offer), appears to be fundamentally sound. In particular, that program design feature provided the mechanism by which initial barriers to motivation to make practice change could be overcome, as understanding of practicalities associated with solutions became more apparent. In other words, it takes time to build relationships in which barriers and solutions to practice change can be identified and addressed: contact with/access to staff would appear to play an important role in that process.

2(f) *By Most Recent Year of Riparian Health Assessment Participation*

Respondents were asked to identify the years in which they had participated in a Cows and Fish RHA on property they were responsible for/involved with. For purposes of the following analysis, the most recent year of RHA participation was determined by selecting those respondents who had identified just one RHA year (i.e. eliminating those who had selected multiple years). This step was done to deal with the views of both the evaluator and the program manager that this survey question may have been misinterpreted by some respondents to mean informal personal assessments, or attendance at field days, rather than the formal assessments done by Cows and Fish, which typically has not performed RHAs over multiple years for the same landowner.

Results of comparing agreement on all characteristics with most recent year of participation are summarized in Table 11.

Due to the spread of respondents across the seven potential years of RHA, and in particular the small number of respondents associated with 1997, 1998, 1999 and 2003, it was not feasible to arrive at reasonable observations relating to data for those years, or to draw conclusions about whether staff were more or less effective in their interactions with staff across all years.

However, looking only at 2000, 2001 and 2002 (Figures 62-64), each having between 24 and 28 respondents, it can be said that in 2000 and 2002 agreement on characteristics was both reasonably high (ranging between 67% and 88%), and that it was consistent. Across all characteristics in 2001, however, respondent agreement dropped by an average of 13%. Explanations for such a drop may be related to the restructuring of the staff complement and staff roles within Cows and Fish that took place in 2000 and 2001, in conjunction with the expansion of the program into many new areas of the province, involving a different distribution/timing of program events.

Table 11
Agreement on Characteristics by Most Recent Year of RHA

Characteristic	1997 n=~3	1998 n=~2	1999 n=~10	2000 n=~24	2001 n=~28	2002 n=~27	2003 n=~7
	%	%	%	%	%	%	%
Knowledgeable about Riparian Management	100	100	100	83	68	85	86
Understand Practicalities of Living and Working Near Riparian Areas	100	100	90	72	68	67	71
Enthusiastic	100	100	90	88	75	78	86
Able to Motivate	100	100	80	75	61	63	57
Unbiased	100	100	90	72	57	78	86
Credible	100	100	90	84	68	78	86
Reliable	100	100	80	83	68	74	86
Respectful	100	100	90	84	64	81	86
Helpful	100	100	90	72	70	81	86
Appropriate Overall With Self	100	100	80	88	71	81	86
Appropriate Overall with Others	100	100	63	70	62	69	83

2(g) Staff Influence on Participation/Understanding/Use of RHA

Respondents were asked three questions about the extent they agreed that staff contributed to (a) their decision to participate in the RHA (b) their understanding of the RHA report/results and (c) their use of their results. These data were examined from three perspectives: the respondent's role; whether the respondent was a producer or non-producer; and whether the respondent was associated with lake or non-lake riparian areas.

Table 12 summarizes the results of the three questions asked about staff influence on RHA, in terms of respondent role (Figures 65-67).

Table 12
Staff Contribution to Participation/Understanding/Use of RHA by Role

	Group Members	Non-Group Ctty Members/LOs	Agency/Org Reps	Misc
	% Strongly / Moderately Agree			
Participating	75	77	64	60
Understanding Results	77	73	83	80
Using Results	66	56	67	80

On agreement that staff played a key role in respondents participating in the RHA:

- 75% of group members strongly and moderately agreed that staff played a key role in their decision;
- 77% of non-group community members/landowners strongly and moderately agreed. and
- 64% of agency/organization representatives strongly and moderately agreed.

The group indicating the greatest influence by staff in participating in the RHA was landowners, with no notable difference in agreement based on membership in a community group or not (75% and 77% respectively). Understandably, influence on participation by agency/organization representatives was somewhat less, at 64%, since many of them would be required as part of their employment mandate to be involved in RHA projects, which often include multiple partners. Nonetheless, staff appear to have played an important role in facilitating these representatives making the decision to participate.

On agreement that staff played a key role in helping respondents to understand their RHA report/results:

- 77% of group members strongly and moderately agreed;
- 73% of non-group community members/landowners strongly and moderately agreed; and
- 83% of agency/organization representatives strongly and moderately agreed.

Similar to the decision to participate, about three-quarters of landowners were assisted by staff with respect to understanding their RHA assessments. On the one hand, this may suggest that their written reports were presented in such a way that recipients needed to seek staff out to obtain clarification. While this question was not specifically addressed in this evaluation, a previous evaluation (Bateman, 2001b) found that some landowners sensed information overload, required greater background in ecological function, and wanted more information on how to apply the results than had been provided to them. Alternately, it may suggest that an appropriate working relationship existed in which the staff and/or the recipients felt comfortable enough to discuss the results with staff and how they could potentially be applied. Regardless of the reasons for the interactions, the results indicate that awareness opportunities have occurred around the understanding of RHA results, with a high proportion (about three-quarters) of respondents reporting that they have taken advantage of interacting with staff for that

purpose (or felt compelled to do so to obtain a clearer understanding of their results), and that staff fulfilled that role.

With 83% of agency/organization representatives being assisted by staff to understand their results, it appears that staff have played a particularly valuable awareness role in working with other resource management professionals to increase knowledge. Further, this interaction may have a multiplier effect, in that learning on the part of those other professionals has the potential to add value to their respective contributions and roles, as these individuals continue to also work with landowners. Capacity-building of this nature may be considered fundamental to the partnerships that are intended to characterize the Cows and Fish process. Given that the content and presentation of information in the RHA report may also have been new material for these respondents, there seems to be both a need and a level of satisfaction in terms of staff having assisted in communicating the RHA results.

On agreement that staff played a key role in helping respondents to use their RHA report/results:

- 66% of group members strongly and moderately agreed;
- 56% of non-group community members/landowners strongly and moderately agreed; and
- 67% of agency/organization representatives strongly and moderately agreed.

While agreement on participation and understanding of results showed a similar pattern across landowners regardless of whether they were group members, a different pattern was observed with regard to using the results. Here, about two-thirds (66%) of group members were assisted by staff with implementing some of their RHA results, while just over half (56%) of non-group members were not. As reported earlier in this Section regarding agreement on characteristics overall, these results provide some additional evidence that the mechanism of belonging to a community group, a central feature of the Cows and Fish community-based approach to dealing with riparian issues, and the structure or opportunities that a community riparian group may afford for more regular contact with a landowner once the RHA itself has been completed, plays a key role in program effectiveness. Here, the group setting contributed slightly more to a respondent implementing report results than if there was no group membership.

After comparing answers to the three RHA questions to the respondent's role, the data were next compared to whether a respondent was a producer or non-producer (Figures 68-70), summarized in Table 13.

Table 13
Staff Contribution to Participation/Understanding/Use of RHA
by Producer/Non-Producer

	Producer	Non-Producer
	%Strongly / Moderately Agree	
Participating	67	79
Understanding Results	73	83
Using Results	60	71

On staff playing a key role in the three steps of the RHA, non-producers consistently relied more on staff than producers, with non-producers reporting an average of about 11% more agreement than producers for each step:

- 79% of non-producers compared to 67% of producers strongly and moderately agreed that staff played a key role in their decision to participate;
- 83% of non-producers compared to 73% of producers strongly and moderately agreed that staff played a key role in understanding their report/results; and
- 71% of non-producers compared to 60% of producers strongly and moderately agreed that staff played a key role in helping them use their results.

Explanations for the differences may relate simply to the ways in which Cows and Fish has traditionally worked, over a long period of time, with producers being brought into the process by other influences such as neighbours, agricultural fieldmen, existing community groups and so on, whereas non-producers (landowners of this type having only more recently become involved with Cows and Fish) may have had less opportunity for contact with other sources of influence, making Cows and Fish staff the most likely source to introduce to them the idea of RHA. In terms of using results, the lower degree of agreement on staff playing a key role may be tied to the complexity of the agricultural operation, i.e. producers may need to consider many inter-related economic and industry factors in applying results compared to, e.g. a country residential landowner who may deal with smaller parcels of land and find decisions about change much less complex (e.g. altering lawn-cutting practices vs. altering an annual grazing regime).

After comparing answers to the three RHA questions to whether the respondent was a producer or non-producer, the data were next compared to whether a respondent was associated with lake or non-lake riparian areas (Figures 71-73), summarized in Table 14.

Table 14
Staff Contribution to Participation/Understanding/Use of RHA
by Lake/Non-Lake Respondents

	Lake	Non-Lake
	%Strongly / Moderately Agree	
Participating	66	71
Understanding Results	74	76
Using Results	64	62

On staff playing a key role in the three steps of the assessment, non-lake respondents relied slightly more on staff than lake respondents to play a key role only in their decision to participate (71% of non-lake respondents strongly and moderately agreed compared to 66% of lake respondents).

In terms of the second and third steps of the assessment, non-lake and lake respondents agreed to about the same degree that staff played a key role in helping them to understand their results/report (76% of non-lake respondents strongly and moderately agreed compared to 74% of lake respondents) and in using their results (62% and 64% respectively who strongly and moderately agreed).

In summary, in terms of the different types of respondent roles, staff were influential in encouraging about three-quarters of landowners, regardless of group membership, to participate in and understand the RHA (Table 12). Staff were slightly less influential in encouraging participation of agency/organization representatives (64% compared to 75% and 77% for group and non-group landowners respectively), but were more influential in helping agency/organization respondents to understand the results (83% compared to 77% for group members and 73% for non-group members). The community group mechanism also provided a forum for staff to have greater influence on respondents using their results (66% compared to 56% of non-group members).

In terms of landowner type, non-producers were consistently more likely than producers (Table 13) to be influenced to participate, understand and use their RHA results. Regarding participation and understanding results, producers likely had more sources of influence such as neighbours, agricultural fieldmen or conservation technicians who may have been interested in or promoting the process, whereas non-producers, e.g. country residential landowners, may have had Cows and Fish as the single source of information or contact about RHA.

There was little variation in the influence that lake and non-lake respondents attributed to Cows and Fish in terms of participating, understanding and using the RHA (Table 14). Note that among lake respondents, 15% were producers.

3. EVALUATION GOAL #2 - RAISING AWARENESS

The second goal of this evaluation was to examine some specific outcomes of interactions with Cows and Fish staff, specifically their impact on raising respondent awareness (staff respondents were not asked this question). Quantitative results presented here are drawn from both the personal interview and mail survey data collection procedures, for questions asking whether respondents raised their awareness as a direct result of their contact with staff; the nature of what was learned; and how staff contributed to the learning experience. Respondents were also asked to identify the two staff characteristics they felt were most important for Cows and Fish to demonstrate when working with landowners and communities to raise awareness about riparian areas. Results relating to similar questions about achieving practice change are provided later in this Section.

3(a) Respondents Overall

Overall, 82% (n=199) of respondents learned new information or raised their awareness as a direct result of their contact with staff (Figure 74). This result indicates that staff were extremely effective in their education role, which is consistent with results described earlier this Section pertaining to agreement on characteristics such as knowledge of riparian management.

3(b) By Role, by Producer/Non-Producer and by Lake/Non-Lake Respondents

In terms of respondent role with Cows and Fish overall (Figure 75):

- 91% (n=93) of group members raised their awareness;
- 86% (n=22) of agency/organization representatives raised their awareness;
- 72% (n=78) of non-group members/landowners raised their awareness; and
- 67% (n=6) of miscellaneous respondents raised their awareness.

Consistent with results and observations described above relating to agreement on characteristics and use of RHA results, the community group setting appears to have offered respondents the best chance of interacting with staff in such a way that awareness was raised by a very large proportion of those respondents (91%). They were notably more likely to raise their awareness than respondents who were not community group members (72%). Staff were also extremely effective at raising awareness of agency/organization representatives (86%), suggesting that the information content, and/or the manner in which it was delivered by Cows and Fish, was considered valuable to those who themselves have a mandate to work with communities on riparian issues. Clearly, these individuals were receptive to the Cows and Fish approach to awareness, but further, continue to build their own capacity for self-learning and helping others to learn about riparian areas.

In terms of landowner type, 83% of producers (n=144) raised their awareness, compared to 80% of non-producers (n=55) (Figure 76). Eighty percent of lake respondents (n=45) raised their awareness, compared to 83% (n=154) of non-lake respondents (Figure 77). These results indicate that staff have been very consistent in delivering their awareness message regardless of their audience.

3(c) By Amount of Contact

Paralleling the relationship reported above between agreement on staff characteristics and the amount of contact respondents had with staff, there was also a highly positive direct relationship between respondents actually raising their awareness and the amount of contact (Figure 78).

- 100% (n=22) of those with frequent/in-depth contact raised their awareness;
- 89% (n=98) of those with moderate contact raised their awareness; and
- 70% (n=79) of those with very little contact raised their awareness (still a very good result).

These results represent very strong endorsements of staff ability to communicate awareness information in an effective manner, even for those respondents reporting very little contact with staff. Even first impressions on initial contact tended to be positive, i.e. staff were sufficiently prepared and skilled to deliver information appropriately in those situations but, also, with more frequent opportunities to interact, they showed they were consistent in the delivery and content of awareness information. In addition, the results suggest that the design of the program, which afforded opportunities for continued interaction over time, appears to be fundamentally sound. In other words, it takes time to build knowledge, although with 70% of respondents with very little contact indicating they raised their awareness, even initial contact had a strong likelihood of raising awareness. This would appear to speak directly to the qualities of the staff in being able to communicate very positively with respondents.

3(d) By Type of Contact

Results also indicated a direct positive relationship between respondents raising their awareness, and the types of contact (Figure 79) available to them through a variety of program tools. These tools are generally considered by staff and participants in the program to work not just over time, but cumulatively, with personalized and/or hands-on interaction with landowners playing a central role in the process of learning (Bateman, 2001a; Fitch, 2003). In other words, it is inherent in the design of the program that different awareness tools, requiring at least some opportunities to work with landowners in personalized settings, act together and cumulatively in a process leading successfully to awareness, rather than any single tool acting alone.

Results appear to bear out this assumption. For example, those interactions that were less personalized such as speaking by telephone only, e.g. to set up an RHA appointment, or attendance at indoor meetings, contributed moderately (yet consistently) to raising awareness compared to interactions that encompassed most or all of the program tools:

- awareness was raised by 43% (n=7) of respondents with contact only by telephone, and by 50% (n=12) of those with contact only by indoor events, while just 33% (n=3) with other types of contact (e.g. mail), raised their awareness;
- more face-to-face personalized contact that occurred by on-site visits (only) resulted in a slightly higher rate of raising awareness (65%, n=17), perhaps due to opportunities to visualize and experience the riparian area; and
- 84% (n=98) of respondents with contact by any two or three types of contact (e.g. whether by telephone, on-site visit, outdoor event or indoor event) reported that their awareness was raised, while 98% (n=61) of respondents who had contact through all four of these types of interactions reported that they raised their awareness.

3(e) Most Important Characteristics to Raise Awareness

Respondents were asked to select (but not rank) two characteristics from the list of nine characteristics, choosing the two that staff should most consistently demonstrate to help others learn/raise awareness about riparian areas. In order to account for two selections to the one question, the following formula was used to calculate percentages for each characteristic, in order to rank their importance based on frequency of selection.

$$\begin{aligned} n &= 207 \times 2 \text{ selections} = 414 \\ \text{less: } &\underline{9} \quad \text{to account for the same characteristic not being} \\ &\quad \text{chosen twice by a respondent} \\ &\underline{405} \quad \text{denominator (total possible \# of selections)} \end{aligned}$$

The two characteristics selected most often by respondents (Figure 80) that they feel should be consistently demonstrated by staff to promote awareness, together representing about two-thirds of all selections, were:

- ability to understand the practicalities (35% of selections); and
- knowledgeable about riparian management (32%).

As described earlier in this Section, the characteristic that respondents most agreed staff demonstrated was being knowledgeable about riparian management, with 87% of respondents agreeing. By identifying this characteristic as central to raising awareness specifically, it suggests that there is a very good match between what respondents require and what staff have been delivering in order to achieve awareness.

Similarly, 77% of respondents agreed that staff demonstrated an ability to understand the practicalities. By also identifying this characteristic as central to raising awareness, respondents indicated that there is consistency in what is needed to raise awareness and what staff have delivered. In other words, through its staff, the Cows and Fish program has met an identifiable need. Recall that respondents reported a high level of increase in agreement on this characteristic as amount of contact with staff increased (Table 4). This implies that staff and respondents needed those opportunities that occur with working together over time to build up an understanding of what was relevant and important to respondents.

The distribution of the remaining one-third of selections was:

- ability to motivate (7%);
- helpful (6%);
- credible (6%);
- enthusiastic (4%);
- respectful (4%);
- unbiased (3%);
- reliable (2%);
- other (describing a characteristic not on the list, such as "all") (1%).

While these remaining seven characteristics played a less significant role individually in raising awareness, they appeared nonetheless to have contributed to and supported the two main drivers of awareness as described in the previous paragraph. This may be simply because, as people and their situations and needs differ, so too do they react differently as people to the range of characteristics demonstrated by staff.

Interestingly, while ability to motivate was previously reported as being the characteristic that respondents agreed least was demonstrated by staff (relatively speaking), respondents indicated here that, at least in terms of its importance in raising awareness specifically, it is a relatively unimportant characteristic (7% of characteristic selections) in terms of needing it to be demonstrated by staff.

3(f) Types of Information Learned

Respondents who indicated that they had raised their awareness as a direct result of their contact with Cows and Fish staff were asked to indicate what they had learned. The question was open-ended without prompting responses, to enable respondents to articulate in their own words what they felt they had learned.

From the 164 respondents who indicated that they had raised their awareness/learned new information, 201 examples of what they had learned were provided. These examples were manually categorized by the evaluator. The resulting categories were further classified into two types of information, namely knowledge topics (145 examples), and strategies that could potentially be employed to deal with riparian issues (56 examples).

Within the knowledge topic categories (Figure 81), the topics described most frequently, representing about half of the 145 knowledge topic examples provided by respondents, related to vegetation and ecological function:

- 29% of examples related to the role, variety and value of vegetative species, as well as the role of weeds in riparian health; and
- 22% related to ecological functions (e.g. water quality, erosion, wildlife, bank stability, filtering), the relationship between functions, and the impact of human activity on functions.

Since ecological function provides the foundation for the information that staff are expected to provide to landowners and communities, for example by using program awareness tools such as introductory slide presentations and in-field training sessions, and further that an appropriate diversity of vegetation is central to healthy riparian function, it appears that these keystone topics of awareness have been successfully delivered by staff. Those program tools designed to provide that foundation knowledge appear, therefore, to have been both effective and necessary.

The remaining knowledge topic examples described by respondents, also representing about half of all examples, were quite broad in nature and suggest that staff were able to place awareness information in a comprehensive framework that included numerous related sub-messages, e.g. pertaining specifically to overgrazing on a particular parcel of land through to understanding the bigger picture of the value and health of watersheds:

- 11% that related to learning about the value of riparian areas and/or watersheds, and the importance of maintaining them;
- 10% that related to learning that options were available, there was a choice of options, and that no one solution fits everyone's situation;
- 8% that described general awareness;
- 8% that related to learning about the impacts of overgrazing;
- 5% that related to starting to see the bigger picture and to look at riparian areas differently and/or with health in mind;
- 4% that related to learning about the resiliency of riparian landscapes;
- 2% that related to learning something (not specified) from the contents of a riparian health assessment report or meeting; and
- 1% that related to learning that producers are acting in the interests/caring for riparian area health.

Within the strategies that they could potentially employ to deal with riparian issues (Figure 82), respondents most frequently described becoming more familiar with what riparian health is and looks like:

- 50% of the 56 strategy examples related to learning how to assess and/or recognize riparian health.

This result is reasonable given the sampling frame used in this evaluation, drawn as it was from those who participated in the Cows and Fish RHA process between 1997 and 2003, where issues of riparian health would have been a focus. It also indicates that within the context of the RHA process, staff were successful in helping respondents to visualize, understand and interpret what they saw on the riparian landscape, a central goal of the RHA process in terms of awareness.

The remaining strategies again described a wide range of learning and interest, from process topics like forming a community group to action topics such as learning about alternate watering systems:

- 18% that related to learning about the advantages of forming a community group or how to form such a group;
- 16% that related to learning about grazing strategies such as rotation and wintering options;
- 9% that related to learning about watering and/or pumps;
- 3% that related to learning about Cows and Fish as a tool to be used for learning about or improving riparian areas;
- 2% that related to learning about using photographs for baseline data; and
- 2% that related to learning about fencing.

About a quarter of the strategy examples related to specific management actions available to respondents to apply their understanding of riparian health (16% relating to grazing strategies, 9% relating to alternate watering sources; and just 2% relating to fencing). Just under a quarter of the examples related to mechanisms that community members could take advantage of to move ahead on riparian issues, namely the advantages of forming a group (18%) and using Cows and Fish as a tool (3%).

Overall, awareness as delivered by staff seems to have occurred within a comprehensive framework that included understanding the principles of riparian health, applying the principles of riparian health, and working together to achieve riparian health.

3(g) How Staff Contributed to Raising Awareness

Respondents who indicated that they had raised their awareness/learned new information were asked in an open-ended question to specify the way(s) in which staff had contributed to awareness. There were 183 examples reported for this question, which were manually categorized by the evaluator into the following mechanisms for awareness (Figure 83).

- 25% of examples related to phone discussions or visits that provided respondents the opportunity to discuss ideas, issues and options with staff;
- 19% related to riparian health assessment results, including photographs provided in the report;
- 15% related to presentations and/or workshops, including photographs;
- 14% related to practical hands-on experiences in which respondents were shown examples of what was being discussed (e.g. on demo sites);
- 10% related to Cows and Fish literature or other resource material provided by staff;
- 9% related to the program acting as a tool for people to work together, learn together, or act as a forum for continuous learning;
- 5% related to qualities of personal support by staff that reinforced respondent viewpoints, inspired them to continue, or made them comfortable in pursuing additional information; and
- 3% related to staff providing settings in which an explanation about the role of vegetation in riparian health was explained.

The range of responses reinforces that there is no single mechanism to promote awareness, and that a mix of some or all ways of interacting with communities and landowners is required to address the needs of so many individualized learning needs and areas of interest. Visual examples provided by means of photographs or demonstrations were central to this, as was staff establishing an atmosphere in which respondents felt valued and at ease. In other words, a flexible selection of program awareness tools has greatest likelihood of raising awareness. Further, that staff were able to provide such a variety of ways of helping respondents learn, speaks to their skill and adaptability in appropriately meeting the needs of those individuals.

3(h) By Participation in Riparian Health Assessment

To determine whether raising awareness was affected by when and how often respondents participated in the RHA, the most recent year of respondent participation, as well as their total number of years of participation, were each compared to whether respondents had learned new information/raised awareness (Figure 84). Results are summarized in Table 15.

Table 15
Raised Awareness by Most Recent Year and by Total Number of Years of RHA

	1997 n=3	1998 n=2	1999 n=9	2000 n=25	2001 n=28	2002 n=26	2003 n=7
	%	%	%	%	%	%	%
Most Recent Year n=100	100	100	78	84	61	85	86
	1 Year n=99	2 Years n=35	3 Year n=15	4 Years n=7	5 Years n=3	6 Years n=5	7 Years n=3
Total # of Years n=167	79	86	100	100	100	100	100

Comparing awareness to most recent year of RHA, and focusing on just those years in which a reasonable number of respondents reported participation, namely 2000, 2001 and 2002, there was a similar degree of awareness in 2000 (84%) and 2002 (85%). As reported above in relation to agreement on characteristics by most recent year of RHA, a dip in impact was noted for 2001, when 61% of respondents reported that their awareness was raised. Further, as with agreement on characteristics in relation to most recent year of RHA, this dip in 2001 may have been caused by factors such as restructuring of the staff complement and roles across the province and the associated change in distribution of program events. In addition, it may be that landowners, especially producers, were simply somewhat less receptive to the Cows and Fish message around the time of 2001 when the drought became severe (although this is less likely the case since rate of awareness returned to high levels in 2002 when drought and other economic, climatic and industry factors continued to impact producers).

Comparing awareness to number of years of participation, clearly, three or more years always resulted in raising awareness. However, even with two years of involvement, 86% of respondents indicated they raised their awareness, and with just one year of involvement, 79% indicated they raised their awareness.

In summary, staff were extremely effective at raising awareness overall, with 82% of respondents reporting that their awareness was raised as a result of direct contact with staff. There was little variation in whether awareness was raised based on being a producer or not, or of being associated with a lake riparian area or not, suggesting that message delivery by staff was generally consistent regardless of audience. However, respondents who were members of a community group were almost 20% more likely to raise awareness than respondents who were not group members. The community-based approach of Cows and Fish therefore promoted greater awareness, as did additional ongoing opportunities to interact with staff: as amount of contact with staff increased, so did awareness. Further, when those opportunities to interact provided more personalized and/or hands-on interaction, awareness was more likely to be raised. Together, amount and type of contact provided a setting in which, over time and on a cumulative basis, the program tools used by staff to share information appeared to provide an appropriate mix of interactions leading to awareness.

Respondents identified ability to understand the practicalities, and knowledge about riparian management, as the two staff characteristics most essential in raising awareness. Note that staff ability to understand the practicalities increased significantly with amount of contact with respondents. Since knowledge about riparian management was the characteristic that respondents agreed most that staff demonstrated, there is a clear match between what respondents felt was important and what has been delivered by staff, an indication that Cows and Fish is on target in terms of selecting and developing qualified staff who can deliver their technical expertise in a practical context that was perceived by these respondents to be appropriate. Discussion in Section III expands on factors that are related to staff being able to understand the practicalities.

The majority of the types of information learned by respondents related to understanding ecological functions (e.g. water quality, bank stability, erosion) as well as the role and value of vegetation. Since these topics form the foundation of content in the Cows and Fish program awareness tools, it is apparent that the tools, as mechanisms for staff to deliver the messages, have been successful in communicating those topics. Similarly, the types of strategies learned about by respondents related most frequently to assessing and/or recognizing riparian health, a fundamentally different way of looking at the landscape that is a precursor to applying knowledge. Additional strategies related to specific actions that could be adopted to improve health (e.g. grazing strategies), as well as process steps available to communities (e.g. forming a community group or taking advantage of information/resources available through Cows and Fish) to deal with riparian issues. Together, therefore, staff working within that process were successful in helping respondents to visualize, understand and interpret what they saw on the riparian landscape. The range of knowledge topics and strategies that respondents reported they learned indicated that there is likely no single mechanism for raising awareness that fits all situations, and rather that a mix of some or all of the ways that Cows and Fish staff interacted with these respondents was both necessary and appropriate for raising awareness.

4. EVALUATION GOAL #3 - ACHIEVING PRACTICE CHANGE

The third goal of this evaluation was to examine some specific outcomes of interactions with Cows and Fish staff, specifically their impact on achieving practice change. Quantitative results presented here are drawn from both the personal interview and mail survey data collection procedures, for questions asking respondents whether they had themselves changed management practices as a direct result of their contact with staff (or in the case of agency/organization representatives, whether they were aware of those they work with having made practice change); the types of change made; and how staff contributed to the decision to change practices. Respondents were also asked to identify the two characteristics they felt were most important for Cows and Fish to demonstrate when working with landowners and communities to promote practice change in terms of riparian area management.

4(a) Limitation of these Data

Note that respondents were not asked to identify the health of their riparian area(s) nor whether practice change was required with regard to their RHA. Submission of an evaluation survey was anonymous and its focus was on staff interaction, not status of riparian health. No linkage could be made in this evaluation, nor was it intended to be made, between the survey results and either individual RHA results or any respondent's potential need to make practice change based on their confidential RHA results. Interpretation of the following results should, therefore, take into account that some respondents who indicated that practice change had not occurred may not have needed to make any change. In that context and understanding that that presents a somewhat limiting factor to the evaluation and its data, the degree of practice change described below as a direct result of contact with Cows and Fish staff (just over one-half of respondents overall, 60% of producers and 39% of lake respondents) is impressive. Further, practice change increased significantly with both greater amounts of contact with staff, and with interaction that occurred through a mix of types of contact.

4(b) Respondents Overall

Overall, 58% (n=193) of all respondents adopted new riparian management or changed their riparian management as a direct result of their contact with staff (Figure 85). [Agency/organization representatives answered based on whether they were aware of those they work with having made practice change. Staff were not asked this question.]

Understanding the limitation to the data as described above, but acknowledging numerous economic, social and operational barriers, and taking into consideration the time lag associated with making practice change (Bateman, 2001a; Bateman, 2001b), a change rate of 58% is nonetheless an impressive result that speaks positively to both the abilities of the staff and to the efficacy of the program's approach and development in promoting practice change.

4(c) By Role, by Producer/Non-Producer and by Lake/Non-Lake Respondents

In terms of respondent role with Cows and Fish (Figure 86):

- 64% (n=89) of community group members made practice change;
- 43% (n=76) of non-group community members/landowners made practice change;
- 73% (n=22) of agency/organization representatives made practice change; and
- 83% (n=6) of miscellaneous respondents made practice change.

As found with regard to raising awareness, the community group setting appears to have offered respondents the greatest likelihood (64%) of interacting with staff in such a way that respondents moved on to make practice change, since only 43% of non-group members reported practice change. With a similar degree of difference between group and non-group members (21% in this case), it seems clear, therefore, that the Cows and Fish community-based approach presented by its staff to encourage and enable landowners to make practice change has contributed in a significant manner to that change process. This is further supported by the approximately three-quarters of agency/organization representatives (73%) who, through their own partnership involvement in that community-based approach, were aware of landowners who had made practice change.

Sixty percent of producers (n=141) made practice change, compared to 50% of non-producers (n=52) (Figure 87). Thirty-nine percent of lake respondents (n=44) made practice change, compared to 63% (n=149) of non-lake respondents (Figure 88). Given that practice change is understood to sometimes take three to five years to implement (Bateman, 2001b), the lower rate of change by lake respondents may be attributable to the relatively recent steps taken by the program and its staff to begin working with lake landowners, something that has occurred primarily in the past two to three years only. Alternately, lake respondents may have quite different needs to help them move toward practice change which staff have not yet provided. Section III provides additional discussion on landowner satisfaction with mechanisms that help them make practice change.

4(d) By Amount of Contact

Again paralleling the relationships reported above between amount of contact and (a) agreement on characteristics and (b) raising awareness, there was also a direct positive relationship between amount of contact and whether respondents reported practice change as a direct result of contact with staff (or, in the case of agency/organization representatives, were aware of those they worked with having made change) (Figure 89):

- 91% (n=22) of those with frequent or in-depth contact reported practice change.
- 62% (n=95) of those with moderate contact reported practice change.
- 42% (n=76) of those with very little contact reported practice change.

Almost all those with frequent contact reported practice change, while about two-thirds with moderate contact did so, and just under half of those with very little contact reported practice change. As with raising awareness, these results provide a strong endorsement of the skills and abilities of staff in creating situations appropriate for landowners to take action on riparian management, presumably by offering solutions or options that landowners considered relevant and achievable (more discussion on this point is provided in Section III). In general, however, these results indicate clearly that greater opportunities for interaction with staff was central to achieving increased rates of practice change.

4(e) By Type of Contact

As with raising awareness, the inherent design of program awareness tools, acting cumulatively and providing opportunities for personalized interactions with staff, was important in achieving practice change. No single program awareness tool appeared to ensure practice change. Indeed, there may have been a dynamic that occurred across the variety of tools that coalesced into respondent decisions to make practice change. There was a general positive relationship between types of contact and whether respondents made practice change (Figure 90), a clear but somewhat less distinct pattern than that described above in relation to raising awareness:

- on-site visits (only) and attendance at indoor events (only) contributed very modestly to practice change, at 27% (n=15) and 44% (n=9) respectively;
- this compares to practice change by those who had two to three types of contact, offering more varied settings and opportunities for interaction (e.g. any of telephone, on-site visits, outdoor events or indoor events), which resulted in a slightly higher rate of practice change at 58% (n=98); and
- this compares to practice change by those who had contact through all available types of interactions, of whom 75% (n=60) reported that they had made practice change (in the case of agency/organization representatives, who indicated they were aware of those they work with having made practice change).

4(f) Most Important Characteristics to Promote Practice Change

Respondents were asked to select (but not rank) two characteristics from the list of nine characteristics, choosing the two that they felt staff should most consistently demonstrate to help others change/adopt new riparian management practices. In order to account for two selections to the one question, the following formula was used to calculate percentages for each characteristic, and to rank their importance accordingly.

$$\begin{array}{l}
 n = 207 \times 2 = 414 \\
 \text{less: } \underline{9} \quad \text{to account for the same characteristic not being} \\
 \quad \quad \quad \text{chosen twice by a respondent} \\
 \\
 \underline{405} \quad \text{denominator (total possible \# of selections)}
 \end{array}$$

In terms of promoting practice change (Figure 91), respondents identified the same two characteristics as being the most important as they had chosen for raising awareness, in this case representing just over half of all selections:

- understanding the practicalities (32% of selections); and
- knowledge of riparian management (26%).

Therefore, within the context of two goals of the Cows and Fish program, namely raising awareness leading to good decisions about management practices, respondents were very clear about their expectations from staff. Given that, for example, knowledge of riparian management was the characteristic that respondents most agreed staff demonstrated, there has been concurrence between what respondents require and what staff have been delivering, both for raising awareness and promoting practice change.

The distribution of the remaining one-third of selections was:

- ability to motivate (13%);
- helpful (6%);
- credible (6%);
- enthusiastic (4%);
- unbiased (4%);
- respectful (3%);
- reliable (1%); and
- other (describing a characteristic not on the list, such as “all”) (2%).

While these remaining seven characteristics played a less significant role individually in promoting practice change, they appeared nonetheless to be important in contributing to and supporting the two main drivers of both awareness and practice change. Note that while ability to motivate was previously reported as being the characteristic respondents agreed least was demonstrated by staff (relatively speaking), when asked to identify the importance of each characteristic, respondents indicated that ability to motivate plays only a fairly modest role (14%) in promoting practice change, just slightly more important than it was considered to be in terms of raising awareness (7%).

4(g) Types of Practice Change

Respondents who indicated that they had made practice change (or, in the case of agency/organization representatives, were aware of those they worked with having made practice change) were asked to indicate the types of changes made. The question was open-ended without prompting responses, to enable respondents to articulate in their own words the types of changes made.

Those who reported practice change (n=111) provided 143 examples of practice change (Figure 92). Of all examples provided, 88% exemplified an understanding of fundamental management principles, as follows:

- 29% of examples related to altering pasture management by adjusting seasonality and/or frequency; altering winter grazing practices; reducing livestock numbers or generally controlling access by livestock;
- 25% related to using permanent or temporary fencing around vegetated areas and/or water bodies;
- 20% related to using alternate watering sources including pumps;
- 9% related to fully excluding livestock access to the riparian area;
- 3% related to creating what was described specifically as riparian pastures;
- 1% related to moving salt/minerals; and
- 1% related to no longer discouraging beaver from their riparian area.

The remaining 12% of examples involved:

- 5% related to planting new shrubs or trees, or creating new (or expanding existing) buffers;
- 3% related to improving or modifying water crossings or culvert areas;
- 2% related to identifying use of riparian demonstration or training sites; and
- 2% related to limiting or eliminating use of chemicals such as fertilizers.

In other words, a large majority of respondents stood back, saw the bigger picture of their land in terms of riparian health, and then planned and applied the underlying principles of riparian management, for example incorporating an understanding of carrying capacity by adjusting rest periods, seasonality and/or frequency of grazing, as well as distribution of livestock. This may speak both to respondents having first built the necessary awareness that enabled them to make good management decisions, but also that staff were able to continue to provide respondents with some perspective about specific options that could be employed to work with their new knowledge. Discussion about staff ability to provide respondents with options for practice change is provided in Section III.

Further, the range of examples indicates that no one solution fit all respondents, as might be expected given the reality that each landowner's situation is unique.

4(h) How Staff Contributed to Practice Change

Respondents who indicated that they had changed their management practices as a direct result of their contact with staff were asked in an open-ended question to specify the way(s) in which staff had contributed to the decision to make the change(s). In the case of agency/organization representatives, answers were based on whether they knew of those they work with who had made practice change. There were 109 examples reported for this question, which were manually categorized into the following mechanisms for promoting change (Figure 93).

- 34% of examples related to respondents changing because they had been provided verbally with information that gave them options, opportunities to discuss their plans, and/or opportunities to discuss benefits and impacts;
- 17% related to respondents changing because they attended workshops, tours and/or field training;
- 12% related to respondents changing because they had received training or reports on riparian health assessment;
- 12% related to respondents changing because of the approach staff took to encourage or motivate them, to reinforce their views, or to provide additional resources;
- 6% related to respondents changing because they had been brought together in a recognizable process;
- 5% related to respondents changing because of what they saw in photographs;
- 5% related to respondents changing because staff had facilitated access to funding for projects;
- 4% related to respondents changing because the impacts of their actions on water and vegetation had been demonstrated to them;
- 4% related to respondents changing because they saw the enthusiasm and expertise of the staff; and
- 1% related to respondents changing because of the program literature they had received.

Note that only 5% of these examples relate to financial incentives, whereas the range of responses across 95% of the examples reinforced that staff have provided, and need to continue to provide, a diverse array of mechanisms to promote practice change. Clearly, respondents experienced numerous successful ways that staff assisted them in the process of making change. Many of these involved illustrating visually through images or in a hands-on manner how change could be applied, or were acknowledgements of the effort made by staff to speak with respondents about their specific situations in an enthusiastic, respectful, helpful and knowledgeable manner. The personal qualities and abilities of staff mentioned here by respondents are in line with the high rates of agreement on all staff characteristics described earlier in this Section.

4(i) *By Participation in Riparian Health Assessment*

To assess whether making practice change was affected by when and how often respondents participated in the RHA, the most recent year of participation, as well as their total number of years of participation, were each compared to whether respondents had made practice change (Figure 94). Results are summarized in Table 16.

Table 16
Practice Change by Most Recent Year and by Total Number of Years of RHA

	1997 n=3	1998 n=2	1999 n=9	2000 n=23	2001 n=27	2002 n=27	2003 n=3
	%	%	%	%	%	%	%
Most Recent Year n=97	67	50	78	70	48	48	67
	1 Year n=96	2 Years n=34	3 Year n=15	4 Years n=7	5 Years n=3	6 Years n=5	7 Years n=3
Total # of Years n=163	58	53	73	70	33	60	100

Comparing practice change to most recent year of RHA, and focusing on just those years in which a reasonable number of respondents reported participating, practice change dropped in both 2001 (48%) and 2002 (48%) from that reported in 2000 (70%). This is similar to the pattern of change noted for raising awareness described above. The lower rates of practice change in more recent years may be due to industry and climate factors, such as severe drought in Alberta, that may have created reticence or operational limitations on the part of producers to alter their practices. It may also have been due in part to the Cows and Fish program restructuring its staff complement and roles during that period, with its associated change in distribution of program events across the province, keeping in mind that implementing practice change is believed to involve a time lag of as much as five years.

Comparing practice change to number of years of participation, at least 58% of respondents indicated they made practice change after just one year, a very positive result that suggests the RHA process is a Cows and Fish program awareness tool that has been central to the process of promoting practice change. Fifty-three percent made practice change after two years and 73% made practice change after three years. This result is consistent with findings of an earlier Cows and Fish evaluation that indicate practice change occurs on a timeline of three to five years (Bateman, 2001b). It is difficult to assess the true rate of practice change by RHA respondents having more than four years of participation, due to the small number of respondents associated with each year, and the possibility that respondents may have misinterpreted this question to mean conducting their own assessments on their properties rather than participation in actual Cows and Fish RHAs per se.

In summary, an impressive rate of practice change (58%) was reported among respondents as a direct result of their contact with Cows and Fish staff. This result should be interpreted within the limitation that it was not possible to determine whether any change was actually required on the part of those respondents who reported no change or who did not answer this question. As with raising awareness, respondents involved in community groups, a central component of the Cows and Fish approach, reported a notably higher rate of practice change (64%) than did non-group members (43%), suggesting that the mechanism of staff and landowners working together using the community group setting is fundamentally important in achieving practice change.

There was a slightly lower rate of practice change reported by non-producers (50%) compared to producers (60%) and a more notable difference between lake respondents (39%) when compared to non-lake respondents (63%). In terms of lake respondents, this may be attributable to the more recent interactions by staff with these types of landowners compared to the traditional Cows and Fish producer audience, a process which began only in the past two to three years. It may also be due to management solutions that staff have been able to make available to these types of landowners that would be considered appropriate to their needs.

As with agreement on characteristics overall and with raising awareness described earlier in this Section, there was a direct positive relationship between amount of contact with staff and increased rates of practice change. Similarly, the dynamic that seems to occur when respondents participate in a variety of types of program awareness tools, particularly those characterized by personalized discussion with staff about specific landowner situations or that visually demonstrated management options, contributed to greater rates of practice change. These results suggest that both the staff interaction and the settings in which that interaction occurred are conducive to achieving practice change.

Respondents identified ability to understand the practicalities, and knowledge about riparian management, as the two staff characteristics most essential to helping them make practice change, the same characteristics they identified as being essential to raising awareness. Note that understanding practicalities showed a significant increase of agreement as amount of contact with staff increased. Since knowledge about riparian management was the characteristic that respondents agreed most that staff demonstrated, there is a clear match between what respondents felt was important and what has been delivered by staff, an indication that Cows and Fish is on target in terms of selecting and developing qualified staff who can deliver their technical expertise in a practical context that was perceived by respondents to be appropriate. Discussion in Section III expands on factors that are related to staff being able to understand the practicalities.

Eighty-eight percent of the examples that respondents provided about the types of practice change made exemplified fundamental management principles. Respondents described how they stood back, saw the bigger picture of their land in terms of riparian health, and then planned and applied the underlying principles of riparian management, for example incorporating an understanding of carrying capacity by adjusting rest periods, seasonality and/or frequency of grazing, as well as distribution of livestock. This may speak both to respondents having first built the necessary awareness that enabled them to make good management decisions, but also that staff were able to continue to provide respondents with some perspective about specific options that could be employed to work with their new knowledge.

Almost all (95%) of the examples describing how staff contributed to respondent decisions to make practice change indicate that staff have provided, and need to continue to provide, a diverse array of mechanisms to promote practice change. Many of these mechanisms involved visual or hands-on demonstrations of how change could be applied, and acknowledged that staff made the effort to speak with respondents about their specific situations in an enthusiastic, respectful, helpful and knowledgeable manner. These personal qualities of staff in promoting practice change reflect the high rates of agreement on all staff characteristics described earlier in this Section. Note that only 5% of examples provided by respondents describing reasons for practice change related to financial incentives.

In terms of whether participation in the RHA contributed to practice change, rate of practice change dropped from 70% in 2000 to 48% in both 2001 and 2002. This may be attributable to factors such as severe drought that may have led landowners to feel more reticent about undertaking change during these periods of uncertainty and stress.

These results indicate that the effectiveness of the Cows and Fish program at promoting and achieving practice change is, to some degree, unprecedented, since the evaluator is not aware of any other conservation program that has undertaken appropriately structured evaluations to examine program outcomes, nor reported such results.

III. INTERVIEW AND SURVEY QUALITATIVE RESULTS

Part 1 of this Section describes evaluation results drawn from the qualitative data obtained from the 29 personal interviews, to the extent those data relate to the primary goal of the evaluation, namely examining the nine key staff characteristics. Results are presented in a series of tables, one for each characteristic, each table identifying the main themes arising from the interviews. Themes are ranked as major, moderate or minor to give a general indication of how consistent or prevalent a theme was across all interviews. Sample quotes from the interviews are provided to illustrate the themes. A summary of themes is provided at the end of each chart. In Part 2 of this Section, discussion is provided on some additional topics and issues that arose during the interviews, over and above those directly associated with staff characteristics per se, that relate to the Cows and Fish program, its staff, and/or the program's awareness approach and tools generally.

1. STAFF CHARACTERISTICS

Table 17 Themes on Being Knowledgeable about Riparian Management		
Prevalence	Theme	Sample Quotes
Major	Staff were viewed as very knowledgeable in terms of riparian ecology and tying it into management solutions	<i>Whether it be in meetings and workshop settings, or one on one meetings with producers, they displayed great knowledge, different management systems that farmers and ranchers...around riparian areas, that they give the producers practical solutions to apply.</i> <i>One thing that would represent their knowledge base is I think their ability to describe riparian structure and function and relate it to possible management options. Both in terms of workshop and field settings...in groups and working with individuals.</i>
Major	A particular strength of staff is their vegetation knowledge/skills	<i>Here's where they shine most in terms of their knowledge, I took part in one of their, actually a lake riparian assessment course, and their knowledge in terms of vegetation, the stressors on vegetation is incredible, they definitely know their stuff.</i>
Major	Cows and Fish was seen as being committed to training the staff properly, and the staff reflect that in their work	<i>They are a group of well trained staff members, that they are strong both in their training and knowledge before they come on the program and then what they learn through their training program, very knowledgeable.</i> <i>He's had some good people ahead of him who've trained him well.... hire good people, whoever hires them, the staff are real knowledgeable... they spend a lot of time training.</i>
Moderate	Staff may be less able to communicate knowledge and solutions seen as relevant to non-agricultural audiences (generally described as "urban" audiences), and this can hinder both landowners and partner representatives, but this was not seen as an overall limiting factor in staff effectiveness	<i>As far as urban questions, they've been somewhat limited in their knowledge base, because it's agriculturally-based, it sure would be nice to have more suggestions for urban involvement, for individuals and for a group, what the group can do, more direction, for suggestions for projects, monitoring... but the knowledge base for what they do is excellent generally.</i> <i>Sometimes I'll use terminology that ranchers would understand amongst each other, but the staff they don't either because they never grew up with it.</i>

Table 17 Themes on Being Knowledgeable about Riparian Management		
Prevalence	Theme	Sample Quotes
Moderate	Staff were perceived to be generally able to communicate their knowledge appropriately, but there was some variation in this ability across staff	<p><i>... able to relate to people, to pass that knowledge on in a manner that is both enjoyable and people can understand...able to relate with researchers but also be the layman and the producer...can cover all the facts of extension that need to be covered.</i></p> <p><i>Everyone was very knowledgeable, with any question, they knew the answers, very professional, helpful and very friendly and upbeat about the whole thing.</i></p> <p><i>They have talked down a bit, once in a while, it's not intended, it's inexperience.</i></p>
Minor	There was room to continue to broaden staff knowledge base to obtain a more comprehensive or broad foundation in ecosystem function	<p><i>It's more about how the systems work as a whole, that always relate to riparian management in a broad sense, more about understanding ecological things that happen, I'm picking on lentic systems but it also applies to lotic, it's not just plants, it's wildlife, it's fish...important [to be seen] and know some basics on those other related elements, like aquatic ecosystems, as a group a little bit light on that sometimes. It's a minor problem, not major, something to continue to work on... a couple of the staff [might] feel they don't know enough about those areas as well...be a bit more comfortable and confident on that.</i></p>
Minor	Staff knowledge was generally viewed as scientifically sound and relevant to awareness-building, but some agency/organization participants base credibility on information being science-based, something that may not be strongly communicated in community work	<p><i>Their scientific knowledge base is very good, they come across as very knowledgeable in what they're talking about, so anything I've read fully backs them up, no inconsistencies.</i></p> <p><i>The information is geared toward landowners, a public audience, and so I haven't really seen the credible side of things, in terms of scientific background, that's directly related.</i></p> <p><i>In my opinion of the role of the Cows and Fish program and riparian health assessment is not necessarily to be scientific per se, that's my personal opinion, that's not the greatest value. The great value is raising awareness, getting producers on their places, down on their hands and knees [to see]...</i></p>

In summary, interview respondents indicated that staff were exceptionally knowledgeable about riparian management in general and, in particular, about riparian vegetation and how it relates to riparian health. These results correspond with this evaluation's quantitative data reported in Section II above, with 87% agreement that staff demonstrated this characteristic (the highest rated characteristic of the nine examined). As an organization, the Cows and Fish program was viewed as having a fundamental commitment to ensuring staff are appropriately and consistently trained in order to communicate their knowledge to communities and landowners, and staff reflected this strongly in their interactions. These views were held by all types of respondents including producers and agency staff, suggesting that staff exhibited their knowledge and training regardless of their audience.

However, when working, for example, in non-agricultural settings, staff were perceived to be somewhat less able to share relevant knowledge and management solutions that respondents could act upon. In other words, while not seen as a significant limiting factor in staff effectiveness, there was room for improvement in being able to share relevant knowledge with,

e.g. urbanized and/or recreational landowners. A further minor perception was that staff may need a slightly broader base of knowledge about additional components of ecosystem function (lentic and wetland systems, interconnectivity to uplands and to the watershed concept generally, fish and wildlife, etc.) in order to more effectively and consistently field questions or issues relating to these topics that may arise during awareness activities. Overall, while staff knowledge and training was considered to be science-based, a very small minority of respondents who themselves came from a technical background were unsure the extent to which Cows and Fish staff knowledge and training was science-based, but this was not seen as a particular limitation overall in light of the target audience and community-based learning settings in which awareness information was intended to be shared by staff.

Table 18		
Themes on Understanding the Practicalities		
Prevalence	Theme	Sample Quotes
Moderate	Staff not being producers themselves could limit them - to a minor degree - in fully appreciating the decision process of producers e.g. understanding the economics and practical considerations of making practice change	<p><i>Sometimes I don't think they're as practical as they should be, it might be that everyone else other than you, at the table, we sort of see as producers, what's going to cost us money, lots of other things on the plate... [if] the staff] come from cattle operations, too...it helps in relating, you can't have that expectation, if you're not from that background, you may not be thoroughly versed in economics of why we do things the way we do sometimes.</i></p> <p><i>I think it's in general there's a range of staff experience in stuff like that...they are strongly trained but not all have lived with all the actual practicalities, most of them never were livestock producers, but it's not a problem.</i></p>
Moderate	Not being a producer was mitigated by staff being informed and aware of issues important to producers	<p><i>Have to be able to relate to producers and what they're up against, and stay current with issues facing them, they most definitely they do that.</i></p>
Moderate	Ability of staff to relate to practicalities and needs of producers was generally good with some variability, and may be related to the amount of interaction with the individual to date or to their location (e.g. where Cows and Fish programming has been relatively recent), suggesting that these concerns may be a function of a new rather than established relationship with the producer	<p><i>From organization rep in southern Alberta:</i> <i>[Staff] doesn't propose things that are economically impractical, with producers who I've worked with, I have a farm background, things have to work for people, they have to be practical and reasonable, that's where their credibility comes through.</i></p> <p><i>From producer in southern Alberta:</i> <i>He's really practical, and we try to work things out between the two of us, what's going to work the best.</i></p> <p><i>From producers in central/northern Alberta:</i> <i>They're trying to present their point of view, want us to make it work one way or other, but getting the job done, they're not realistic...it's not practical, they're enthusiastic and idealistic, gung ho, they need to be tempered, they can't do anything, it's new itself.</i></p> <p><i>Certain mgmt things, in our situation, maybe some of the suggestions are not totally practical to implement, say fencing or moving cattle, just not totally practical, certainly both me and others, and hearing from other people, too, they have a tough sell here, I'd fall more on their side, but a lot of producers don't understand the ramifications of all the things we're doing out there.</i></p>

Table 18 Themes on Understanding the Practicalities		
Prevalence	Theme	Sample Quotes
Moderate	Staff did have some strategies to provide perspective to a producer about understanding the practicalities, including financial considerations – it may be important given the emphasis producers place on this to provide such information earlier rather than later in the interaction with the producer	<p><i>I think in a general way all of the staff understand how riparian areas fit into a livestock operation or a landowner operation and as well, what the costs are, and also financial costs of management shifts. I think in one way also, responding to financial cost, providing some costs for off-site watering facilities, to put it into that into the realm of the possible.</i></p> <p><i>I don't think it impacts because, right from the great go, I'll tell a guy, look, I don't understand, you run a complicate operation here, I don't understand all you do, what I do understand is the riparian area.</i></p>
Minor	Staff saw themselves as able to address riparian ecology and grazing management with solid general knowledge, and acknowledged that specifics about options/economics may not be necessary – this may contrast with the fairly high expectations of some producers in this regard	<p><i>I think they accept we know within limitations about riparian areas and grazing management. I don't think they would perceive it as a negative, a limiting thing... most of us have enough experience to pretty much deal with questions. We don't need to have knowledge about specifics, but a good general knowledge.</i></p>

In summary, staff did an overall very good job of understanding the practicalities of living and working near riparian areas. This was demonstrated by staff having the opportunity to talk with landowners about their specific situations so that various operational, physical or economic factors could be discussed, understood, respected and taken into consideration before arriving at a realistic solution. Again, these interview results correspond to this evaluation's quantitative data, where 77% of respondents agreed that staff demonstrated this characteristic.

A consistent theme, however, at least in terms of agricultural landowners, was that staff were understandably not always able to fully relate to some of the detailed particulars of an operation, or some of the economic realities faced by producers, because staff are themselves not producers. Notwithstanding, it was not expected that staff should necessarily be producers themselves, and the fact of not being a producer was not, overall, a limiting factor in their effectiveness. Indeed, it was acknowledged that it was typically mitigated by staff knowledge, by staff being reasonably cognizant of issues that producers typically have to deal with (if not necessarily always specific problems or concerns in a given community, at least at initial point of contact), and by being increasingly able to provide information on economic costs of potential options.

There was some variability in examples given about staff ability to understand the practicalities. To some degree, this was a function of how long a timeframe staff have had to interact with landowners, since understanding the specifics of any individual's situation requires establishing a relationship with that landowner. In reciprocal fashion, greater interaction may enhance landowner perceptions about Cows and Fish staff knowledge relating to the practicalities of riparian area management.

Table 19
Themes on Being Enthusiastic

Prevalence	Theme	Sample Quotes
Major	Staff were viewed as a team unit, and were seen to be genuinely committed on a personal level to the job they do	<p><i>They have a very close knit working relationship with each other, and they strongly believe in the work they're doing so they're very enthusiastic.</i></p> <p><i>Staff obviously strongly believe in what they're doing and that shows, they put a lot of effort into their work and they truly believe what they were doing, that really comes across.</i></p> <p><i>As a producer, I've seen them giving the same talk again and again, but they look like it's the first time and like their job is on the line and their passion and enthusiasm is there.</i></p>
Major	Staff keenness to help and participate was acknowledged and appreciated	<p><i>Any time I've called to ask if they can come out, they're driving themselves across this province, you wouldn't believe it. They're always willing to come out.</i></p>
Moderate	Staff supported and reinforced ideas and views held by landowners, which itself helped motivate	<p><i>It was kind of like reverse motivation, they backed me up with some ideas that I had, they were very supportive and I think that made me more, carry on doing other things... they were very supportive of that, that motivated me and other people.</i></p> <p><i>Recognition and approval of [the landowners'] efforts, makes big grounds.</i></p>
Moderate	Staff had a willingness to share information; small group or one-on-one settings seemed particularly conducive to this	<p><i>On their field day, when they're in the field, when I see them out there, especially one-on-one or even as a small group, you get good info, they're more than willing to give info.</i></p>
Moderate	Strength of information provided part of the foundation for generating enthusiasm and remaining enthusiastic	<p><i>[Staff] brings enthusiasm to the presentation and that sort of gets producer attention, [staff] can relate it back to how riparian areas are affected, not only their operations but their lives, ecosystems and community system, driving enthusiasm to riparian areas, riparian stuff is not glamorous but they make it sexy!</i></p> <p><i>I think we all enjoy the job we do, and we all try and do it with enthusiasm...to motivate others, I think that's through the info we present, it's more to do with the info not a person.</i></p>
Moderate	Staff were seen to be very hard-working with a consistent momentum in program delivery	<p><i>I think we never seem to lose the momentum within us, we're always just willing to help and go wherever we need to go, even if it's trying at times, we always seem to be fairly willing to go and be of whatever help we can.</i></p>
Moderate	Staff were willing to listen to others and exhibited tolerance of their actions by not assigning blame	<p><i>I guess when [staff] came out to look at our project, we had ruined the riparian area, it wasn't in good shape...was very enthusiastic, about native species coming back, very enthusiastic, very hopeful that it would improve, everything about [staff]...friendly, very knowledgeable, nothing bad to say about [staff]. Some ideas they have maybe it will hurt it, I'm not sure about [the ideas], everybody has their own opinion, but I don't think they've ever steered me wrong.</i></p>
Minor	Staff were responsive and adaptable in terms of providing new information to landowners as needed or as it becomes available	<p><i>They're doing a good job, I don't know of anything else that they can do better, they seem like every time they have a meeting, they come up with a new idea, people say, oh, that's a good point, they're bringing us new ideas.</i></p>

In summary, staff enthusiasm was very strongly endorsed by interview respondents, just as it was in the quantitative results, where 86% agreed that staff demonstrated this characteristic (the second highest rated characteristic of the nine examined). In particular, the personal qualities of the staff were noted, such as their genuine commitment to their work; their ability to work hard and to work together as a team; their skill at listening to, respecting and encouraging the views held by others; their neutrality; their responsiveness in providing information and ideas; and their ability to bring new ideas to bear as circumstances evolve. Underscoring these qualities was the strength of the information provided by staff that enabled respondents to relate that information to their own personal situation, which is the essence of meaningful learning. Clearly, staff enthusiasm set a positive tone enabling that process to occur.

Table 20
Themes on Being Able to Motivate

Prevalence	Theme	Sample Quotes
Major	<p>With minor exceptions:</p> <ul style="list-style-type: none"> ▪ staff were neutral and their message was neutral; ▪ “no finger-pointing” has become part of the lexicon of the riparian management process; ▪ visual content of presentations by staff, and focus on riparian ecological function, generally had a big educational impact even from first presentation of Riparian 101 ▪ presentations started people thinking 	<p><i>A bunch of landowners in a barn watching a slide presentation by Cows and Fish, that presentation is in my opinion a huge motivator, there's before and after pictures, testimonials from landowners who've gone through the process, no blame, no finger pointing, just this is what's been happening in the last 100 years, due to past practices, the system kind of unraveled a bit, people feel very at ease, they're in their barn, they're not being told to do anything, they [staff] showed how the [riparian] system works.</i></p>
Major	<p>Staff were respected as individuals and as program representatives, and generally were welcomed in communities as part of the solution, not part of the problem; the awareness tools that provide the forum for staff to interact with landowners in this way led directly to local action</p>	<p><i>They don't have to work hard to be invited, that's got to tell you something.</i></p> <p><i>It takes them through a basic assessment so...understand the basic process, the cows are taking the structure, it's explained very openly, without no condescension, it's open, people feel that [staff] is truly a visitor on their place, not an inspector, not somebody coming in and telling them how to do it. I've had a lot of uptake, three watershed groups have started after the presentation, they formed to do something about their creeks as a community.</i></p>
Major	<p>Visual or hands-on demonstrations of riparian function and management continued to be key to learning and action on an individual level as well as a staging point for opportunities for staff and/or landowners to discuss or showcase practice change, which was vital to motivation</p>	<p><i>Us older fellers, we'd sooner do hands on stuff than read all the time, the workshops help with that.</i></p> <p><i>I never would have tried these things if [staff] hadn't showed me.</i></p> <p><i>Quite a few people have been to [our] demo site... so they can talk about farmers and ranchers doing something to keep water clean...we've had about 250 people. I think they're impressed with what [we] are doing, that's kind of, that's a motivation.</i></p> <p><i>It's one thing over the phone, but if we can get out there and stand out there, we can verify their observations. It contributes immensely... that's a challenge we face with limited resources, we don't have the luxury of [always] doing that, if there's a producer who wants us to visit and look at his creek. we believe</i></p>

Table 20 Themes on Being Able to Motivate		
Prevalence	Theme	Sample Quotes
		<i>very strongly that we can get there, that leads him along the pathway of dealing with riparian issues, so I personally regard that as a priority to respond to people, that ties straight into our credibility, we're on the landscape and not just a voice on the phone.</i>
Major	<p>Staff were acting against a backdrop of difficult times for producers: many factors outside the control of staff come into a landowner's decision process:</p> <ul style="list-style-type: none"> ▪ for producers: debt load, economics, drought, grasshoppers, personal stress associated with effort and energy required to implement new ideas; <p>However, Cows and Fish were sometimes seen as offering some hope and options through their educational information</p>	<p><i>Drought and BSE, people have a lot on their plate, so they're not showing up... I've been there, with big time debt. We thought of leaving our farm, when you're in debt, you're stressed -- riparian, I don't care about it. All I wanted to do was provide for my family... [staff] showing up and doing talks, these guys are giving me ideas to look after my resources, we've been on the road since... Not until you're at the end of your rope, before something like that really means something.</i></p> <p><i>Finances are really limited, in what you can do, you recognize the problem, we know we can't go on, them [Cows and Fish] being involved would [at this time just] be a general education. They've learned this and this works without spending a lot of money, but it's also labour, it's slowly coming around that labour is limited, most of us are so stressed we've nothing more to give, no young people around, no money, we're running of gas.</i></p> <p><i>I have no doubt in my mind that we all know what we're talking about, and I think people respect what we say, but they don't always run with it, but maybe that's more a result of their situation.</i></p>
Major	<p>Staff were flexible because they don't insist on one solution for all; they were able to communicate a variety of potential options because information was presented in the context and big picture of riparian function, riparian health, and multiple factors that contribute to it</p>	<p><i>They have a broad perspective of how it applies to everybody, they make that point, it's everybody's thing. They stress that it's everybody pulling the same direction, all horses pulling equally... I know it's not practical in all cases, but they give suggestions on how to manage better, ideas for that. They're flexible, and they should stick with it, they're not biased like [others]. They're open to ideas and suggestions and recognize that one kind of scenario don't suit everybody.</i></p>
Moderate	<p>Decision to act/change is an individual one, ultimately outside the control of staff, so not everyone can or will change despite the quality of staff interactions</p>	<p><i>They're doing courses, they're getting themselves exposed, that's the best they can do, people have to make their own decisions.</i></p> <p><i>There's a certain number of people out there who come to meetings and try to ... "I'm go to be bullheaded", so [staff] can't convince them on some things. [staff] doing a good job at coming across and people are learning, but if they don't want to do it, it's a personal thing with people, an individual thing, not a staff thing.</i></p> <p><i>I know there's only so much I can do, I can only get motivated to a certain point and that's it, the almighty dollar comes into it., it's cost prohibitive, it's not that they didn't try to motivate me, I was motivated, but I can only go so far.</i></p>
Moderate	<p>As described in Table 17, staff are challenged to present lentic management solutions that drew those</p>	<p><i>They're all very knowledgeable and all very practical, that's the hard sell point to the public, but it has to show the practicality side of things, more on lake systems than on rivers. All that government land is lakes. sloughs. muskegs. not rivers. Bicaest</i></p>

Table 20 Themes on Being Able to Motivate		
Prevalence	Theme	Sample Quotes
	landowners into participating and making practice change; an additional minor factor may be including the word "cow" in the program name, which is not relevant to non-agricultural landowners	<p><i>barrier is...they're [producers] fearful they're going to be saddled with cost, so there's resistance, the economic factor, if we had [that information], it would make it easier to sell.</i></p> <p><i>I think that we're doing OK in terms of being invited to things that might be dealing with lakes, more so as just to advise on how to work together etc.</i></p> <p><i>Knowledge base and focus is still on agriculture...can best defend or talk about that as opposed to some cottage situations...it's just where [staff] experience lies where you can draw on to answer questions. Cows and Fish, for one, right off the bat, if you're talking to a cottage guy, they hear the word cow...[think staff] don't know what [they're] talking about.</i></p> <p><i>Cow is a non-starter here.</i></p>
Moderate	The RHA assessment field day may be a challenge for some participants in that it doesn't necessarily integrate assessment results into what the results mean in terms of management, and/or the technical vegetation information may overwhelm non-botanists who can't relate it to action they should take (especially if it is presented early on in the participant's exposure to the program)	<i>When they come out of to the assessments, the information they relay, it doesn't always encourage action, in some cases, it may be a little point, but actually it's a little overwhelming for people, its might raise even more questions, may be overwhelming. I've seen landowners shy away from it, often it, they don't know how to react, like what do I do with this? I have to admit I'm not a botanist at all, even for myself, when I go out to riparian assessments, identifying vegetation is really a struggle and really at the end it really doesn't tell me a whole lot, whether those plants or weeds are there, at the end I still don't know, it doesn't mean anything to me, maybe some landowners say but so what, a little more direction in terms of management options and maybe a little less on a technical side, in terms of the actual assessment, maybe liken it to management, options for management, talking what it could or should look like, if you incorporate these options, what would change [in your riparian area].</i>
Moderate	Gender and age of staff was occasionally seen as an initial barrier to motivating landowners, but overall was not a limiting factor in effectiveness, especially as continuing opportunities for ongoing interaction with those staff occurred	<p><i>From a staff member:</i> <i>There's a perception that we're all young, it probably might pull down our credibility. And we're women, a lot of us. If people aren't familiar with how we work and how we do, it's not as bad as it used to be, still think it could be an issue, in a producer setting anyway.</i></p> <p><i>From a southern producer with frequent involvement in the program:</i> <i>It's not a concern at all regarding age and gender, their background is more important and their interactions with people, we've had people come here [from various other agencies and organizations], they're all talk and no action, and they're not here anymore, so they get weeded out, so we haven't weeded anybody out from Cows and Fish!</i></p>
Moderate	Perceptions of staff were influenced by views about their age and experience, which could be seen as impacting their credibility and confidence in dealing with older. perhaps traditional	<p><i>If a 19 year old girl walks up to 65 year old guy and tells him to do something, he's reluctant to do it because he's unsure of her experience and background, they can make suggestions at Cows and Fish, then it's up to us older fellows, to make sure that we follow through, or give [producers] delivery or backup.</i></p> <p><i>To think about them as a group, the enthusiasm levels are high, I</i></p>

Table 20 Themes on Being Able to Motivate		
Prevalence	Theme	Sample Quotes
	<p>audiences, including staff of partner organizations</p> <p>This was mitigated with further interactions in which staff continued to provide sound information, e.g. through Riparian 101</p> <p>In future, this was seen as being addressed by continuing to build knowledge and interaction skills</p>	<p><i>think it's variable amongst them, I think the variation possibly depends on experience, it depends on their respective age, compared to audience age, it may be partly gender, and it may be a function of just not being completely comfortable because of their academic and experiential background, they don't feel comfortable having enough of that to be able to transmit that they're credible and enthusiastic.</i></p> <p><i>The comment there was oh, you're just a girl, what do you know? I think the age has something to do that, mean age of farmers is 55. You're always going to have those people, not a big problem, when they start talking, doing Riparian 101, they sit there and they know what they're talking about, they present well, the pictures speak for themselves, if they can show that, they're learning as they're there, they don't really question their integrity.</i></p> <p><i>To constantly upgrade themselves in terms of anticipating what sort of responses they can make, thinking about questions that may come up, thinking about appropriate answers, perhaps working more closely with other agrologists or biologists in a way that would give them a somewhat stronger background, or a much more strong background to respond appropriately, to feel more comfortable.</i></p>
Moderate	<p>Landowners continued to seek follow-up information on how to apply what they've learned; there is an expectation that this follow-up should come either from Cows and Fish directly, or that those involved in the partnership arrangement that Cows and Fish works within need to clarify their roles and responsibilities. This may apply to both the individual producer level, but also on the broader scale of how communities are progressing</p>	<p><i>Producers don't really pay attention, they know the principles, they don't know how to apply them, we have to make sure of that. I think some of the other (e.g. conservation coordinators) field staff, they just walk away, at end of day, there's kind of a feeling from producers that well, what's next, the follow-up. Ag fieldman or watershed coordinator, it's their job to do that so producers have follow-up and backup and information. It has to be stronger, and especially the young watershed coordinators, they're an important part of process, but they will only introduce information to you. A little more proactive on the part of the younger ag staff.</i></p> <p><i>If they're working in an area at the end of the year, the first one they did, they put on a meeting after the summer, I would like that, I would like to see what other people are doing, in other areas, it may not apply here, but it's food for thought, eh? We haven't had one of them since the first go round. I would like to know how many people have kept it up since they first started, whether it's been a success or whatever, a follow-up to see where everybody's at.</i></p>
Minor	<p>It takes time to build relationships in which it is understood what the Cows and Fish staff role or involvement can contribute; accordingly, staff may feel impatient or unsure about their ability to effect change</p>	<p><i>They don't think they need [staff] or they don't know how [the program] fits in. There were initial meetings on developing some demonstration sites with community groups, [staff] was there, but [never ultimately] involved at any time in that riparian project...then [staff] is asked to go and talk to people in that riparian area...don't know what to say because [staff] wasn't there.</i></p>
Minor	<p>Staff were seen as part of a support system for producers, helping to build confidence and support by encouraging</p>	<p><i>[Staff] motivated me to look at the stream as an entirety...that's the type of thing Cows and Fish relates to you, yet the average person [here] doesn't understand, they're [program/staff] a real benefit in motivating us, building confidence in what we're doing.</i></p>

Prevalence	Theme	Sample Quotes
	them to see the big picture of riparian management, and in how they are managing currently, and how they can manage better in the future	<i>but also in ways to improve your information and data to the public. It's about an approach and a support system for agricultural producers, they make you feel like you're not alone.</i>

In summary, interview results on staff ability to motivate others to learn and to make practice change showed more variability than results on the other characteristics examined. This result is understandable in light of this evaluation's quantitative data, where respondents agreed least (70%) that staff demonstrated this characteristic relative to the eight other characteristics (still a very good result). In general, positive factors that influenced staff ability to motivate were their neutrality, in particular by exhibiting "no finger-pointing" themselves while also setting this as an example for others to follow. Indeed, based on the prevalence of that term's use during interviews, "no finger-pointing" appears to have become part of the lexicon of riparian management insofar as Cows and Fish involvement goes.

The visual and informational aspects of awareness presentations, as well as visual, hands-on, discussion-based field demonstrations of riparian function and management, were key tools that enabled staff to motivate others, acting as staging points for people to think about their own situations and to apply the information being presented. Further, staff garnered respect as individuals from those they were working with, as indicated by staff being repeatedly invited back to continue their efforts, whether by landowners, community groups or agency staff. On the other hand, it was acknowledged that staff have been working against a background of challenging times for producers (in particular), and that factors outside of staff control, such as BSE, drought, and debt load place serious limitations on individuals feeling motivated to look at riparian areas differently and at changing their management of those areas. Concurrent with that background was the idea that the decision to change is an individual one, and that while staff can make best efforts to facilitate change, the choice is ultimately the responsibility of an individual landowner (indeed, this is consistent with the Cows and Fish philosophy, which operates outside of a regulatory or compliance paradigm).

Another significant positive explanation given for staff being able to motivate landowners was their ability to provide landowners with a variety of management solutions or options. As with "no finger-pointing", the term "options" has seemingly become part of the riparian lexicon of respondents insofar as Cows and Fish has been involved. The ability of staff to be flexible, to not force any given management solution, and to keep their information phrased within the general concepts of riparian function, all contributed to the value of offering options as it relates to motivating people.

An important but less frequently identified reason for (in this case, producers) to feel motivated by staff was that the program and its staff were seen as a support system that built confidence and understanding of how management choices fit into the big picture of riparian health.

On the other hand, a number of challenges to staff ability to motivate were identified. For example, the need was identified for an equally flexible and practical toolbox of solutions for lentic environments (i.e. as described above with regard to knowledge of riparian management, staff were perceived to be better equipped at providing solutions to producers than to other types of landowners such as those in more developed areas or in recreational settings). Further, the gender and age of staff were occasionally but not consistently seen as barriers to motivation, especially in the initial stages of interaction. These factors had the potential to negatively impact credibility (directly tied to ability to motivate), which tended in some cases to then affect staff confidence. In this context, it is reasonable to interpret the factor of age to really mean experience: respondents were in essence indicating that they noted quite a wide variance of experience across the staff (which is simply a function of age). However, overall, gender and age were mostly mitigated over time as the strength of the informational messages provided by those staff became evident (for example during presentations of Riparian 101) during more and more opportunities to interact. This is consistent with this evaluation's quantitative results (Table 10) which showed a very notable increase in agreement on ability to motivate as amount of contact with staff increased. This suggests that an important component of ability to motivate is allowing the opportunity and time for working relationships to develop.

Other challenges to respondents feeling motivated were that RHAs were sometimes felt to be overwhelming in their detail about vegetation, especially for those not trained in botany, and that it was sometimes difficult for the landowner to relate the sheer volume of that information to specific management actions that could be undertaken.

Further, landowners continued to look to Cows and Fish for more follow-up on specific management actions that they can undertake (e.g. specific planning information or on-farm visits to discuss same, or accompanying their RHA results, or as provided through other awareness mechanisms). Motivation clearly lessened without this follow-up information process. As found in previous Cows and Fish evaluations, landowners have an expectation that Cows and Fish can or should be the source of this information process. Regardless of whether it is the mandate of Cows and Fish to provide it, or whether the staff have communicated clearly what the limitations to their mandate realistically are (not to mention available staff to fulfill it), there appears to be a demand from landowners to fill the existing vacuum with some process that delivers detailed management options to them as a follow-up step to awareness activities.

Table 21
Themes on Being Unbiased

Prevalence	Theme	Sample Quotes
Major	Staff were very skilled at providing a variety of management solutions to landowners, most often producers; a significant tool available to the staff was their information, which was educational in nature in that it got people to think about their choices, which were ultimately individual choices	<p><i>I think it's a good method rather than dictating what you should do, they provide a variety of suggestions, essentially it's up to landowners to incorporate any or all those into their practices, I think often what it does do is make you think more than act, acting would obviously be what everyone's striving for, but you can't expect everyone to do that. That's a realistic approach. That's the best approach, think first.</i></p> <p><i>I put a fence through by my creek and [staff] came out and looked at the site, gave me the suggestions...was not telling me what to do. It was, here's some options, we think this is the best way, but we also understand that this is good for you.</i></p> <p><i>[Staff] don't come on strong. and that's another thing...doesn't</i></p>

Table 21 Themes on Being Unbiased		
Prevalence	Theme	Sample Quotes
		<i>say you have to do this, but if you do it, this is what might happen, always leaves it up to you, there's no push to do it, they're there to help you and show you what you can do, after that it's up to you to do it.</i>
Moderate	Staff were generally skilled at handling group dynamics in order to keep discussion constructive, although there was minor variation in the ability to appear to empathize with some individuals	<p><i>[Staff] takes the middle of the ground, listening to others' views, extremely good at dealing with anyone who's even antagonistic.</i></p> <p><i>If anybody is getting emotional, pointing fingers to... we have to stay, to focus on issues, Cows and Fish have helped in the field to deflect that, settle that, they're very calm.</i></p> <p><i>[Staff] is very good at not taking offense to that, but says it's the same principle, it's the same no matter where you are.</i></p> <p><i>[They] came across along the ideological side, not necessarily able to put themselves in his shoes very well, it turned almost into a combat atmosphere... I imagine that's knowing how to put yourself in the other person's shoes, being emphatic, but... saying that, they do come across in their literature and spiel like they have the farmers' best interest at heart.</i></p>
Moderate	There was some variation on how staff (and the program) are perceived, ranging from being open and receptive to being too ideological (meaning not practical or perhaps not always matching organizational mandates of others involved)	<p><i>Everybody has a bias, not necessarily a bad thing... there's no working around that. Their bias is managing for a healthy riparian landscape, and basically a healthy riparian system is set up based on pristine conditions, and so there's just a natural bias, it's not a bad thing. I don't think it inhibits them.</i></p> <p><i>I would say they're very open minded, trying to incorporate all the various agencies, opinions and initiatives into it, so in that way they're very open, very easy to work with, and not overly opinionated.</i></p> <p><i>We find that a lot with other groups they say, this has to be done, you're not supposed to be doing it this way, Cows and Fish are very, very much trying to educate us, they never take sides, they never do that, they're always trying to educate for the best for both the producer and the environment, and hopefully we can work to improve the habitat of the riparian area, and they've never, ever said you have to do this, they're just suggestions, that's always helpful.</i></p> <p><i>It was again how they view the world through their paradigm, and if it doesn't fit, then their effectiveness wanes, that was the perception of a few of the folks, the [program/staff] have a limited scope of vision, they want things to fit neatly within their package. Nothing inherently incorrect about the package, its ideal and well founded but not always practical.</i></p>
Moderate	Staff were consistent, frank, neutral and open to suggestions; this occurred when the focus remained on talking about ecological function	<i>They say a spade is a spade, they'll call it that there definitely needs to be some different management undertaken in the areas we're looking at, so it's unbiased, in that they're not letting politics get in the way, they're there to help improve riparian areas, if they see something that needs to be corrected, they'll give that opinion, won't be pressured by the producer being edgey toward them or listening to someone say you'd better watch what you say, they just let the producer know what he needs to know, they're tactful but frank.</i>

Table 21
Themes on Being Unbiased

Prevalence	Theme	Sample Quotes
		<p><i>When I walk down the creek with the crew, I've had to do that a couple of times, I'll say something about what I see on the bank, and rather than saying no that's not right, or yes that's absolutely right, they usually take the middle ground and say here's the positive things of what's happening and here's the negative, this is what we see from the creek, standing on the creek looking from the environmental standpoints, that's what I feel is unbiased about Cows and Fish.</i></p>
Moderate	Staff were perceived (and perceived themselves) to be most capable in agricultural compared to non-agricultural settings, perhaps due to longer experience and exposure in those situations and level of familiarity/comfort with land use practices and issues/solutions associated with agricultural landowners	<p><i>Again it comes from their focus not being on what my focus is, so I got the impression or feeling that because I didn't fit quite into their niche, their interest level in helping me was lessened. If they are broadening their scope, they may need to brush up [on that].</i></p> <p><i>Because it is a farm-based background, when they are giving presentations and there are acreage and recreational owners... not always an easy thing to do, hard to address their issues, if it is geared toward cows and water. The name [Cows and Fish] speaks of farms, the majority is rural people, but where I'm at, I have 3 big lakes, 3 main rivers, then smaller lakes with acreages, so it's kind of multi-purpose, although the riparian stuff all applies, so Riparian 101 is a good presentation, but then when they talk about pasture systems...that's a bias.</i></p> <p><i>There is a need for education in the subdivision, more on a Saturday evening in summer time.</i></p> <p><i>I think our knowledge base and focus is still on agriculture, we can best defend or talk about that as opposed to [e.g.] some cottage situations. I think we're biased per se, it's just where our experience lies where you can draw on to answer questions.</i></p>
Moderate	Staff themselves felt they work hard to be fair and open, but acknowledged that they operate within, and are committed to, the Cows and Fish perspective that is defined by a focus on healthy riparian areas and working with others who have different perspectives	<p><i>We don't give the impression that there's equal blame, but there's equal responsibility, that every one has a responsibility in terms of riparian management, whatever sector of society they come from, we don't pick on anybody. Nobody gets favoured, hopefully that's the impression we give anyways.</i></p> <p><i>We have 100% bias in regard to health of riparian areas...what I'm getting at is we know what it takes to have a healthy riparian area, there's a huge amount of... taking a deep breath...work slowly with him ...in order to gain his trust in order to keep working with him and bring them along. It's difficult but it's our job...it's not about egos and not a personality contest. It's being effective in getting the information to people.</i></p>
Minor	There is some perception that program staff are government staff, and so accordingly have a government mandate, which may impede some landowners receptiveness to staff	<p><i>Well, they work for the government, they want to see things happen, if it isn't voluntary, they'll try to enforce it, they are government, they are funded by government, you're always an employee of the people of funding, I'm very biased against government, they generally don't do us any good.</i></p> <p><i>I'm leery of Cows and Fish, I'm putting it together with DFO, if there's a minnow here they'll put you out of business, they have so much power. I didn't want Cows and Fish, I don't know what the powers of their mandates are.</i></p>

In summary, as with ability to motivate described above, there was some variation in the way respondents described the ability of staff to be unbiased. Generally, respondents described staff as being unbiased because, first, they were able to provide sound information that offered landowners, in a neutral manner, a variety of options from which they could choose (note, this same explanation was provided by respondents when describing staff's ability to motivate). In addition, staff were seen as able to handle group dynamics by keeping discussion constructive rather than polarized, and by being consistent but frank when talking about ecological function or ecological health. These results correspond to the high rate of agreement (82%) from this evaluation's quantitative data that staff demonstrated this characteristic.

Again, however, respondents described staff as appearing to be somewhat more comfortable and skilled when addressing questions or issues relevant to agricultural settings rather than non-agricultural settings, likely due to the longer exposure of Cows and Fish (and hence the staff) in dealing with producers and their management needs.

Note that rather than being interpreted as staff having a particularly negative or prejudicial slant, the term "bias" was interpreted more often by respondents as meaning an identifiable perspective or lens through which staff undertook their work (this was true of staff who were interviewed as well as other types of interview respondents). That perspective primarily was seen as being focused on riparian or environmental health, itself an acceptable and accepted perspective without inherent problems. However, when a respondent spoke about some of the management solutions not being practical (from their point of view), staff tended to then be described as ideological, thereby creating a gap between how or what information was being presented by staff, and the landowner's ability to respect it and/or apply it. A small number of respondents (wrongly) maintained the view that Cows and Fish staff were indeed government staff and so, accordingly, they were seen to represent a bias to the government's (undefined) mandate, which tended to impede receptiveness of those few respondents.

Table 22
Themes on Being Credible

Prevalence	Theme	Sample Quotes
Major	Credibility was founded on staff knowledge and experience which was presented by staff in an honest manner; as mentioned in Table 17 above re knowledge, the program's commitment to good training of staff was frequently acknowledged	<p><i>I think it's the honesty that comes from [staff], they're willing to listen and they present their ideas in a very sound manner, they back it up, they've got their background too, they're all involved in agriculture at some time, that makes it more credible.</i></p> <p><i>One good thing is that if they don't know, they keep communicating with the audience.</i></p> <p><i>It goes back to their knowledge, it's clear that they know what they're doing.</i></p> <p><i>Credibility would come back to the ability to answer the producers' questions, on the creek and creek structure, they're highly knowledgeable about the bits and pieces of riparian areas.</i></p> <p><i>When they talk, they seem to know what they're talking about, have a good education, they know their different plants and root systems, they obviously have had good training with Cows and Fish.</i></p>

Table 22
Themes on Being Credible

Prevalence	Theme	Sample Quotes
Major	As with ability to motivate, credibility may be more difficult to establish for female staff members because of their gender, but this could be mitigated over time with effort to provide consistent, sound information, to continue to present learning as a two-way street, and to stick with talking about the principles of ecological function	<p><i>I've experienced it, there's a bigger challenge to become credible to people to really believe that you know what to tell them, the thing it affects the most is your credibility, but until you have credibility, your knowledgeability, their reliance on you, the others won't necessarily fall into place, if they don't think you're credible, they're less likely to call upon you. That's a challenge, to come across as worthwhile listening to. So that's where I think our emphasis on how we provide messages has enabled us to get as far as we have. The other is really trying to draw the skeptics of our credibility into conversation and letting them know we don't know everything and we're providing what we do know, or that we recognize that we're trying to learn from them as well.</i></p> <p><i>When [the program] hires somebody... really stress ...take a broad view and stick to ecological function... the other things are kind of gravy over and above that, really just focusing on the principles.</i></p>
Moderate	Credibility and trust were seen as essential values throughout Cows and Fish as an organization	<p><i>Credibility, most definitely starts with the top, the very organization... as far as I've seen it works its way down, right out to field staff, [the program] puts knowledgeable people in positions, give them resources and training, that adds credibility for producers, they've built it over time and they've distanced themselves from being a government organization to their own identity, also the confidentiality aspect, being able to keep that with producers and riparian health assessments, that definitely lends to their credibility.</i></p>
Moderate	Staff were perceived to be young, which can temper building of credibility with audience members; this was tied to the view that presentation skills vary because of age and confidence (or put another way, their degree of experience)	<p><i>The presentation is good but the perception is not always, some of staff is so young, they have a hard time being credible with audience.</i></p> <p><i>There's lots of variation out there. Has a lot to do with the young people too, they present it, the older [staff] are more aware of the kind of conflicts or stuff between neighbours, about taking the blame, while they explain things in a better manner. The older staff are better at it. It's a skill thing.</i></p> <p><i>[Some] will stop and ask questions and do things as part of presentation, whereas some of younger ones go ahead and get through the presentation, and maybe it's nerves, maybe unsure of themselves.</i></p>
Moderate	Staff being available to take the time to discuss projects, plans and options was key to building credibility, as a precursor for people to become involved or stay involved	<p><i>We [all] sat down and we talked to the... people there, explained to them, asked what they have been doing, how they've been doing things. That was a good discussion, that's the most important part of the whole workshop, what can we do and where do we go from here.</i></p> <p><i>The best part of the program is sharing of ideas after.</i></p>
Moderate	Staff were respected and welcomed as a good information and education resource	<p><i>Anybody who has had assessments, when Cows and Fish are doing something, they all show up, which tells you something there. Very good meetings. People will say I learned a lot today, they really appreciate Cows and Fish being there with their info, if people come up and comment after, then they feel very strongly, a lot of people won't otherwise.</i></p>

Table 22
Themes on Being Credible

Prevalence	Theme	Sample Quotes
Moderate	Staff credibility with non-agricultural landowners may be driven in part by not having sufficient awareness materials offering relevant management options to help reinforce staff confidence in dealing with different audiences	<i>A concern...perhaps it can be alleviated by thinking back about the principles, what we're speaking about is ecological principles and it frankly doesn't matter if it's cultivation, urbanization, cottage development, it's the same principle. Do we have extension materials that exactly match, no we don't, could [we] develop them with a bit of thought, yes. And [we] should.</i>
Moderate	The most effective way to promote change is in-person visits, yet staff are not realistically able to meet all the need of following up	<i>That's a challenge we face with limited resources, with 50,000 producers in the province... but if there's a producer who wants us to visit and look at his creek, we believe very strongly that we can get there, that leads him along the pathway of dealing with riparian issues, so I personally regard that as a priority to respond to people, that ties straight into our credibility, we're on the landscape and not just a voice on the phone.</i>
Minor	Sensitivity about fencing as "the only option" continues among landowners less familiar with staff, creating a potential barrier to building credibility; there is a perception that until more opportunities for interaction with staff have occurred, discussion about fencing should possibly be delayed	<i>I'm thinking of our watershed group, we've had a couple of field days when they're along and we have had times when they've talked about fencing creeks off, they shouldn't be saying that because it scares people, if they're not familiar with watershed issues, they get scared off, I know that other people have commented that they shouldn't say that on these tours. Introducing the idea to soon, I understand it, but there were other people that they shouldn't mention this too up front. Regarding credibility, I think it's the same, less credibility when fencing, pushing that as an option, that's going to turn off people that for the first time are thinking of doing something, if that's what they expect. Not that they're wrong, it's a timing thing.</i>
Minor	Locals demand a certain degree of familiarity with their specific issues as part of building credibility, at least upon start-up of interaction. Lack of staff time and resources to acquire that familiarity ahead of time before going into new settings places an additional burden on staff in being able to build credibility	<i>Due to the fact that we have a small number of staff... we tend to not know local issues, concerns, and things that have happened, like water quality or diversion wars, we're sort of parachuting in to talk about riparian awareness, and their riparian areas, we don't know what those background issues are, so sometimes that's a challenge to look knowledgeable and credible...then they say, how can you know about my area...we should be consciously trying to do that more.</i>
Minor	There is a small risk that staff credibility may be slightly undermined by feeling so much empathy for producers in these difficult times that poor management practices may be rationalized as acceptable	<i>There's a bit of counter-shaping that's going on that everything [we] hear from a landowner is correct...[still] want to be able to discern.</i>

In summary, interview respondents felt strongly, with some variation, that staff were highly credible. As for the other characteristics described above, this corresponded to the high rate of agreement found in this evaluation's quantitative data (84%) that staff demonstrated this characteristic. In general, staff were considered credible due to their knowledge about riparian function, their experience, and their honesty, which in turn was tied to their consistent and highly-regarded training (also described above in relation to their knowledge about riparian management). Indeed, credibility and the trust associated with it were seen as fundamental values of the Cows and Fish program, a standard set at the outset of the program's creation and carried through to the current staff. Another program value that supported staff in building credibility was the ability to continue to provide consistent information presented within the framework of ecological function. This was of value as a foundation from which female staff members, in particular, could work when sometimes they encountered a barrier to being considered credible on the basis of their gender. In these cases, the information and the way it was presented were the tools that helped mitigate that barrier over time. As has been seen consistently with regard to other staff characteristics, the opportunities available to staff to have the time to meet with and discuss issues and options with landowners played a significant role in building credibility.

As with ability to motivate described above, challenges to building credibility were greater for younger staff because they were perceived simply as being less experienced and somewhat less able to express an understanding of the interconnectivity of ecosystems and the human interactions that impact them. This view was usually manifest in the variable quality of awareness presentations, which may have been tied to staff confidence in meeting different types of landowners, for example non-agricultural audiences who have different issues and who require different solutions. Indeed, lack of specific awareness tools to support staff in dealing with those different audiences may also have been a factor here.

Other minor factors that could impede staff being able to build credibility were the timing of introducing fencing as a management option (while not inherently problematic, it was viewed as being considered a sensitive subject by producers not yet fully familiar with other options that Cows and Fish may be able to suggest); lack of time for staff to become informed about local water or riparian issues before arriving on scene to attempt to address riparian management; and the possibility of losing neutrality about management issues due to empathy understandably felt on behalf of producers who are dealing with many difficult industry factors such as BSE, drought, debt load, etc. The minor concern relating to Cows and Fish introducing the topic of fencing at a point considered too early in the awareness process may relate to respondents not understanding the important difference between using fencing as a tool for managing livestock distribution, rather than as a tool to exclude livestock from riparian areas entirely. Some respondents, when hearing the term "fencing", may not yet understand its role in applying the principle of livestock distribution, and so may be predisposed to viewing it only as a livestock exclusion tool. Recall also that when respondents were asked to provide examples of the management strategies they learned about in initially raising their awareness, 50% of the examples related to the more fundamental concepts of recognizing riparian health and only 2% of the examples related to fencing options.

Finally, as indicated above with respect to ability to motivate, staff credibility suffered if they were unable, due to a relatively small staff complement across the province, to meet the expectations of landowners in terms of follow-up management information (including on-site visits), once landowners themselves became enthused about riparian management change as a result of participating in Cows and Fish awareness activities. This was not presented as a

criticism of Cows and Fish staff per se, but rather was related to program resources required to continue to follow up with landowners and, accordingly, enhance the rate of practice change.

Table 23
Themes on Being Reliable

Prevalence	Theme	Sample Quotes
Major	Staff were predominantly considered to be consistent in delivery and in facilitation of both awareness events and the community process (including assisting partner representatives carrying out their mandates)	<p><i>They're always reliable, they communicate very well with us, they get to us on the job and they give us a good presentation every time, I've never had a bad presentation from anyone, and helpful, without them I would have a hard time selling the program, their experience makes all the watershed and riparian stuff easier to teach, their tools are very good and simple, easy for us to use, the print materials, presentations, everything.</i></p> <p><i>Also it relates to the message that they send out, it's always consistent. The way they don't change or flip-flop.</i></p> <p><i>In terms of getting a group started up, [staff] has been a support, if...[staff] says something, does it, and it's timely. It's hard, I know they're really busy, but... seems able to fit us in.</i></p>
Moderate	Staff were trustworthy in keeping their commitment to riparian health assessment data strictly confidential, which was key to the basis of ongoing relationships with landowners (despite causing extra steps or effort on the part of partner agencies who may want to access it)	<p><i>From the producer standpoint, they're pretty good at keeping information tied up so not released to general public, but that makes things difficult [for other partner agencies] to work with producers, we have to go through the landowner first, which is understandable. Part of the basis for the landowner relationship. So definitely [the staff] are trustworthy.</i></p>
Moderate	Time demands on staff were seen as impacting their ability to always be seen as readily available, but overall this was an understandable reality encountered by most working people	<p><i>Like everybody and anybody else, they've got very busy schedules and unbelievable demands being placed on them, there's only so much people can do, no fault of anybody.</i></p> <p><i>I would say there certainly have been times when we haven't been able to get in touch as fast as we would like to, it might be returning a phone call or a general call, or it might be asking for info about something we have or could track down for them and sometimes it's not possible to do that immediately. I think most people, we generally accomplish it, there's the odd time where it doesn't always happen.</i></p>
Minor	Staff occasionally appeared less well prepared than was typically the case	<p><i>I think [staff] could have been better prepared, and I hadn't had a concern about that before. But that was only one of a lot of presentations that I've been to, sort of not up to their usual standards...I think that's important for the program to know that, that was the impression of a lot of people, so if it's not 100% positive you're [the program] not doing yourself any favours.</i></p>

In summary, staff were considered to be reliable in that they were trustworthy in keeping their commitments to landowners and agency staff, and especially in protecting the confidentiality of landowner RHA data. The awareness message was considered to be consistent and straightforward. Awareness tools and presentations were, with minor exceptions, presented well, which not only provided good information but played a significant role in helping other agency staff or community group representatives start the process of building interest and participation at the local level. Some inconsistency in level of preparation for presentations was noted. While it was acknowledged that time demands on staff sometimes prevented timely responses to e.g. phone calls or emails, this was understandable with busy schedules on everyone's part, and was not considered a limiting factor to reliability. These interview results were consistent with this evaluation's quantitative data, in which 83% of respondents agreed that staff were reliable.

Table 24
Themes on Being Respectful

Prevalence	Theme	Sample Quotes
Moderate	Staff exhibited empathy to landowners and did not blame them for their decisions, actions or condition of their riparian areas; this created a setting in which landowners felt comfortable pursuing questions and information	<i>Don't come in as an outsider, but a polite guest, very conscious of the plight of these guys, all these people are proud of their places and some are actually taking people to areas they're not so proud of, and Cows and Fish is not embarrassing them, not scolding them, people are allowed to ask questions, they have answers, not just site specific answers but the big pictures. Empathy is part of it, too.</i>
Moderate	Staff recognized the realities that producers have to make practical operational decisions, and didn't force decisions that [staff] thought should be made; instead acknowledged that it's the landowners choice to make the decisions about management on their property	<p><i>They understand the fact as farmers we try our best to be good riparian people, but they also understand that they have to make a living, giving me the option like the best thing is to fence this area off, and not graze it a certain time or at a different time so the wildlife can use it, they understand that I have to pay my bill too.</i></p> <p><i>They respect the fact that I have to do it, not like [some agencies] who say don't do anything, never use it. Cows and Fish understands and respects the fact that I need to do that, just respect as a human being, one on one.</i></p> <p><i>Their interactions with landowners, at workshop, have recognized that they are responsible for their own land, they're the experts when it comes to their own land, so they don't question that, they validate the landowner's right to take these decisions and to know what's going on, on their property. It's really important when dealing with landowners to do that.</i></p> <p><i>I think we say it, but we also believe it, they really do know their land better than anybody else, we try to both verbally acknowledge that, which shows respect, that we value what they think and know, but also try to use what they tell us in giving them feedback or suggestions, that's seen in the demo and profile sites that we highlight, we are very cognizant of how we provide that information, that we strongly acknowledge that they did it.</i></p>
Moderate	Staff were patient and not condescending	<i>Very quiet, very laid back, [always] answers their questions, they're always like that... you get...somebody... who thinks that it's a dumb question, the attitude the [staff have], they know the answers and have answered it 4 billion times. otherwise you</i>

Table 24 Themes on Being Respectful		
Prevalence	Theme	Sample Quotes
		<i>wouldn't ask it, if it's a dumb question. Even three or 4 times the same day. Never get annoyed, or anything. They answer it.</i>
Minor	Staff listened	<i>I think that the people we have here have an uncanny ability of listening to other people, and taking whatever their thoughts are into whatever discussion they're having and making them feel like they're having an input.</i>
Minor	By providing encouragement and support to producers, staff created a win-win situation and encouraged producers to take the initiative and to feel pride about their actions; this also helped in facilitating the process of education and community action (again here, hands-on demonstration was very powerful)	<i>In most cases [producers] are doing a good job, they don't need to be intimidated by the public that's out there, that think producers are polluters or destroyers of fish habitat, and also that the producers have shown a lot of initiative and I guess incorporating a lot of new technologies relative to these riparian areas, grazing and watering. Most of it would be credited to Cows and Fish, always come across and show that it's a win situation, that by incorporating a different management style that the riparian wins, in the short run, and that in the long run, then you win. And the public does too.</i> <i>It's the info that's put out by Cows and Fish, and obviously that is an attribute to the staff, showing how we can manage the riparian areas so we receive benefit from them from a grazing or watering perspective, it's an accepted practice at the same time relative to water quality. The thing is they're on the ground with you, and they can say, what we see here we've seen before, what you're doing is right, you don't have to be defensive but proactive. Throughout the province, a tremendous number of watershed groups have formed, a lot of credit is due to the Cows and Fish program. We go to see what's going on, and see, this is ok, we can do this, now take it to the next level, and become proactive. They are a friend and ally in the event of an issue.</i>
Minor	Staff saw themselves as personalizing the practice of putting the landowner first, as being the specific mandate of Cows and Fish	<i>It's our program's mandate to do it...it epitomizes what we do, in some ways we're the resource management person who links the scientist, landowner etc. but you can't have that linkage unless you have the landowner, I think other agencies don't necessarily have that at the forefront of their thinking...it's not in their strategic planning or in their day-to-day workings.</i>

In summary, interview respondents indicated that staff were very respectful, based on their ability to exhibit empathy and to generally recognize the operational, physical or economic realities that affect landowner decisions. Usually, these abilities created a setting in which landowners felt comfortable discussing their situations, asking questions and pursuing options. In particular, staff did not dictate solutions to landowners, but instead listened, were patient, and provided encouragement. Together, these factors seemed to create what landowners described as a win-win situation, in which they felt encouraged to take the initiative and to feel proud of their actions. These results were consistent with this evaluation's quantitative data, in which 84% of respondents agreed that staff were respectful in their interactions.

Table 25 Themes on Being Helpful		
Prevalence	Theme	Sample Quotes
Major	Staff were accommodating, open and willing to participate and assist whenever possible	<p><i>Any time I've called to ask if they can come out, they're driving themselves across this province, you wouldn't believe it. They're always willing to come out.</i></p> <p><i>They do a really good job, they're there on the place with you, if you have any questions you can phone, they're very obliging.</i></p> <p><i>I've had very good, very good, success with staff. They're helpful and useful. Just nice knowing they're out there to help me.</i></p> <p><i>They always say if there's anything we can do to help just let us know. Would really hate to see that program go down the tubes, it is a great help. We've got to have guys out there like that.</i></p>
Major	Staff worked within a program process that is facilitative in nature, helping communities and landowners take action on riparian issues themselves	<p><i>Part of it, is the initial awareness to be created in communities, [Cows and Fish] role should be] they can be supportive of watershed groups, and they are doing that, that's an important place to spend time.</i></p> <p><i>I would just say that it's a resource that I rely upon to not so much get it on the ground but to start to change opinions and plant that new idea that there's a new philosophy in a lot of producers' minds, and really for Cows and Fish to keep up the good work.</i></p> <p><i>I think they have a very good program, it's really presented well, and in terms of their co-operation with initiatives that I've undertaken, they're always right there, they're giving a valuable service to landowners and agencies especially on the watershed perspective.</i></p>
Major	Landowners continued to seek specific management actions to go to the next step	<p><i>Awareness was raised, but the practical follow-up is missing.</i></p> <p><i>I want more contact.</i></p> <p><i>Never heard from them again.</i></p> <p><i>I want to know what's really expected, what is best, what is growing now and growing then, can you give me a write up on this [i.e. a comparison]?</i></p>
Moderate	Staff may have lost opportunities to help due to timeframe of providing RHA reports	<i>Not leaving something of value, finally they arrive, [you're enthusiastic] then they leave, my study doesn't come til Christmas, that's a long gap.... Needs to be user friendly, if you leave something with the landowner, then they can get on and do this or that. So a bit more depth on that, but also livestock specific.</i>
Minor	Staff adapted to meet the needs of different age groups	<i>That takes a special talent, not everybody can do that, you need humour with kids, at the college you have to be cool, with producers you can't be too smart and blow about yourself, Cows and Fish can do all of that, that's a special talent that they have, there's not many people that can do that.</i>
Minor	Some aspects of communicating RHA results or sharing awareness	<i>I have [exotics]...I want to know my options...for trees, shrubs... when they come up that they leave the landowner something of value. a list. you're enthusiastic at that point. want to get</i>

Table 25 Themes on Being Helpful		
Prevalence	Theme	Sample Quotes
	information detract from people taking follow-up action	<p><i>started...what is the vegetation appropriate in this situation...all we think of in Alberta is cows, a bit of a drag... so leaving something of value, more than their brochure, I have 3 copies already.</i></p> <p><i>I want to be there when they do it, they just come and did it... [did] just one spot, can't do a rating...that ain't going to be good... I want to be involved and that's how to learn, meeting never happened, to set up, big difference between can't and won't ...just [don't do] 20 feet of creek.</i></p> <p><i>If they had a general thing wrote up, that said this plant does this, or does this, this is when to graze and not, this hurts or not, to generate interest, if we don't know that, something that this field would usually have to save [it].</i></p> <p><i>A bit fussy, but in my photos they gave me [brief initial report with plant list] the horizon is kind of chopped off, for my annual survey, to stand at the same spot, would make it easier to see next time.</i></p> <p><i>I wouldn't be able to tell a Kentucky blue grass from a gramma, I need a drawing, or photograph of the ones you want or don't want... really need pictures. [You could] even get quite a few on one sheet of paper.</i></p>

In summary, staff were considered to be helpful by interview respondents. As with all other characteristics described, these results correspond to those of this evaluation's quantitative data, where 82% of respondents agreed that staff were helpful to them in their interactions.

Factors contributing to staff helpfulness were their willingness to participate and assist whenever possible and in whatever area of the province they were called upon. They were seen both as a resource for information and as a facilitator for others, including landowners, communities and other agency personnel working together, to address or take action on riparian management. Similar findings were noted in the quantitative data. Staff were also viewed as being adaptable to different audience ages. However, as noted elsewhere in this report, staff lost opportunities to be considered helpful when landowners felt there was a lack of specific follow-up information relevant to their situation that provided guidance on actions that they could take, whether it be through follow-up visits, detailed discussions about management planning, or new awareness tools that dealt with management strategies specifically. A minor challenge to being considered helpful was the time delay in receiving the RHA report after the landowner had become enthused about actually taking part in the RHA.

2. SUPPLEMENTARY INTERVIEW THEMES

A number of themes arose during the interviews that were not directly associated with the questions asked in the interviews about staff characteristics. For the sake of completeness, these additional themes are listed below.

1. Cows and Fish as an organization has become well-known and well-established. It now carries a degree of respect in its own right and is seen as a catalyst for change.
 - As the face of the program, staff continue to practice the standards for dealing with people that were established early on in the program's development. Part of that early vision included having a very good understanding of how people interact and work together; there continues to be some minor variation in successfully applying this vision, e.g. when dealing with landowners from different backgrounds or community types. While generally excellent, over and above the characteristics described already in this evaluation, honesty and humour on the part of the staff were particularly appreciated. Also, staff viewed themselves, and were viewed by others, as continuing to mature in their skills.

2. There is a perceived vacuum, for producers in particular, in which they feel unable to obtain sufficiently detailed information about management options once they have started along the road to awareness and, having become motivated, want to then make management change.
 - Numerous comments were made by producers (in particular) describing lack of follow-up or detailed management information.
 - Perhaps because Cows and Fish is so clearly identified with successful awareness programming, there is a high expectation, from both landowners and even some agency/organization representatives, that Cows and Fish will or should also proactively fill the role of more directly guiding management action, at least in part.
 - With 50,000+ producers in the province, a very small staff complement at Cows and Fish is not realistically available to provide this service, even while staff acknowledge that they desire to and that they work hard at trying to continue to place priority on visiting any landowners, particularly producers, who proactively request on-site visits for the purpose of discussing management options specific to their operations.
 - Partner agencies and organizations appear to still be operating with some lack of understanding (a) of what Cows and Fish does; and (b) where the line falls for taking responsibility for facilitating delivery of management-specific information, or at least which organizations should meet this need, and how and when. Further, they appear to look to Cows and Fish for leadership or direction to provide more extension materials or activities but also to participate in a process that leads to clarifying roles and responsibilities in delivering extension, in order to prevent overlap or gaps in assisting landowners.
 - Part of this theme is that some partner representatives may feel slightly neglected or simply be unclear what they can reasonably offer, given their respective mandates and that of Cows and Fish.
 - Regardless of the reasons, the result is that there is a lack of clarity on who is ultimately responsible for overall delivery of extension in Alberta (at both the macro and micro levels), and an acknowledgement that there may be both gaps and overlap in delivery (and hence the potential for misunderstandings associated with that delivery). Remembering that, if the goal is practice change, building ecological knowledge as part of awareness is the first step, while

providing actionable options about which individuals can make informed decisions is the second step.

- Opportunities exist to continue to work on addressing these aspects of the partnership.
- Acknowledgement of the two-step process leading to management change was remarked upon by a number of respondents, with recognition that the overall process is long-term; that not every landowner is ultimately open to change; that there is a time lag effect in terms of people being able or willing to make change; and that social and peer pressure within communities can play an important role.

Two quotations from Cows and Fish partner agency staff who were interviewed in this evaluation express these viewpoints.

"I wouldn't mind if they gave some of us field staff the opportunity to sit down and talk to them, about resources to develop for producers, like the Green Zone is excellent, but maybe more information brochures, and that are quick and dirty and to the point, for example management practices, more hard examples like watering systems or fencing techniques, like grazing regimes, take each one of those, make a generalized Riparian 101 quick and dirty, some practical low cost on the ground stuff, that they can throw on the dash of their truck."

Well, I think my biggest concern is they do a very good job with landowners and communities in dealing with them, but the other organizations that could be involved are kind of neglected, that's a two way street, I think greater communication between groups could be a stronger... each group has different objectives, it's difficult, that's my major concern, that dealing with info as to what they [Cows and Fish] are doing, I've heard from landowners what Cows and Fish is doing but not from Cows and Fish. Just greater communication, even a slide show presentation to SRD, ACA [etc.], groups that are involved to help them keep abreast of what's been going on, just between us, not for public, but to get involved, [we] can fill a large niche there, because Cows and Fish goes out do the RHA, leaves the info with what [the landowner], I don't know if there's much of a follow-up by them. I'm unclear of that whole process, there's not any way to assist landowners in implementing stuff by other organizations, others can help, e.g. farm water programs, and they know what, the confidential thing, if the landowner is interested, in changing practices, then I'm assuming that, I'm just saying other organizations who can help, this can be solidified in a brainstorming session that they can help, clarify our roles, with one another, right now, they are an education branch of riparian management, they don't actually do anything aside from the health assessment, they're baseline, but it doesn't go any further than that, it's part of the communication gap... that can be remedied fairly quickly. It's nothing major, it's a little thing that needs to be clarified and everything comes down to communication, they've done a great communication job with landowners, I don't think it's quite as good with other agencies, with others who have an interest or who can help, that requires sitting down together and clarifying our roles, it's a two way street, we haven't made that bridge, not chastising or blaming them. That's just my view of where it's now. I would really like to sit down and set things up.

3. Lack of consistent long-term funding and the relatively small staff complement were noted as factors that may contribute to the demands that were seen to be placed on those staff. These factors were mentioned as underlying some concern about staff well-being and their sense of being able to continue, consistently and to a meaningful degree, their focus on landowners in ways that prior evaluations of Cows and Fish have indicated work best (personalized, high-quality, hands-on demonstrations of riparian function in which people have opportunities to discuss issues and options).
 - Staff expressed frustration themselves about being drawn too much into time-consuming fundraising tasks or similar administrative tasks, including the reporting requirements associated with field work/funding tasks that are not directly related to landowners and communities, the program's primary constituency.
 - Concurrently, some staff expressed moderate concern about their colleagues who, as a result of these and other aspects of their workload, may be approaching burnout.
4. Staff continue to look for new challenges, or at least a realignment of some of their existing responsibilities, to take best advantage of what is clearly a very strong skill set across all staff, and to make existing efforts more efficient and effective.
 - Due to their commitment and work ethic, some staff may also need to feel a greater sense of accomplishment than they currently do. This may result from the long timeline associated with seeing concrete change in communities; of being drawn into tasks not directly related to helping landowners; of taking on tasks by default without a clear understanding of their priority in the overall work demand within the program; or of having some of their skills somewhat under-utilized.
 - While developing relationships with communities and individuals was noted as one way for staff to continue working toward obtaining a greater sense of accomplishment/understanding, and building confidence as a result of that experience, the time and effort to build those relationships was generally not considered to be available to staff as much as they would like.
5. Presentation content and skills are fundamental to successful delivery of awareness tools (e.g. Riparian 101), and while generally excellent, there was some variation in the quality and consistency of that delivery.
 - Both staff and respondents indicated that the fundamental concept of e.g. riparian presentations was sound and that these types of tools represent a required component to awareness programming. However, while a presentation may mean new information to landowners generally, it may potentially be repetitive for some who have experienced a lot of contact with staff, or been involved in the Cows and Fish awareness process over an extended period of time.
 - Both staff and landowners acknowledged the importance of using the existing template of Riparian 101 (i.e. with a focus of ecological function in riparian areas), but that it was equally important to periodically refresh its delivery to ensure that, as a key awareness tool, it continues to offer learning opportunities.
 - The task of refreshing the presentations, and of continuously developing confidence in delivery of the tool, was paramount. In particular, it was important that staff be sure to understand the recipient audience in order to appropriately target the degree of complexity of the information being presented in each case, and to keep the verbal components of the presentation concise and within the timeframe allotted.

- The visual aspects (i.e. photographs) of awareness presentations, like the hands-on aspects of field awareness tools, were consistently viewed as very effective – a picture being worth a thousand words. It was acknowledged that the program staff were increasingly able to provide locally-relevant imagery that landowners could relate to their own experience, and that efforts in this regard were appreciated and should continue.
- Continuing to consistently incorporate important educational messages about watershed and ecosystem concepts (e.g. including interconnectivity between system components) into awareness tools was considered essential.

IV. INTEGRATED SUMMARY

1. OVERVIEW

Evaluation Goals

The Cows and Fish staff interaction evaluation had three goals. The primary goal was to explore the characteristics that Cows and Fish program staff should most consistently demonstrate in their work to help landowners and communities address riparian issues, in order to make the program as effective and helpful as possible. The second goal of the evaluation was to briefly examine specific outcomes of the staff interactions in terms of raising awareness. The third goal of the evaluation was to examine whether practice change has occurred as a result of direct contact with Cows and Fish staff. Accordingly, this summary is set out following these three main focal areas.

1. Agreement on staff characteristics.
2. Raising awareness.
3. Achieving practice change.

Evaluation Methodology

The evaluation used a mixed-method research design incorporating a mail survey sent to individuals and organizations involved in the RHA process between 1997 and 2003, as well as a telephone interview conducted with a selection of those individuals and organizations. Used together, the two data collection techniques resulted in consistent quantitative data about the experience of a large number of respondents, and supporting qualitative data that helped to provide a detailed explanation of why respondents felt the way they did about their experiences with staff.

Both data collection techniques asked respondents to indicate the extent of their agreement that staff demonstrated nine key personal interaction characteristics; whether staff acted inappropriately overall; and whether awareness and practice change had occurred as a result of their direct contact with staff.

Standards of Program Evaluation Practice

The evaluation was conducted by an independent evaluator familiar with the Cows and Fish program and its staff representatives, who applied the professional standards of program evaluation in order to ensure that the evaluation was useful, realistic, prudent, objective, impartial and accurate.

It should be noted that, due to the evaluation being conducted retrospectively (i.e. the program has been in operation for some years), it was not possible to conduct a fully random experiment using control and intervention groups that would permit evaluation results to be statistically generalized to the wider population. However, the benefits of the mixed-method research design will assist the evaluation users in making reasonable judgments about the applicability of findings to a broader context. It is the evaluation user's responsibility to make the final determination, based on their knowledge of the program and its activities, about the reasonableness of applying the evaluation findings to the population generally, with the

assurances that the evaluator has, in carrying out the evaluation, reasonably and fairly applied the standards and principles of professional program evaluation in order to provide a strong foundation from which any such judgment could be made by the user.

Evaluation Respondents

The evaluation interviews (n=29) garnered a 97% response rate, and represented 14% of evaluation participants. The mail survey garnered a 44% response rate (n=178).

Taking interview and survey respondents together, 207 individuals participated in the Cows and Fish staff interaction evaluation project:

- across all 207 respondents, 45% were community groups members, 11% represented government agencies or other organizations, 3% were drawn from miscellaneous backgrounds such as industry, 2% were Cows and Fish staff, and the balance of 39% were community members or landowners not belonging to a community group;
- across all respondents, 71% were producers and 29% were non-producers;
- across all respondents (excluding five staff), 23% were associated with lake riparian areas while 77% were not; and
- among producers, 15% were associated with lake riparian areas.

In terms of geographical distribution across Alberta, 34 separate municipal jurisdictions were reported by respondents, reflecting the extensive coverage of Cows and Fish work within the province.

2. EVALUATION GOAL #1 - AGREEMENT ON STAFF CHARACTERISTICS

Respondents Overall

On eight of the nine staff characteristics, more than three-quarters (77% to 87%) of respondents strongly and moderately agreed that staff were:

- knowledgeable about riparian management (at 87% agreement);
- enthusiastic (86%);
- respectful (84%);
- credible (84%);
- reliable (83%);
- helpful (82%);
- unbiased (82%); and
- able to understand the practicalities (77%).

The characteristic that respondents agreed most (87%) that staff demonstrated was that they were knowledgeable about riparian management. The characteristic that respondents agreed least that staff demonstrated (70%) was their ability to motivate others to learn/adopt riparian management solutions. While moderately lower than agreement reported on the other characteristics, 70% agreement represents a very good result. Eighty-six percent of respondents agreed that staff acted appropriately overall with them, while 78% agreed that they thought others who have dealt with the staff found those interactions to be appropriate overall.

Overall, Cows and Fish achieved excellent interaction with respondents, both on the discrete characteristics that respondents were asked about and in terms of general impressions about how the staff presented themselves to the respondents.

By Producers/Non-Producers

In terms of landowner type, agreement across producers and non-producers was also very strong, with agreement ranging between 75% to 92% on eight of the nine characteristics, the exception being ability to motivate; and on acting appropriately overall with themselves and with others. Agreement also followed a similar pattern across producers and non-producers, with both categories strongly agreeing (92% and 75% respectively) that staff demonstrated eight of the nine characteristics. The exception to that pattern was on being respectful (92% and 75% respectively). The lower ratings for non-producers on this characteristic may relate to whether Cows and Fish staff communicated an appreciation for issues important to non-producers, as well as the relevance of information they could offer to help deal with them.

The highest rating was for respectfulness, with 92% of producers agreeing that staff demonstrated this characteristic. Given the sensitivity that producers feel about being blamed for environmental damage; their independence in terms of decision-making about their own operations; and the frustrations of being unable to obtain helpful (or indeed any) practical assistance when they want to be proactive, it would appear that the ability of the Cows and Fish staff to establish trust with producers by conducting themselves in a way that shows respect for producers and their situations is crucial to the program's success. This is consistent with prior evaluation findings that reported staff ability to build trust as a foundation for working relationships.

Ability to motivate showed a slightly more modest degree of agreement overall, with 66% of producers agreeing that staff demonstrated this characteristic. This compared to non-producers, of whom 77% agreed. This may be related to factors outside the direct control of staff, or indeed producers themselves, given the complexity of agricultural operations; the potential for lead-times of three to five years rather than months to plan and implement management change; the lack of funds to make desired changes; as well as industry issues such as the BSE crisis, drought, grasshopper infestations and so on. Further, given that most staff are not producers themselves, there may be a potential barrier, at least initially, to finding common ground between staff and producers that otherwise would lead more consistently to greater feelings of motivation

Between producers and non-producers, with the exceptions of ability to motivate and respectfulness (both possibly related to relevance of information and/or limited by external industry factors), there was only minor variation in their agreement that Cows and Fish staff demonstrated the characteristics under review. This suggests that the staff, in delivering the Cows and Fish program, appear to have operated in a generally consistent manner regardless of their audience.

By Lake/Non-Lake Respondents

More than three quarters (75%-87%) of both lake and non-lake respondents agreed that staff demonstrated seven of the nine characteristics, the exceptions being ability to motivate and understanding the practicalities; and that they acted appropriately overall with respondents (at 85% agreement by both lake and non-lake respondents).

The characteristic that lake respondents agreed most that staff demonstrated was being enthusiastic (87%). The characteristic that non-lake respondents agreed most that staff demonstrated was being knowledgeable about riparian management (87%). While producers reported agreement on respectfulness the highest at 92%, likely due to the ability of staff to overcome the feeling that producers have reported of being targeted for environmental damage, this may not be a particular concern for lake respondents (yet). However, lake respondents appeared to respond to the staff's eagerness and positive approach to their work.

The characteristics that lake respondents agreed least that staff demonstrated were ability to motivate (72%) and understanding the practicalities (72%), although these are still positive results and the variation in agreement from all other characteristics is indeed moderate. Non-lake respondents also reported the least amount of agreement on ability to motivate (68%). Ability to motivate and understanding the practicalities appear to be related, since an ability to communicate an understanding of the issues or factors that are foremost in the minds of lake respondents is a precursor to being able to provide information or suggestions that realistically help an individual along the road to making practice change. Given that these two characteristics received the lowest (relatively speaking) degree of agreement, it suggests that some barriers exist to the program staff being able to offer information or solutions that lake landowners can reasonably act on. This may relate to either the content of that information, and/or be caused by factors outside of the control of staff.

As with producers/non-producers, there was only minor variation between lake and non-lake respondents in their agreement that Cows and Fish staff demonstrated the nine characteristics under review. This suggests that the staff, in delivering the Cows and Fish program, appear to have operated in a generally consistent manner regardless of their audience.

By Role with Regard to Cows and Fish

All of the staff agreed that they demonstrated each of the nine characteristics and acted appropriately overall with both respondents and with others. With only five respondents in this category, there is little pattern of variation that can be commented on.

Among agency/organization representatives, a very high degree of agreement was reported on most characteristics. Between 95%-100% agreed that staff were knowledgeable about riparian management; enthusiastic; credible; respectful; helpful; and able to understand the practicalities; and acted appropriately overall with respondents.

Well over three-quarters of community group members (n=93) agreed that staff demonstrated eight of nine characteristics and acted appropriately overall. Overall, agreement was just slightly less than that reported by agency/organization representatives, but was still very high. Following the same pattern as agency/organization representatives, the highest agreement from community group members was on knowledgeable about riparian management (90%) while the least agreement was on ability to motivate (76%).

Among respondents who were non-group members, degree of agreement was strong overall, but was modestly lower than agreement by both the community group members and agency/organization representatives. Two-thirds or more (65% to 79%) of non-group members agreed that staff demonstrated eight of nine characteristics and acted appropriately overall. Note the consistent pattern where agreement on knowledgeable about riparian management was again highest (79%) and was least (60%) on ability to motivate.

These results provide two very clear indications. First, resource management professionals, representing government agencies or large organizations, report a high regard for the manner in which Cows and Fish staff have conducted themselves. This speaks well to the framework of partnership that is key to the Cows and Fish process. The individuals involved have a professional respect for Cows and Fish that has brought, and presumably will continue to bring, them into successful working partnerships on behalf of landowners. These other professionals, whether they facilitate access to funds for riparian projects or offer technical assistance in a watershed or community, represent a fundamental component of the partnership model, so their very strong agreement on the manner in which the Cows and Fish staff have interacted with them and community members indicates a clear endorsement for the Cows and Fish process. That support is particularly noteworthy given the practical challenges and barriers that can sometimes exist as a result of different organizational mandates among working partners.

Second, by comparing results between group and non-group members, it appears that the mechanism of the community group provided a meaningful forum in which the staff were able to interact most effectively with landowners. Degree of agreement by non-group members was lower on every characteristic compared to agreement by group members. This may be due to more structured and more frequent opportunities to interact, more opportunities to follow-up on a personal basis, or more consistent communication of ideas and information. While the outcomes of that interaction, such as raising awareness and making practice change, cannot be judged solely by how respondents rate the staff characteristics, these results do suggest that those characteristics are an important step in the community-based process that is fundamental to the Cows and Fish program.

Therefore, regardless of their role with Cows and Fish, between three-quarters and 100% of agency/organization representatives and community group members agreed that staff demonstrated the characteristics under review. Indeed, when comparing the range of agreement percentages across all role categories, as well as producer/non-producer respondents and lake/non-lake respondents, agreement by agency/organization representatives was consistently at the high end of the agreement range on almost all characteristics. It was generally at the low end of the range for non-group members. This regular pattern of agreement suggests that the community-based process used by Cows and Fish has provided a constructive forum in which the staff can work effectively to assist landowners.

The most highly rated characteristic that appears to have lent legitimacy to that process was knowledge about riparian management, while ability to motivate remained the characteristic with the most challenges, for reasons likely outside the control of staff and even producers themselves (e.g. drought, BSE and so on).

By Amount of Contact with Staff

There was a direct positive relationship between agreement on characteristics and amount of contact with staff. Between 91% and 100% of respondents with frequent/in-depth contact with staff strongly and moderately agreed that staff demonstrated all nine characteristics, and that they acted appropriately overall with respondents. This compared to between 81% and 89% for respondents with a moderate amount of contact, on all characteristics except ability to motivate (71%); and to between 68% and 81% for respondents with very little contact, on all characteristics except ability to motivate (59%).

As described previously, ability to motivate consistently had a somewhat lower degree of agreement compared to other characteristics. However, when this characteristic was examined in terms of amount of contact with staff, it showed the greatest increase in agreement compared to all other characteristics, rising from 59% with very little contact, to 71% for moderate contact, to 95% for frequent/in-depth contact. This supports in a very fundamental way the approach to awareness and practice change taken by Cows and Fish as delivered by its staff. Specifically, the capacity-building among landowners in learning about practical solutions, for example through ongoing or repetitive interactions, operation-specific discussions, demonstrations of the costs and benefits of management options, and even opportunities to facilitate funding, seemed to begin to mitigate the challenges faced by landowners in feeling that they could take actual steps to make change. Further, these results indicate that respondents attributed the increase in their motivation to act to Cows and Fish staff.

There was a similarly notable degree in increase on agreement with regard to understanding the practicalities, which rose from 68% to 82% to 91% as amount of contact increased.

On four characteristics (enthusiastic, credible, respectful and helpful), 100% of respondents with frequent or in-depth contact with staff strongly and moderately agreed that staff demonstrated these characteristics. Agreement on these four characteristics dropped consistently by about 25% for respondents with very little contact. Again, the more opportunities respondents had for interaction with staff, the greater the strength of feeling that staff exhibited characteristics that landowners found appropriate in helping them address their riparian issues.

Similarly, on staff acting appropriately overall with respondents, 95% of respondents with frequent contact indicated they strongly and moderately agreed that staff did so. This compares to 86% of respondents who strongly and moderately agreed that they thought others who have dealt with the staff found those interactions to be appropriate overall.

Therefore, there was a consistent and distinct positive relationship between degree of agreement on the characteristics under review, and degree of contact with staff. Staff were viewed positively both on initial contact and throughout the period of time in which they worked with respondents. Further, the design of the program, which afforded opportunities for continued interaction over time (during which both staff and respondents presumably became more familiar with each other and what both had to offer), appears to be fundamentally sound. In particular, that program design feature provided the mechanism by which initial barriers to motivation to make practice change could be overcome, as understanding of practicalities associated with solutions became more apparent. In other words, it takes time to build relationships in which barriers and solutions to practice change can be identified and addressed: contact with/access to staff would appear to have played an important role in that process.

Riparian Health Assessments

In terms of the various types of respondent role, staff were influential in encouraging about three-quarters of landowners (regardless of group membership) to participate in and understand the RHA. Staff were slightly less influential in encouraging participation of agency/organization representatives (64% compared to 75% and 77% for group and non-group members respectively), but were more influential in helping agency/organization representatives to understand the results (83% compared to 77% for group members and 73% for non-group members). The community group mechanism also provided a forum for staff to have greater influence on respondents using their results (66% compared to 56% of non-group members).

Non-producers were consistently more likely than producers to be influenced to participate, understand and use their RHA results. Regarding participation and understanding results, producers likely had more sources of influence such as neighbours, agricultural fieldmen or conservation technicians who may have been interested in or promoting the process, whereas non-producers, e.g. country residential landowners, may have had Cows and Fish as the single source of information or contact about RHA.

There was little variation in the influence that lake and non-lake respondents attributed to Cows and Fish in terms of participating, understanding and using the RHA.

Supporting Qualitative Information about Staff Characteristics

The quantitative results described in the previous paragraphs, obtained from both interview and survey respondents, are supported by the qualitative data obtained from interview respondents when they were asked to elaborate on their quantitative responses.

- Knowledge

Interview respondents indicated that staff were exceptionally knowledgeable about riparian management in general and, in particular, about riparian vegetation and how it relates to riparian health. These results correspond with the quantitative results from both interview and survey respondents, where 87% agreed that staff demonstrated this characteristic (the highest rated characteristic of the nine examined). As an organization, the Cows and Fish program was viewed as having a fundamental commitment to ensuring staff are appropriately and consistently trained in order to communicate their knowledge to communities and landowners, and staff reflected this strongly in their interactions. These views were held by all types of respondents including producers and agency staff, suggesting that staff exhibited their knowledge and training regardless of their audience.

However, when working, for example, in non-agricultural settings, staff were perceived to be somewhat less able to share relevant knowledge and management solutions that respondents could act upon. In other words, while not seen as a significant limiting factor in staff effectiveness, there was room for improvement in being able to share relevant knowledge with, e.g. urbanized and/or recreational landowners. A further minor perception about staff knowledge was that staff may need a slightly broader base of knowledge about additional components of ecosystem function (lentic and wetland systems, interconnectivity to uplands and to the watershed concept generally, fish and wildlife, etc.) in order to more effectively and consistently field questions or issues relating to these topics that may arise during awareness activities. Overall, while staff knowledge and training was considered to be science-based, a very small minority of respondents who themselves came from a technical background were unsure the extent to which Cows and Fish staff knowledge and training was science-based, but this was not seen as a particular limitation in light of the target audience and learning settings in which awareness information was intended to be shared by staff.

- Understanding the Practicalities

Similarly, staff did an overall very good job of understanding the practicalities of living and working near riparian areas. This was demonstrated by staff having the opportunity to talk with landowners about their specific situations so that various operational, physical or economic factors could be discussed, understood, respected and taken into consideration before arriving at a realistic solution. Again, these qualitative data correspond to quantitative results, where 77% of respondents agreed that staff demonstrated this characteristic.

A consistent theme, however, at least in terms of agricultural landowners, was that staff were understandably not always able to fully relate to some of the detailed particulars of an operation, or some of the economic realities faced by producers, because staff are themselves not producers. Notwithstanding, it was not expected that staff should necessarily be producers themselves, and the fact of not being a producer was not, overall, a limiting factor in their effectiveness. Indeed, it was acknowledged that it was typically mitigated by staff knowledge, as described above, by staff being reasonably cognizant of issues that producers typically have

to deal with (if not necessarily always specific problems or concerns in a given community, at least at initial point of contact), and by being increasingly able to communicate information about the economic costs of potential options.

There was some variability in examples given about staff ability to understand the practicalities. To a certain degree, this was a function of how long a timeframe staff have had to interact with landowners, since understanding the specifics of any individual's situation requires establishing a relationship with that landowner. Nonetheless, ratings on staff ability to understand the practicalities were high.

- Enthusiasm

Staff enthusiasm was endorsed very strongly in comments made by interview respondents, as would be expected based on quantitative results, where 86% agreed that staff demonstrated this characteristic (the second highest rated characteristic of the nine examined). In particular, the personal qualities of the staff were noted, such as their genuine commitment to their work; their ability to work hard and to work together as a team; their skill at listening to, respecting and encouraging the views held by others; their neutrality; their responsiveness in providing information and ideas; and their ability to bring new ideas to bear as circumstances evolve. Underscoring these qualities was the strength of the information provided by staff that enabled respondents to relate that information to their own personal situation, which is the essence of meaningful learning. Clearly, staff enthusiasm set a positive tone enabling that process to occur.

- Ability to Motivate

However, interview results on staff ability to motivate others to learn and to make practice change showed more variability than results on the other characteristics examined. These results are understandable in light of the quantitative results, where respondents agreed least (70%) that staff demonstrated this characteristic relative to the eight other characteristics (still a very good result). In general, factors that influenced staff ability to motivate were their neutrality, in particular by exhibiting "no finger-pointing" themselves while also setting this as an example for others to follow. Indeed, based on the prevalence of that term's use during interviews, "no finger-pointing" appears to have become part of the lexicon of riparian management insofar as Cows and Fish involvement goes.

The visual and informational aspects of awareness presentations, as well as visual, hands-on, discussion-based field demonstrations of riparian function and management, were key tools that enabled staff to motivate others, acting as staging points for people to think about their own situations and to apply the information being presented. Further, staff garnered respect as individuals from those they were working with, as indicated by staff being repeatedly invited back to continue their efforts, whether by landowners, community groups or agency staff. On the other hand, it was acknowledged that staff have been working against a background of challenging times for producers (in particular), and that factors outside of staff control, such as BSE, drought, and debt load place serious limitations on individuals feeling motivated to look at riparian areas differently. Concurrent with that background was the idea that the decision to change is an individual one, and that while staff can make best efforts to facilitate change, the choice is ultimately the responsibility of an individual landowner (indeed, this is consistent with the Cows and Fish philosophy, which operates outside of a regulatory or compliance paradigm).

Another significant reason given for staff being able to motivate landowners was their ability to provide landowners with a variety of management solutions or options. As with “no finger-pointing”, the term “options” has seemingly become part of the riparian lexicon of respondents insofar as Cows and Fish has been involved. The ability of staff to be flexible, to not force any given management solution, and to keep their information phrased within the general concepts of riparian function, all contributed to the value of offering options as it relates to motivating people.

An important but less frequently identified reason for (in this case, producers) to feel motivated by staff was that the program and its staff were seen as a support system that built confidence and understanding of how management choices fit into the big picture of riparian health.

On the other hand, a number of challenges to staff ability to motivate were identified. For example, the need was identified for an equally flexible and practical toolbox of solutions for lentic environments (i.e. as described above with regard to knowledge of riparian management, staff were perceived to be better equipped at providing solutions to producers than to other types of landowners such as those in more developed areas or in recreational settings). Further, the gender and age of staff were occasionally but not consistently seen as barriers to motivation, especially in the initial stages of interaction. These factors had the potential to negatively impact credibility (tied directly to ability to motivate), which tended in some cases to then affect staff confidence. In this context, it is reasonable to interpret the factor of age to really mean experience: respondents were in essence indicating that they noted quite a wide variance of experience across the staff (which is simply a function of age). However, overall, gender and age were mostly mitigated over time as the strength of the informational messages provided by those staff became evident (for example during presentations of Riparian 101) during more and more opportunities to interact. This is consistent with survey results which showed a very notable increase in agreement on ability to motivate as amount of contact with staff increased. This suggests that an important component of ability to motivate is allowing the opportunity and time for working relationships to develop.

Other challenges to respondents feeling motivated were that RHAs were sometimes felt to be overwhelming in their detail about vegetation, especially for those not trained in botany, and that it was sometimes difficult for the landowner to relate the volume of that information to specific management actions that could be undertaken.

Further, landowners continued to look to Cows and Fish for more follow-up on specific management actions that they can undertake (e.g. specific planning information or on-farm visits to discuss same, or accompanying their RHA results, or as provided through other awareness mechanisms). Motivation clearly lessened without this follow-up information process. As found in previous Cows and Fish evaluations, landowners have an expectation that Cows and Fish can or should be the source of this information process. Regardless of whether it is the mandate of Cows and Fish to provide it, or whether the staff have communicated clearly what the limitations to their mandate realistically are (not to mention available staff to fulfill it), there appears to be a demand from landowners to fill the existing vacuum with some process that delivers detailed management options to them as a follow-up step to awareness activities.

As with ability to motivate, there was some variation in the way respondents described the ability of staff to be unbiased. Generally, respondents described staff as being unbiased because, first, they were able to provide sound information that offered landowners, in a neutral manner, a variety of options from which they could choose (note, this same explanation was

provided by respondents when describing staff's ability to motivate). In addition, staff were seen as able to handle group dynamics by keeping discussion constructive rather than polarized, and by being consistent but frank when talking about ecological function or ecological health. This corresponded to the high rate of agreement from quantitative results, where 82% of respondents agreed that staff demonstrated this characteristic.

Again, however, respondents described staff as appearing to be more comfortable and skilled when addressing questions or issues relevant to agricultural settings rather than non-agricultural settings, likely due to the longer exposure of Cows and Fish (and hence the staff) in dealing with producers and their management needs.

- Unbiased

Rather than being interpreted as staff having a particularly negative or prejudicial slant, the term "bias" was interpreted more often by respondents as meaning an identifiable perspective or lens through which staff undertook their work (this was true of responses from staff who were interviewed as well as other types of interview respondents). That perspective primarily was seen as being focused on riparian or environmental health, itself an acceptable perspective without inherent problems. However, when a respondent spoke about some of the management solutions not being practical (from their point of view), staff tended to then be described as ideological, thereby creating a gap between how or what information was being presented by staff, and the landowner's ability to respect it and/or apply it. A small number of respondents (wrongly) maintained the view that Cows and Fish staff were indeed government staff and so, accordingly, they were seen to represent a bias to the government's (undefined) mandate, which tended to impede receptiveness of those few respondents.

- Credible

Interview respondents felt strongly, with some variation, that staff were highly credible. As for the other characteristics described above, this corresponded to the high rate of agreement in the quantitative results, where 84% of respondents agreed that staff demonstrated this characteristic. In general, staff were considered credible due to their knowledge about riparian function, their experience, and their honesty, which in turn was tied to their consistent and highly-regarded training (also described in relation to their knowledge about riparian management). Indeed, credibility and the trust associated with it were seen as fundamental values of the Cows and Fish program, a standard set at the outset of the program's creation and carried through to the current staff. Another program value that supported staff in building credibility was the ability to continue to provide consistent information presented within the framework of ecological function. This was of value as a foundation from which female staff members, in particular, could work when sometimes they encountered a barrier to being considered credible on the basis of their gender. In these cases, the information and the way it was presented were the tools that helped mitigate that barrier over time. As has been seen consistently with regard to other staff characteristics, the opportunities available to staff to have the time to meet with and discuss issues and options with landowners played a significant role in building credibility.

As with ability to motivate described above, challenges to building credibility were greater for younger staff because they were seen simply as being less experienced and somewhat less able to express an understanding of the interconnectivity of ecosystems and the human interactions that impact them. This experience, as related by respondents, was usually manifest in the variable quality of the awareness presentations, which may have been tied to staff confidence in meeting different types of landowners, for example non-agricultural audiences who have different issues and who require different solutions. Indeed, lack of specific awareness tools to support staff in dealing with those non-producer audiences may also have been a factor here.

Other minor factors that could impede staff being able to build credibility were the timing of introducing fencing as a management option too early in the interaction (while not inherently problematic, fencing was viewed by some as continuing to be a sensitive subject by producers not yet fully familiar with other options that Cows and Fish may be able to suggest); lack of time for staff to become informed about local water or riparian issues before arriving on scene to attempt to address riparian management; and the possibility of losing neutrality about management issues due to empathy understandably felt on behalf of producers who are dealing with many difficult industry factors such as BSE, drought, debt load, etc. The minor concern relating to Cows and Fish introducing the topic of fencing at a point considered too early in the awareness process may relate to respondents not understanding the important difference between using fencing as a tool for managing livestock distribution, rather than as a tool to exclude livestock from riparian areas entirely. Some respondents, when hearing the term “fencing”, may not yet understand its role in applying the principle of livestock distribution, and so may be predisposed to viewing it only as a livestock exclusion tool. Recall also that when respondents were asked to provide examples of the management strategies they learned about in initially raising their awareness, 50% of the examples related to the more fundamental concepts of recognizing riparian health and only 2% of the examples related to fencing options.

Finally, as indicated above with respect to ability to motivate, staff credibility suffered if they were unable, due to a relatively small staff complement across the province, to meet the expectations of landowners in terms of follow-up management information (including on-site visits), once landowners themselves became enthused about riparian management change as a result of participating in Cows and Fish awareness activities. This was not presented as a criticism of Cows and Fish staff per se, but rather was related to program resources required to continue to follow up with landowners and, accordingly, enhance the rate of practice change, whether by Cows and Fish alone and/or by some working partnership with other extension agents.

- Reliable

Interview respondents considered that staff were reliable in that they were trustworthy in keeping their commitments to landowners and agency staff, and especially in protecting the confidentiality of landowner RHA data. The awareness message was considered to be consistent and straightforward. Awareness tools and presentations were, with minor exceptions, presented well, which not only provided good information but played a significant role in helping other agency/organization representatives start the process of building interest and participation at the local level. Some inconsistency in level of preparation for presentations was noted. While it was acknowledged that time demands on staff sometimes prevented timely responses to e.g. phone calls or emails, this was understandable with busy schedules on everyone's part, and was not considered a limiting factor. These interview results were

consistent with the quantitative results, in which 83% of respondents agreed that staff were reliable.

- Respectful

Interview respondents also indicated that staff were very respectful, based on their ability to exhibit empathy and to generally recognize the operational, physical or economic realities that affect landowner decisions. Usually, these abilities created a setting in which landowners felt comfortable discussing their situations, asking questions and pursuing options. In particular, staff did not dictate solutions to landowners, but instead listened, were patient, and provided encouragement. Together, these factors seemed to create what landowners described as a win-win situation, in which they felt encouraged to take the initiative and to feel proud of their actions. This was consistent with quantitative results, where 84% of respondents agreed that staff were respectful in their interactions.

- Helpful

Lastly, staff were considered by interview respondents to be helpful. As with all other characteristics described, these results corresponded to this evaluation's quantitative data, where 82% of respondents agreed that staff were helpful to them in their interactions.

Factors contributing to staff helpfulness were their willingness to participate and assist whenever possible and in whatever area of the province they were called upon. They were seen both as a resource for information and as a facilitator for others, including landowners, communities and other agency personnel working together, to address or take action on riparian management. Similar findings were noted in the survey. Staff were also viewed as being adaptable to different audience ages. However, as noted elsewhere in this report, staff lost opportunities to be considered helpful when landowners felt there was a lack of specific follow-up information relevant to their situation that provided guidance on actions that they could take, whether it be through follow-up visits, detailed discussions about management planning, or new awareness tools that dealt with management strategies specifically. A minor challenge to being considered helpful was the time delay in receiving the RHA report after the landowner had become enthused about actually taking part in the RHA.

Additional Qualitative Themes about Staff and the Program

A number of themes arose during the interviews that were not directly associated with the questions asked in the interviews about staff characteristics. These are set out below.

1. Cows and Fish as an organization has become well-known and well-established. It now carries a degree of respect in its own right and is seen as a catalyst for change.
 - As the face of the program, staff continue to practice the standards for dealing with people that were established early on in the program's development. Part of that early vision included having a very good understanding of how people interact and work together; there continues to be some minor variation in successfully applying this vision, e.g. when dealing with landowners from different backgrounds. Over and above the characteristics described already in this evaluation, honesty and humour, however, were particularly appreciated. Staff viewed themselves, and were viewed by others, as continuing to mature in their skills.

2. There is a perceived vacuum, for producers in particular, in which they feel unable to obtain sufficiently detailed information about management options once they have started along the road to awareness and, having become motivated, want to make management change.
 - Numerous comments were made by producers (in particular) describing lack of follow-up or detailed management information.
 - Perhaps because Cows and Fish is so clearly identified with successful awareness programming, there is a high expectation, from both landowners and even some agency/organization representatives, that Cows and Fish will or should also proactively fill the role of guiding management action.
 - With 50,000+ producers in the province, a very small staff complement at Cows and Fish is not realistically available to provide this service, even while staff acknowledge that they desire to and that they work hard at trying to continue to place priority on visiting any (e.g. producers) who proactively request on-site visits for the purpose of discussing management options.
 - Partner agencies and organizations appear to still be operating with some lack of understanding (a) of what Cows and Fish does; and (b) where the line falls for taking responsibility for facilitating delivery of management-specific information, or at least which organizations should meet this need, and how and when. Further, they appear to look to Cows and Fish for leadership or direction to provide more extension materials or activities but also to participate in a process that leads to clarifying roles and responsibilities in delivering extension, in order to prevent overlap or gaps in assisting landowners.
 - Part of this theme is that some partner representatives may feel slightly neglected or simply be unclear what they can reasonably offer, given their respective mandates and that of Cows and Fish.
 - Regardless of the reasons, the result is that there is a lack of clarity on who is ultimately responsible for delivery of extension (at both the macro and micro levels), and an acknowledgement that there may be both gaps and overlap in delivery (and hence the potential for misunderstandings associated with that delivery). Remembering that, if the goal is practice change, building ecological knowledge as part of awareness is the first step, while providing actionable options about which individuals can make informed decisions is the second step.
 - Opportunities exist to continue to work on addressing these aspects of the partnership.
 - Acknowledgement of the two-step process leading to management change was remarked upon by a number of respondents, with recognition that that the overall process is long-term; that not every landowner is ultimately open to change; that there is a time lag effect in terms of people being able or willing to make change; and that social and peer pressure within communities can play an important role.

3. Lack of consistent long-term funding and the relatively small staff complement were noted as factors that may contribute to the demands that were seen to be placed on those staff. These factors were mentioned as underlying some concern about staff well-being and their sense of being able to continue, consistently and to a meaningful degree, their focus on landowners in ways that evaluations of Cows and Fish have indicated work best (personalized, high-quality, hands-on demonstrations of riparian function in which people have opportunities to discuss issues and options).
 - Staff expressed frustration themselves about being drawn too much into time-consuming fundraising tasks or similar administrative tasks, including the reporting requirements associated with field work/funding tasks that are not directly related to landowners and communities, the program's primary constituency.
 - Concurrently, some staff expressed moderate concern about their colleagues who, as a result of these and other aspects of their workload, may be approaching burnout.
4. Staff continue to look for new challenges, or at least a realignment of some of their existing responsibilities, to take best advantage of what is clearly a very strong skill set across all staff, and to make existing efforts more efficient and effective.
 - Due to their commitment and work ethic, some staff may also need to feel a greater sense of accomplishment than they currently do. This may result from the long timeline associated with seeing concrete change in communities; of being drawn into tasks not directly related to helping landowners; of taking on tasks by default without a clear understanding of their priority in the overall work demand within the program; or of having some of their skills somewhat under-utilized.
 - While developing relationships with communities and individuals was noted as one way for staff to continue working toward obtaining a greater sense of accomplishment/understanding, and building confidence as a result of that experience, the time and effort to build those relationships was generally not considered to be available to staff as much as they would like.
5. Presentation content and skills are fundamental to successful delivery of awareness tools (e.g. Riparian 101), and while generally excellent, there was some variation in the quality and consistency of that delivery.
 - Both staff and respondents indicated that the fundamental concept of e.g. riparian presentations was sound and that these types of tools represent a required component to awareness programming. However, while a presentation may mean new information to landowners generally, it may potentially be repetitive for some who have experienced a lot of contact with staff, or been involved in the Cows and Fish awareness process over an extended period of time.
 - Both staff and landowners acknowledged the importance of using the existing template of Riparian 101 (i.e. with a focus of ecological function in riparian areas), but that it was equally important to periodically refresh its delivery to ensure that, as a key awareness tool, it continues to offer learning opportunities.
 - The task of refreshing the presentations, and of continuously developing confidence in delivery of the tool, was paramount. In particular, it was important that staff be sure to understand the recipient audience in order to appropriately target the degree of complexity of the information being presented in each case, and to keep the verbal components of the presentation concise and within the timeframe allotted.

- The visual aspects (i.e. photographs) of awareness presentations, like the hands-on aspects of field awareness tools, were consistently viewed as very effective – a picture being worth a thousand words. It was acknowledged that the program staff were increasingly able to provide locally-relevant imagery that landowners could relate to their own experience, and that efforts in this regard were appreciated and should continue.
- Continuing to consistently incorporate important educational messages about watershed and ecosystem concepts (e.g. including interconnectivity between system components) into awareness tools was considered essential.

3. EVALUATION GOAL #2 - RAISING AWARENESS

Respondents Overall

Overall, 82% of survey and interview respondents learned new information or raised their awareness as a direct result of their contact with Cows and Fish staff, indicating that staff were extremely effective in their education role. This result is consistent with results described in Section II pertaining to agreement on characteristics such as knowledge of riparian management.

In terms of respondent role with Cows and Fish overall:

- 91% of community group members raised their awareness;
- 86% of agency/organization representatives raised their awareness;
- 72% of non-group community members/landowners raised their awareness; and
- 67% of miscellaneous respondents raised their awareness.

In terms of landowner type, 83% of producers raised their awareness, compared to 80% of non-producers. Eighty percent of lake respondents raised their awareness, compared to 83% of non-lake respondents. These results indicate that staff have been very consistent in delivering their awareness message regardless of their audience.

Consistent with results and observations described above relating to agreement on characteristics and use of RHA results, the community group setting appears to have offered respondents the best chance of interacting with staff in such a way that awareness was raised by a very large proportion of those respondents (91%). They were notably more likely to raise their awareness than respondents who were not community group members (72%). Staff were also extremely effective at raising awareness of agency/organization respondents (86%), suggesting that the information content, and/or the manner in which it was delivered by Cows and Fish, was considered valuable to those who themselves have a mandate to work with communities on riparian issues. Clearly, these types of individuals were receptive to the Cows and Fish approach to awareness, but further, continue to build their own capacity for self-learning and helping others to learn about riparian areas.

By Amount of Contact

Paralleling the relationship reported in Section II between agreement on staff characteristics and the amount of contact respondents had with staff, there was also a highly positive direct relationship between respondents raising their awareness and the amount of contact:

- 100% of those with frequent/in-depth contact raised their awareness;
- 89% of those with moderate contact raised their awareness; and
- 70%, still a very good result, of those with very little contact raised their awareness.

These results represent very strong endorsements of staff ability to communicate awareness information in an effective manner, even for those respondents reporting very little contact with staff. Even first impressions on initial contact tended to be positive, i.e. staff were sufficiently prepared and skilled to deliver information appropriately in those situations but, also, with more frequent opportunities to interact, they showed they were consistent in the delivery and content of awareness information. In addition, the results suggest that the design of the program, which

afforded opportunities for continued interaction over time, appears to be fundamentally sound. In other words, it takes time to build knowledge, although with 70% of respondents having very little contact indicating they raised their awareness, even initial contact had a strong likelihood of raising awareness. This would appear to speak directly to the qualities of the staff in being able to communicate very positively with respondents.

By Type of Contact

There was also a direct positive relationship between respondents raising their awareness and the types of contact available to them through a variety of program tools. These tools have been generally considered by both staff and participants to work not just over time, but cumulatively, with personalized and/or hands-on interaction with landowners playing a central role in the process of learning. In other words, it has been inherent in the design of the program that different awareness tools, requiring at least some opportunities to work with landowners in personalized settings, act together and cumulatively in a process leading successfully to awareness, rather than any single tool acting alone.

Evaluation results appear to bear out that program design assumption. Those interactions that were less personalized such as speaking by telephone only, e.g. to set up an RHA appointment, or attendance at indoor meetings, contributed moderately (yet consistently) to raising awareness compared to interactions that encompassed most or all of the program tools. Results ranged, for example, from 43% for those with telephone contact only and 50% for those with indoor events only, to 65% for those with on-site visits only, to 84% for those some combination of two types of awareness contact; to 98% for those with all types of available contact including both indoor and outdoor (field) events.

Most Important Characteristics to Raise Awareness

Respondents identified the two most important characteristics that staff should demonstrate to help others raise awareness to be:

- ability to understand the practicalities; and
- knowledge about riparian management.

This corresponds to the quantitative results where 87% of respondents agreed that staff demonstrated this characteristic. By identifying this characteristic as central to raising awareness specifically, it suggests that there is a very good match between what respondents require and what staff have been delivering in order to achieve awareness.

Similarly, 77% of respondents agreed that staff demonstrated the ability to understand the practicalities. By also identifying this characteristic as very important to raising awareness, respondents indicated that there is consistency in what is needed to raise awareness and what staff have delivered. In other words, through its staff, the Cows and Fish program has met an identifiable need. Recall that respondents reported a high level of increase in agreement on this characteristic as amount of contact with staff increased. This implies that staff and respondents needed those opportunities that occur with working together over time to build up an understanding of what was relevant and important to respondents.

While the remaining seven characteristics played a less significant role individually in raising awareness, they appeared nonetheless to have contributed to and supported the two main drivers of awareness as just described. This may be simply because, as people and their situations and needs differ so, too, do they react differently as people to the range of characteristics demonstrated by staff.

Interestingly, while ability to motivate was previously reported as being the characteristic that respondents agreed least was demonstrated by staff (relatively speaking), respondents indicated here that, at least in terms of its importance in raising awareness specifically, it is a relatively unimportant characteristic (7% of characteristic selections) that needs to be demonstrated by staff.

Types of Information Learned

When queried as to what they learned as a result of their direct contact with Cows and Fish staff, respondents reported a variety of knowledge topics as well as a number of strategies that could be employed to assist them in dealing with riparian issues generally.

Within the knowledge topic categories the topics described most frequently, representing about half of the 145 knowledge topic examples provided by respondents, related to vegetation and ecological function, specifically:

- 29% of examples related to the role, variety and value of vegetative species, as well as the role of weeds in riparian health; and
- 22% related to ecological functions (e.g. water quality, erosion, wildlife, bank stability, filtering), the relationship between functions, and the impact of human activity on functions.

Since ecological function provides the foundation for the information that staff are expected to provide to landowners and communities, for example by using program awareness tools such as introductory slide presentations and in-field training sessions, and further that an appropriate diversity of vegetation is central to healthy riparian function, it appears that these keystone topics of awareness have been successfully delivered by staff. Those program tools designed to provide that foundation knowledge have been, therefore, both effective and necessary.

The remaining knowledge topic examples described by respondents, also representing about half of all examples, were quite broad in nature and suggest that staff were able to place awareness information in a comprehensive framework that included numerous related sub-messages, e.g. pertaining specifically to overgrazing on a particular parcel of land through to understanding the bigger picture of the value and health of watersheds:

Within the strategies that they could potentially employ to deal with riparian issues, respondents most frequently described becoming more familiar with what riparian health is and looks like. Specifically, 50% of the 56 strategy examples related to learning how to assess and/or recognize riparian health.

The remaining strategies again described a wide range of learning and interest, from process topics like forming a community group to action topics such as learning about alternate watering systems, specifically:

- 18% that related to learning about the advantages of forming a community group or how to form such a group;
- 16% that related to learning about grazing strategies such as rotation and wintering options;
- 9% that related to learning about watering and/or pumps;
- 3% that related to learning about Cows and Fish as a tool to be used for learning about or improving riparian areas;
- 2% that related to learning about using photographs for baseline data; and
- 2% that related to learning about fencing.

About a quarter of the strategy examples related to specific management actions available to respondents to apply their understanding of riparian health (16% relating to grazing strategies, 9% relating to alternate watering sources; and just 2% relating to fencing). Just under a quarter of the examples related to mechanisms that community members could take advantage of to move ahead on riparian issues, namely the advantages of forming a group (18%) and using Cows and Fish as a tool (3%).

Overall, awareness as delivered by staff seems to have occurred within a comprehensive framework that included understanding the principles of riparian health, applying the principles of riparian health, and working together to achieve riparian health.

How Staff Contributed to Raising Awareness

Respondents reported 183 examples of how staff contributed to them raising their awareness, specifically:

- 25% of examples related to phone discussions or visits that provided respondents the opportunity to discuss ideas, issues and options with staff;
- 19% related to riparian health assessment results, including photographs provided in the report;
- 15% related to presentations and/or workshops, including photographs;
- 14% related to practical hands-on experiences in which respondents were shown examples of what was being discussed (e.g. on demo sites);
- 10% related to Cows and Fish literature or other resource material provided by staff;
- 9% related to the program acting as a tool for people to work together, learn together, or act as a forum for continuous learning;
- 5% related to qualities of personal support by staff that reinforced respondent viewpoints, inspired them to continue, or made them comfortable in pursuing additional information; and
- 3% related to staff providing settings in which an explanation about the role of vegetation in riparian health was explained.

The range of responses reinforces that there was no single mechanism to promote awareness, and that a mix of some or all ways of interacting with communities and landowners is required to address the needs of so many individualized learning needs and areas of interest. Visual examples provided by means of photographs or demonstrations were central to this, as was staff establishing an atmosphere in which respondents felt valued and at ease. In other words, a flexible selection of program awareness tools has greatest likelihood of raising awareness. Further, that staff were able to provide such a variety of ways of helping respondents learn, speaks to their skill and adaptability in appropriately meeting the needs of those individuals.

By Participation in Riparian Health Assessment

As reported in Section II in relation to most recent year of RHA, a dip in impact was noted for 2001, when 61% of respondents reported that their awareness was raised compared to 84% in 2000. Further, as with agreement on characteristics in relation to most recent year of RHA, this dip in 2001 may have been caused by factors such as restructuring of the staff complement and roles across the province and the associated change in distribution of program events. In addition, it may be that landowners, especially producers, were simply somewhat less receptive to the Cows and Fish message around the time of 2001 when the drought became severe (although this is less likely the case since rate of awareness returned to high levels in 2002 when drought and other economic, climatic and industry factors continued to impact producers).

In summary in terms of raising awareness, staff were extremely effective at raising awareness overall, with 82% of respondents reporting that their awareness was raised as a result of direct contact with staff. There was little variation in whether awareness was raised based on being a producer or not, or of being associated with a lake riparian area or not, suggesting that message delivery by staff was generally consistent regardless of audience. However, respondents who were members of a community group were almost 20% more likely to raise awareness than respondents who were not group members. The community-based approach of Cows and Fish therefore promoted greater awareness, as did additional ongoing opportunities to interact with staff. As amount of contact with staff increased, so did awareness. Further, when those opportunities to interact provided more personalized and/or hands-on interaction, awareness was more likely to be raised. Together, amount and type of contact provided a setting in which, over time and on a cumulative basis, the program tools used by staff to share information appeared to provide an appropriate mix of interactions leading to awareness.

Respondents identified ability to understand the practicalities, and knowledge about riparian management, as the two staff characteristics most essential to helping to raise awareness. Note that staff ability to understanding the practicalities increased significantly with amount of contact with respondents. Since knowledge about riparian management was the characteristic that respondents agreed most that staff demonstrated, there is a clear match between what respondents felt was important and what has been delivered by staff, an indication that Cows and Fish is on target in terms of selecting and developing qualified staff who can deliver their technical expertise in a practical context that was perceived by these respondents to be appropriate.

The majority of the types of information learned by respondents related to understanding ecological functions (e.g. water quality, bank stability, erosion) as well as the role and value of vegetation. Since these topics form the foundation of content in the Cows and Fish program awareness tools, it is apparent that the tools, as mechanisms for staff to deliver the messages, have been successful in communicating those topics. Similarly, the types of strategies learned

about by respondents related most frequently to assessing and/or recognizing riparian health, a fundamentally different way of looking at the landscape that is a precursor to applying knowledge. Additional strategies related to specific actions that could be adopted to improve health (e.g. grazing strategies), as well as process steps available to communities (e.g. forming a community group or taking advantage of information/resources available through Cows and Fish) to deal with riparian issues. Together, therefore, staff working within that process were successful in helping respondents to visualize, understand and interpret what they saw on the riparian landscape. The range of knowledge topics and strategies that respondents reported they learned indicated that there is likely no single mechanism for raising awareness that fits all situations, and rather that a mix of some or all of the ways that Cows and Fish staff interacted with these respondents was both necessary and appropriate for raising awareness.

4. EVALUATION GOAL #3 - ACHIEVING PRACTICE CHANGE

Respondents Overall

Overall, 58% of survey and interview respondents reported that adoption of new riparian management had occurred as a direct result of contact with staff. Note that respondents were not asked to report whether any change was, in fact, required to their riparian management, and results reported here should be interpreted in light of that fact. Given that this evaluation question could not be compared against whether or what change may have been required, a change rate of 58% is nonetheless an impressive result that speaks positively to both the abilities of the staff and to the efficacy of the program's approach to promoting practice change.

In terms of respondent role, as found with regard to raising awareness, the community group setting appears to have offered respondents the greatest likelihood (64%) of interacting with staff in such a way that respondents moved on to practice change, since only 43% of respondents not associated with a community group made practice change. With a similar degree of difference between group and non-group members (21% in this case), it seems clear, therefore, that the Cows and Fish community-based approach presented by its staff to encourage and enable landowners to make practice change, has contributed in a significant manner to that change process. This is further supported by the approximately three-quarters of agency/organization representatives (73%) who, through their own partnership involvement in that community-based approach, were aware of landowners who had made practice change.

In terms of landowner type, 60% of producers made practice change, compared to 50% of non-producers. Thirty-nine percent of lake respondents made practice change, compared to 63% of non-lake respondents. Given that practice change is understood to sometimes take a number of years to implement, the lower rate of change by lake respondents may be attributable to the relatively recent steps taken by the program and its staff to begin working with lake landowners, something that has occurred primarily in the past two to three years only. Alternately, lake respondents may have quite different needs to help them move toward practice change which staff have not yet provided.

By Amount of Contact

Paralleling the relationships reported above between amount of contact and (a) agreement on characteristics and (b) raising awareness, there was also a direct positive relationship between amount of contact and whether respondents reported practice change as a direct result of contact with staff (or, in the case of agency/organization representatives, were aware of those they worked with having made change).

Almost all of those with frequent contact (91%) reported practice change, while about two-thirds with moderate contact (62%) did so, and just under half of those with very little contact (42%) reported practice change. As with raising awareness, these results provide a strong endorsement of the skills and abilities of staff in creating situations appropriate for landowners to take action on riparian management, presumably by offering solutions or options that landowners considered relevant and achievable. In general, however, these results indicate clearly that greater opportunities for interaction with staff were central to achieving increased rates of practice change.

By Type of Contact

As with raising awareness, the inherent design of program awareness tools, acting cumulatively and providing opportunities for personalized interactions with staff, was important in achieving practice change. No single program awareness tool appeared to ensure practice change. Indeed, there may have been a dynamic that occurred across the variety of tools that coalesced into respondent decisions to make practice change. There was a general positive relationship between types of contact and whether respondents made practice change, a clear but somewhat less distinct pattern than that described above in relation to raising awareness.

For example, rates of practice change for those with on-site visits only and indoor events only was 27% and 44% respectively, compared to 58% for those with some combination of two or three types of contact. Among those respondents reporting contact through all available types of interaction, 75% reported practice change.

Most Important Characteristics to Promote Practice Change

In terms of promoting practice change, respondents identified the same two characteristics as being the most important as they had chosen for raising awareness. Over half of the selections made for most important characteristic were:

- understanding the practicalities; and
- knowledge of riparian management.

Therefore, within the context of two goals of the Cows and Fish program, namely raising awareness leading to good decisions by landowners about management practices, respondents were very clear about their expectations from staff. Given that, for example, knowledge of riparian management was the characteristic that respondents most agreed staff demonstrated, there has been concurrence between what respondents require and what staff have been delivering, both for raising awareness and promoting practice change.

While the remaining seven characteristics played a less significant role individually in promoting practice change, they appeared nonetheless to have contributed to and supported the two main drivers of both awareness and practice change. Note that while ability to motivate was previously reported as being the characteristic respondents agreed least was demonstrated by staff (relatively speaking), respondents indicated here that it played a fairly modest role (14%) in promoting practice change, but was slightly more important than it was for raising awareness (7%).

Types of Practice Change

Those who reported practice change (n=111) provided 143 examples of practice change. Of all examples provided, 88% exemplified an understanding of fundamental management principles, as follows:

- 29% of examples related to altering pasture management by adjusting seasonality and/or frequency; altering winter grazing practices; reducing livestock numbers or generally controlling access by livestock;
- 25% related to using permanent or temporary fencing around vegetated areas and/or water bodies;
- 20% related to using alternate watering sources including pumps;
- 9% related to fully excluding livestock access to the riparian area;
- 3% related to creating what was described specifically as riparian pastures;
- 1% related to moving salt/minerals; and
- 1% related to no longer discouraging beaver from their riparian area.

The remaining 12% of examples involved:

- 5% related to planting new shrubs or trees, or creating new (or expanding existing) buffers;
- 3% related to improving or modifying water crossings or culvert areas;
- 2% related to identifying use of riparian demonstration or training sites; and
- 2% related to limiting or eliminating use of chemicals such as fertilizers.

In other words, a large majority of respondents who made changes stood back, saw the bigger picture of their land in terms of riparian health, and then planned and applied the underlying principles of riparian management, for example incorporating an understanding of carrying capacity by adjusting seasonality and frequency of grazing, as well as distribution of livestock. This may speak both to respondents having first built the necessary awareness that enabled them to make good management decisions, but also that staff were able to continue to provide these respondents with some perspective about specific options that could be employed to work with their new knowledge.

Further, the range of examples indicates that no one solution fit all respondents, as might be expected given the reality that each landowner's situation is unique.

How Staff Contributed to Practice Change

Respondents reported 183 examples of how staff contributed to practice change, specifically:

- 34% of examples related to respondents changing because they had been provided verbally with information that gave them options, opportunities to discuss their plans, and/or opportunities to discuss benefits and impacts;
- 17% related to respondents changing because they attended workshops, tours and/or field training;
- 12% related to respondents changing because they had received training or reports on riparian health assessment;
- 12% related to respondents changing because of the approach staff took to encourage or motivate them, to reinforce their views, or to provide additional resources;

- 6% related to respondents changing because they had been brought together in a recognizable process;
- 5% related to respondents changing because of what they saw in photographs;
- 5% related to respondents changing because staff had facilitated access to funding for projects;
- 4% related to respondents changing because the impacts of their actions on water and vegetation had been demonstrated to them;
- 4% related to respondents changing because they saw the enthusiasm and expertise of the staff; and
- 1% related to respondents changing because of the program literature they had received.

The range of responses reinforces that staff have provided, and need to continue to provide, a diverse array of mechanisms to promote practice change. Clearly, respondents experienced numerous successful ways that staff assisted them in the process of making change. Many of these involved illustrating visually through images or in a hands-on manner how change could be applied, or were acknowledgements of the effort made by staff to speak with respondents about their specific situations in an enthusiastic, respectful, helpful and knowledgeable manner. The personal qualities and abilities of staff mentioned here by respondents are in line with the high rates of agreement on all staff characteristics described earlier in this Section.

By Participation in Riparian Health Assessment

Comparing practice change to most recent year of RHA, practice change dropped in both 2001 (48%) and 2002 (48%) from that reported in 2000 (70%). This is similar to the pattern of change noted for raising awareness described above. The lower rates of practice change in more recent years may be due to industry and climate factors, such as severe drought in Alberta, that may have created reticence or operational limitations on the part of producers to alter their practices. It may also have been due in part to the Cows and Fish program restructuring its staff complement and roles during that period, with its associated change in distribution of program events across the province, keeping in mind that implementing practice change is believed to involve a time lag of as much as three to five years.

Comparing practice change to number of years of participation, at least 58% of respondents indicated they made practice change after just one year, a very positive result that suggests the RHA process is a Cows and Fish program awareness tool that has been central to the process of promoting practice change.

In summary, there was an impressive rate of practice change (58%) reported that occurred as a direct result of contact with Cows and Fish staff. This result should be interpreted within the limitation that it was not possible to determine whether any change was actually required on the part of those respondents who reported no change or did not answer this question. As with raising awareness, respondents involved through community groups, a central component of the Cows and Fish approach, reported a notably higher rate of practice change (64%) than did respondents not involved in a group (43%), suggesting that the mechanism of staff and landowners working together using the community group setting is fundamentally important in achieving practice change.

In terms of landowner type, there was a slightly lower rate of practice change reported by non-producers (50%) compared to producers (60%) and a more notable difference between lake respondents (39%) when compared to non-lake respondents (63%). In terms of lake respondents, this may be attributable to the more recent interactions by staff with these types of landowners compared to the traditional Cows and Fish producer audience, a process which began only in the past two to three years, and it may also be due to management solutions that staff have been able to make available to these types of landowners that would be considered appropriate to their needs.

As with agreement on characteristics overall and with raising awareness described above, there was a direct positive relationship between amount of contact with staff and increased rates of practice change. Similarly, the dynamic that seems to occur when respondents participated in a variety of types of program awareness tools, particularly those characterized by personalized discussion with staff about specific landowner situations or that visually demonstrated management options, contributed to greater rates of practice change. These results suggest that both the staff interaction and the settings in which that interaction occurred are conducive to promoting practice change.

In summary, respondents identified ability to understand the practicalities, and knowledge about riparian management, as the two staff characteristics most essential to helping them make practice change, the same characteristics they identified as being essential to raising awareness. Note that understanding practicalities showed a significant increase of agreement as amount of contact with staff increased. Since knowledge about riparian management was the characteristic that respondents agreed most that staff demonstrated, there is a clear match between what respondents felt was important and what has been delivered by staff, an indication that Cows and Fish is on target in terms of selecting and developing qualified staff who can deliver their technical expertise in a practical context that was perceived by these respondents to be appropriate.

Eighty-eight percent of the examples that respondents provided about the types of practice change made described how they stood back, saw the bigger picture of their land in terms of riparian health, and then planned and applied the underlying principles of riparian management, for example incorporating an understanding of carrying capacity by adjusting seasonality and frequency of grazing, as well as distribution of livestock. This may speak both to respondents having first built the necessary awareness that enabled them to make good management decisions, but also that staff were able to continue to provide respondents with some perspective about specific options that could be employed to work with their new knowledge.

The range of responses describing how staff contributed to respondent decisions to make practice change indicates that staff have provided, and need to continue to provide, a diverse array of mechanisms to promote practice change. Many of these mechanisms involved visual or hands-on demonstrations of how change could be applied, and acknowledged that staff made the effort to speak with respondents about their specific situations in an enthusiastic, respectful, helpful and knowledgeable manner. These personal qualities of staff in promoting practice change reflect the high rates of agreement on all staff characteristics.

In terms of whether participation in the RHA contributed to practice change, rate of practice change dropped from 70% in 2000 to 48% in both 2001 and 2002. This may be attributable to factors such as severe drought that may have led landowners to feel more reticent about undertaking change during these periods of uncertainty and stress.

V. RECOMMENDATIONS

Clearly, the most appropriate action for the Cows and Fish program to take with regard to its staff interacting with communities and landowners is to continue to pursue the philosophy and approach it has taken to date, since evaluation respondents have very strongly endorsed the program, its awareness tools, and its staff members, including the way in which they have interacted with communities and landowners.

However, there are some areas for improvement that could be considered to enhance the effectiveness of the program and its staff interactions. Program modifications that Cows and Fish may consider are set out below. All should be viewed in light of the very consistent, positive results described throughout this report.

1. Expand existing efforts that enable staff to develop skills and knowledge about issues and solutions applicable to non-agricultural audiences, so they can more confidently assist those landowners in developing awareness and making practice change.
2. Develop additional awareness tools applicable to non-agricultural audiences that will support the broadening knowledge base and community types that staff will increasingly be working with.
3. Encourage staff to continue to adapt their awareness presentations to update, freshen and localize content; and to participate in some professional development activities that promote confidence and consistency in public speaking and related skills.
4. While acknowledging that Cows and Fish cannot and should not be responsible for defining overall direction for extension delivery in the province, continue to build on program efforts to date geared to sharing the Cows and Fish model, in particular by examining potential strategies to more efficiently include partner organizations in delivering extension services – at a minimum this should include clarifying respective mandates but also more clearly defining responsibilities so as to prevent duplication or gaps in delivery:
 - while this does not exclude the awareness component that Cows and Fish successfully delivers, it is particularly relevant to how and when each organization can and should work with landowners to provide specific details about management options they very clearly seek as follow-up to awareness activities; and
 - a starting point may be a type of brainstorming or focus group session to revisit and clarify needs, roles and responsibilities, since partner representatives have indicated interest in having open communication on these items.
5. Continue to work internally within Cows and Fish, and externally with partners as described above, to develop and deliver awareness tools that deal with the specifics of management practices to enable landowners to translate their awareness into action. For example, simple hand-out (pocket-size) materials describing and identifying key plants would be helpful.
6. Consider developing awareness tools for agricultural producers with non-traditional livestock types, since they may require slightly different information about e.g. vegetation preferences or animal behavioural habits.

7. Consistently incorporate information about the economics of practice change into awareness tools and consider doing so as early in the interaction process as possible.
8. When distributing awareness print materials generally, actively incorporate a verbal description of them rather than simply making them available/handing them out, so that recipients understand and anticipate content (e.g. such as where to find existing sources of detailed information about plants to prevent requests for “new” information that is, in fact, already available).
9. Continue existing efforts aimed at securing longer-term funding that will enable staff to continue to focus on working closely with landowners and to lessen the time commitments required of them to seek and report on projects tied to program funds received.
10. Pursue discussions with all staff to determine any new areas of activity or effort they may feel enthused about, to maintain their interest and commitment to their work; and consider professional development activities that may assist them to broaden their base of knowledge into other aspects of ecosystem function (or build this capacity into the team by seeking it when new staff are next hired).
11. Develop and use a protocol that prioritizes the nature and volume of tasks that staff are asked to undertake/commit to so that they are less likely to be removed from a focus on landowner work/developing landowner networks (in other words, create a clear and fair framework in which everyone knows when to say yes or no to a demand or request for involvement). Examine overall staff workloads to guard against potential burnout.
12. Dedicate responsibility for background research to one staff member (new or existing), i.e. a research assistant should be charged with tasks such as:
 - identifying relevant issues in a community before new awareness activities start up there to guard against “parachuting into unknown territory” and to help the presenting staff to target their presentation content more reliably;
 - responding on behalf of all staff to follow-up enquiries routed to them from partners/landowners for background information or resources, to release staff from their admitted tendency of taking the route of least resistance and simply doing all these time-consuming administrative tasks themselves; and
 - managing the library, photography collection and other archival activities.
13. With regard to the RHA process itself:
 - be as proactive as possible to provide opportunities for landowners to be more involved in understanding how and why their polygons are chosen – participation at the early stages should make the report/results more relevant and informative to the landowner, and prevent misunderstandings about why particular reaches were chosen while tying those choices into the management of their riparian area overall (all of which would contribute to greater likelihood of learning and making practice change, as well as understanding the Cows and Fish process, in effect making the RHA seasonal field work more of an awareness process); and
 - ensure that polygon photographs always include the horizon, to make it easier for the landowner to take repeat photos in future years.

14. Consider subsidiary or alternate program names for Cows and Fish that are more inclusive for non-agricultural audiences, e.g. with a focus on “people, communities and watersheds”. This may be particularly important during the initial contact period when effort is required to help non-producers understand aquatic resources (such a fish) and to become engaged with program staff.

APPENDIX A**MAIL SURVEY****COWS AND FISH
RIPARIAN HEALTH INVENTORY / ASSESSMENT PARTICIPANTS****EVALUATION SURVEY****What are Your Views about How
Cows and Fish Staff Interact with Landowners and Communities
on Riparian Management?**

The purpose of this survey is to determine the characteristics that you believe are most effective when Cows and Fish staff work directly with landowners and communities on riparian management issues at the local level. Cows and Fish is asking for this evaluation feedback so that the program can increase its impact and effectiveness when providing information, technical assistance and support on riparian areas to you, your neighbours and community groups. Improving that interaction, in ways that you suggest, will help landowners address local riparian management and maintain healthy riparian areas.

Thank you!

Remember:

- by taking 8-10 minutes to complete the 12 questions on this survey, you are making a very important contribution;
- please return your completed survey ***within 5 days*** using the enclosed stamped envelope;
- to receive a complementary Cows and Fish ruler as a token of appreciation, complete the enclosed address card and ***place it in the envelope with your completed survey***;
- all the information you provide is treated strictly confidentially; and
- if you have any questions about this survey or the use of its results, please do not hesitate to contact the independent evaluator (Nancy Bateman) at 403-394-0494 or the Cows and Fish Program Manager (Norine Ambrose) at 403-381-5538.

PLEASE READ THIS FIRST !

A Word about the Cows and Fish Staff, and this Survey:

We understand that your contact with Cows and Fish staff may have varied quite a bit, from very little to a lot, and that you may have dealt with just one, or perhaps several, of the staff. When answering the survey questions, please keep in mind that our purpose is to get an overall sense from you of how you perceive the program as represented by the staff – since their role is to work directly with landowners and communities. The survey information is not intended to target any specific staff member.

In other words, we want to know what characteristics are instrumental in helping you -- and communities in general -- work on riparian issues, so that the program's staff can continue to apply those characteristics effectively in the future, for everyone's benefit.

Important: If you are familiar with or have dealt with just one of the Cows and Fish staff, base your survey answers on your experience with that person. If you have dealt with two or more staff, consider your overall experience with all the individuals you have dealt with, and base your answers on how, together, those individuals reflect your experience with the program.

Who are the Staff that You May Have had Contact With?

Here's a refresher on names of staff, past and present, as well as the types of contact you may have had with them over the past few years.

CURRENT COORDINATION / RIPARIAN SPECIALISTS	INVOLVED IN COMMUNITY MEETINGS AND/OR PRESENTATIONS; FIELD DAYS; TELEPHONE DISCUSSIONS AND/OR FARM/RANCH VISITS ABOUT MANAGEMENT; AND/OR PREPARING FOR RIPARIAN HEALTH ASSESSMENTS; AND ASSISTING WITH PLANNING AND DEVELOPING COMMUNITY RIPARIAN GROUPS INCLUDING IDENTIFYING FUNDING SOURCES AND ACTIVITIES	NORINE AMBROSE, LORNE FITCH, MICHAEL GERRAND, KERRI O'SHAUGHNESSY, KELSEY SPICER-RAWE, AMANDA BOGEN
Field crew	Conducted riparian health inventories (for which you subsequently received a personalized written assessment report from Cows and Fish); and perhaps talked with you to set up those visits or spoke with you at a follow-up meeting	Nicole Bach, Michael Gerrand, Jaime Iwaasa, Michael Uchikura, Sasha Duquette, Kerri O'Shaughnessy, Kathryn Holgate, Jaime Nott
Other individuals	No longer directly or extensively involved with the program but may have undertaken some or all of the above responsibilities	Greg Hale, Barry Adams, Corey Rasmussen, Nicole Danilkewich, Suzanne Witham; Andrea Markewicz

* * * * *

Please read the prior page before starting to answer these questions.

#1. Would you describe yourself as a **FULL-TIME AGRICULTURAL PRODUCER?** YES NO

Would you describe yourself as a **SEASONAL OR PERMANENT LAKE RESIDENT OR LANDOWNER?** YES NO

#2. How would you **DESCRIBE YOUR ROLE** in working with the Cows and Fish program?

- please check one box* you represent or belong to a **LOCAL COMMUNITY GROUP** working on riparian issues
- you represent a **GOVERNMENT AGENCY OR LARGE ORGANIZATION** working on riparian issues
- OTHER (please specify)** _____

#3. In the past few years, **HOW MUCH CONTACT** do you estimate you have had with the staff of the Cows and Fish program?

- please check one box* **VERY LITTLE** contact
- a **MODERATE AMOUNT** of contact
- a **LOT OF FREQUENT** and/or **IN-DEPTH** contact

#4. Which of the following categories best describes the **TYPE OF CONTACT** you've had with the Cows and Fish staff?

- please check one box* your **ONLY** contact has been by **TELEPHONE**
- your **ONLY** contact has been by **PERSONAL ON-SITE VISIT(S)**
- your **ONLY** contact has been through your **ATTENDANCE AT INSTRUCTIONAL FIELD DAYS HELD OUTDOORS**
- your **ONLY** contact has been through your **ATTENDANCE AT COMMUNITY MEETINGS / WORKSHOPS HELD INDOORS**
- you've had contact through **TWO OR THREE OF THE ABOVE** categories
- you've had contact through **ALL OF THE ABOVE** categories
- OTHER (please specify)** _____

<p>#5. Based on your personal experience to date, please indicate the extent to which you AGREE OR DISAGREE that Cows and Fish staff demonstrate the following characteristics. Circle one number between 1 and 5, where 1 means you strongly agree and 5 means you strongly disagree.</p>	STRONGLY AGREE		STRONGLY DISAGREE		
	<i>please circle <u>one</u> number</i>				
<p>Staff are KNOWLEDGEABLE ABOUT RIPARIAN MANAGEMENT (e.g. offer well-informed ideas and options)</p>	1	2	3	4	5
<p>Staff UNDERSTAND THE PRACTICALITIES OF LIVING AND WORKING NEAR RIPARIAN AREAS (e.g. are familiar with the realities of daily agricultural operations or of lake living)</p>	1	2	3	4	5
<p>Staff are ENTHUSIASTIC (e.g. seem motivated to work on behalf of landowners and the community)</p>	1	2	3	4	5
<p>Staff are ABLE TO MOTIVATE (e.g. encourage you and others to learn and/or proactively adopt riparian management solutions)</p>	1	2	3	4	5
<p>Staff are UNBIASED (e.g. communicate information and ideas in a neutral and fair manner)</p>	1	2	3	4	5
<p>Staff are CREDIBLE (e.g. can present information and ideas in a sincere and reasonable manner)</p>	1	2	3	4	5
<p>Staff are RELIABLE (e.g. are trust-worthy in meeting your expectations and building trust in working relationships)</p>	1	2	3	4	5
<p>Staff are RESPECTFUL (e.g. value and show regard for the knowledge and experience of others, including landowners)</p>	1	2	3	4	5
<p>Staff are HELPFUL (e.g. provide ideas, information, and/or resources in a practical, positive manner)</p>	1	2	3	4	5
<p>And taking all these characteristics together, to what extent do you agree that Cows and Fish staff ACT APPROPRIATELY OVERALL in their contact with you?</p>	1	2	3	4	5
<p>And lastly, based on what you may have heard from OTHERS you know who've had contact with Cows and Fish, to what extent do you agree that THOSE people feel that Cows and Fish staff act appropriately in their contact with landowners and communities?</p>	1	2	3	4	5

- #6. Have you **LEARNED ANY NEW INFORMATION OR RAISED YOUR AWARENESS** about riparian areas as a direct result of your contact with Cows and Fish staff? **YES** **NO**

If you answered YES to #6, please briefly describe an example of <u>what</u> you learned.
And in what ways did Cows and Fish staff contribute to that learning experience?

- #7. Still thinking specifically about **LEARNING NEW INFORMATION OR RAISING AWARENESS** about riparian areas...

Please select the **TWO MOST IMPORTANT CHARACTERISTICS** that Cows and Fish staff should consistently demonstrate **TO HELP OTHERS LEARN**.

- please check two boxes*
- KNOWLEDGEABLE** about riparian management
 - UNDERSTAND THE PRACTICALITIES** of living and working near riparian areas
 - ENTHUSIASTIC**
 - ABLE TO MOTIVATE**
 - UNBIASED**
 - CREDIBLE**
 - RELIABLE**
 - RESPECTFUL**
 - HELPFUL**
 - OTHER (please specify)** _____

- #8.** Have you **CHANGED ANY OF YOUR MANAGEMENT PRACTICES** as a **YES** **NO**
 direct result of your contact with Cows and Fish staff?
*(if you represent an agency or other large organization, please answer
 based on your experience working with landowners)*

If you answered YES to #8, please briefly describe an example of the management that was changed.

And in what ways did Cows and Fish staff contribute to the decision to make that change?

- #9.** Thinking specifically now about **ADOPTING NEW RIPARIAN MANAGEMENT PRACTICES** rather than learning and awareness...

Please select the **TWO MOST IMPORTANT CHARACTERISTICS** that Cows and Fish staff should consistently demonstrate **TO HELP OTHERS ADOPT SUSTAINABLE RIPRIAN MANAGEMENT PRACTICES.**

*please check
two boxes*

- KNOWLEDGEABLE** about riparian management
- UNDERSTAND THE PRACTICALITIES** of living and working near riparian areas
- ENTHUSIASTIC**
- ABLE TO MOTIVATE**
- UNBIASED**
- CREDIBLE**
- RELIABLE**
- RESPECTFUL**
- HELPFUL**

- OTHER (please specify)** _____

#10. Please indicate the year(s) that you **PARTICIPATED IN A COWS AND FISH RIPARIAN HEALTH INVENTORY**, either for your own property (if you are a landowner) or as part of your community riparian work (if you are an agency or organization representative).

- 1997 1998 1999 2000 2001 2002 2003

#11. Again using a number scale of 1 through 5, where 1 means you strongly agree and 5 means you strongly disagree, please indicate the extent to which you AGREE OR DISAGREE that Cows and Fish staff played a key role in:	STRONGLY AGREE STRONGLY DISAGREE				
	<i>please circle <u>one</u> number</i>				
<i>Your decision to participate in the inventory and assessment process</i>	1	2	3	4	5
<i>Your understanding of the assessment report provided to you</i>	1	2	3	4	5
<i>Your use of the information provided in your assessment</i>	1	2	3	4	5

#12. In which Alberta **COUNTY OR MUNICIPALITY** is your primary riparian area located, the one that you have most addressed with Cows and Fish staff?

* * * * *

Thank you for completing this survey!
Please mail it in the enclosed stamped envelope.

Remember to also enclose your address card if you would like to receive your complementary Cows and Fish ruler.

Your survey is confidential – the only way for me to send your ruler to you is by me receiving the enclosed address card from you.



As part of its ongoing efforts to continually improve how program activities assist landowners, you may hear directly from Cows and Fish some time in 2004 to ask about ways that your riparian health assessment has/has not helped you in management planning and decision-making.

Any future request of that type will be handled directly from the Cows and Fish office and is completely separate from this evaluation survey, which is being conducted by me, independently, on behalf of Cows and Fish. The results of the enclosed evaluation survey cannot and will not be shared or reported by me in any way that jeopardizes your anonymity or the confidentiality of any information you may otherwise at any time provide to Cows and Fish directly.

APPENDIX B***PERSONAL INTERVIEW GUIDE***

N.B. Only selected questions were asked of the five Cows and Fish staff members interviewed.

Interviewee Name:
Date:

**COWS AND FISH
RIPARIAN HEALTH INVENTORY /ASSESSMENT PARTICIPANTS**

EVALUATION INTERVIEW GUIDE (NON-STAFF)

Time Set-Up

I'm calling to follow up with you about a personal interview you agreed to do about the Cows and Fish Program. XXXX would have talked to you about this.

Did XXX give you enough background on the interview or would you like me to describe it for you? [f necessary:]

Cows and Fish believes it's important to step back and evaluate, from your point of view, how the interaction between the program's staff, and landowners and communities, really works – and more importantly, to then incorporate your feedback into future program activities. Only by getting your direct feedback can Cows and Fish understand and improve its future efforts working with landowners on riparian awareness and management. The specific purpose of this interview is to determine the characteristics of the interaction between the program's staff, and landowners, that you feel are instrumental for Cows and Fish staff to apply when working with landowners.

Preamble

Just a reminder that all information in the interview will be kept confidential, seen only by me and reported to Cows and Fish only in a summary, grouped form that protects your identity. The interview today should run to about half an hour, and you may want to have a paper and pencil handy to jot down a few specifics as we work through some of the questions.

Remember that the interview is not about targeting any specific staff member, it's about getting a sense from you about your overall sense of how you perceive the program as it is represented by the staff. We're looking for frank but constructive feedback.

However, if you happen to describe any situations today relating to any of the key Cows and Fish coordination staff that you'd like specifically followed-up, I'll have a discussion with you at the end of the interview about how that information might be handled.

Before starting, I'll just mention that I understand that your contact with Cows and Fish staff may have varied quite a bit, from very little to a lot, and that you may have dealt with just one, or perhaps several, of the staff.

If you are familiar with or have dealt with just one of the Cows and Fish staff, please base your interview answers on your experience with that person. If you have dealt with two or more staff, please consider your overall experience with all the individuals you have dealt with, and base your answers on how, together, those individuals reflect your experience with the program.

It's not essential that you remember or even refer to the names of any of the staff, but for ease, do you happen to recall the names of the people in Cows and Fish that you have had contact with?

[If not]: Although we're talking today about the staff as a collective group, I can if you wish list the names of staff, past and present, and the kinds of activities where you might have had contact with them, to refresh your memory.

READ ONLY IF THEY REQUEST CLARIFICATION and consider using first names only:

Current coordination / riparian specialists	Involved in community meetings and/or presentations, field days, telephone discussions and/or farm/ranch visits about management, and/or preparing for riparian health assessments, assisting with planning and developing community riparian groups including identifying funding sources and activities	Norine Ambrose, Lorne Fitch, Michael Gerrand, Kerri O'Shaughnessy, Kelsey Spicer-Rawe, Amanda Bogen
Field crew	Conducted riparian health inventories on your site (for which you subsequently received a personalized written assessment report), and perhaps talked with you to set up those visits or spoke with you at a follow-up meeting	Nicole Bach, Michael Gerrand, Jaime Iwaasa, Michael Uchikura, Sasha Duquette, Kerri O'Shaughnessy, Kathryn Holgate, Jaime Nott, Andrea Markewicz
Other individuals	No longer directly or extensively involved with the program but may have undertaken some or all of the above responsibilities	Greg Hale, Barry Adams, Corey Rasmussen, Nicole Danilkewich

Thank you. Do you have any questions before proceeding?

#1. Would you describe yourself as a **FULL-TIME AGRICULTURAL PRODUCER?** YES
 NO

Would you describe yourself as a **SEASONAL OR PERMANENT LAKE RESIDENT OR LANDOWNER?** YES
 NO

NB: NOTE HERE IF THIS IS AN AGENCY REP YES
 NO

#2. How would you **DESCRIBE YOUR ROLE** in working with the Cows and Fish program, for example:

GROUP **DO YOU REPRESENT OR BELONG TO A LOCAL COMMUNITY WORKING ON RIPARIAN ISSUES**

DO YOU REPRESENT A GOVERNMENT AGENCY OR LARGE ORGANIZATION WORKING ON RIPARIAN ISSUES

OR WOULD YOU DESCRIBE YOUR ROLE IN SOME OTHER WAY (specify) _____

#3. In the past few years, **HOW MUCH CONTACT** do you estimate you have had with the staff of the Cows and Fish program?

- VERY LITTLE CONTACT**
- A MODERATE AMOUNT OF CONTACT**
- A LOT OF FREQUENT AND/OR IN-DEPTH CONTACT**

#4. Which of the following 6 categories best describes the **TYPE OF CONTACT** you've had with the Cows and Fish staff? (You may want to jot this list down as I read through it.)

- YOUR ONLY CONTACT HAS BEEN BY TELEPHONE**
- YOUR ONLY CONTACT HAS BEEN BY PERSONAL ON-SITE VISIT(S)**
- YOUR ONLY CONTACT HAS BEEN THROUGH YOUR ATTENDANCE AT INSTRUCTIONAL FIELD DAYS HELD OUTDOORS**
- YOUR ONLY CONTACT HAS BEEN THROUGH YOUR ATTENDANCE AT COMMUNITY MEETINGS / WORKSHOPS HELD INDOORS**
- YOU'VE HAD CONTACT THROUGH TWO OR THREE OF THE ABOVE CATEGORIES**
- YOU'VE HAD CONTACT THROUGH ALL OF THE ABOVE CATEGORIES**
- OR PERHAPS SOME OTHER TYPE OF CONTACT THAT I HAVEN'T MENTIONED (please specify) _____**

#5. Now for the main questions about staff characteristics. Based on your personal experience to date, please indicate the extent to which you agree or disagree that the Cows and Fish staff demonstrate each of the following 9 characteristics. To answer, choose a number on a scale of 1 through 5, where 1 means you strongly agree and 5 means you strongly disagree.		STRONGLY AGREE			STRONGLY DISAGREE	
		1	2	3	4	5
1.	<i>To what extent do you agree that staff are knowledgeable about riparian management (offer well-informed ideas and options)</i>					
2.	<i>Staff understand the practicalities of living and working near riparian areas (familiar with the realities of daily agricultural operations or of lake living)</i>					
3.	<i>Staff are enthusiastic (seem motivated to work on behalf of landowners and the community)</i>					
4.	<i>Staff are able to motivate (encourage you and others to learn and/or proactively adopt riparian management solutions)</i>					
5.	<i>Staff are unbiased (communicate information and ideas in a neutral and fair manner)</i>					
6.	<i>Staff are credible (can present information and ideas in a sincere and reasonable manner)</i>					
7.	<i>Staff are reliable (are trust-worthy in meeting your expectations and building trust in working relationships)</i>					
8.	<i>Staff are respectful (value and show regard for the knowledge and experience of others, including landowners)</i>					

9.	Staff are helpful (provide ideas, information, and/or resources in a practical, positive manner)					
	And taking all those characteristics together, to what extent do you agree that Cows and Fish staff act appropriately overall in their contact with you?					
	And lastly, based on what you may have heard from others you know, who have also had contact with Cows and Fish, to what extent do you agree that those people feel that Cows and Fish staff act appropriately in their contact with landowners and communities?					

#6. As we were working through that list, you indicated you experienced [note at least two characteristics noted as positive] _____ and _____. Can you please provide an example of a situation that would illustrate for me why you answered the way you did for those particular characteristics?

#7. Similarly, you mentioned also that you experienced [note at least two characteristics noted as negative or neutral] _____ and _____. Can you please provide an example of a situation that would illustrate your comments about [list each characteristic]?

#8. Are there any other examples or situations that you could share that illustrate that Cows and Fish staff have, or have not, shown any of the characteristics we mentioned today?

#9. Have you **LEARNED ANY NEW INFORMATION OR RAISED YOUR AWARENESS** about riparian areas as a direct result of your contact with Cows and Fish staff? YES NO

[If YES to question #9], please briefly describe an example of <u>what</u> you learned.
And in what ways did Cows and Fish staff contribute to that learning experience?

#10. Still thinking specifically about **LEARNING NEW INFORMATION OR RAISING AWARENESS** about riparian areas, please select the **TWO MOST IMPORTANT CHARACTERISTICS** that Cows and Fish should consistently demonstrate to help others **learn**. You might want to jot these down as I list them off (they are the same 9 that you just rated from 1-5).

- KNOWLEDGEABLE ABOUT RIPARIAN AREA MANAGEMENT** (*offer well-informed ideas and options*)
- UNDERSTAND THE PRACTICALITIES OF LIVING AND WORKING NEAR RIPARIAN AREAS** (*familiar with the realities of daily agricultural operations or of lake living*)
- ENTHUSIASTIC** (*seem motivated to work on behalf of landowners and the community*)
- ABLE TO MOTIVATE** (*encourage you and others to learn*)
- UNBIASED** (*communicate information and ideas in a neutral and fair manner*)

- CREDIBLE** (*can present information and ideas in a sincere and reasonable manner*)
- RELIABLE** (*are trust-worthy in meeting your expectations and building trust in working relationships*)
- RESPECTFUL** (*value and show regard for the knowledge and experience of others, including landowners*)
- HELPFUL** (*provide ideas, information, and/or resources in a practical, positive manner*)
- OTHER (please specify)** _____

#11a. FOR PRODUCERS - HAVE YOU CHANGED any of your management practices as a result of **your direct contact with Cows and Fish staff**? YES NO

#11b. FOR AGENCY/ORG REPS – ARE YOU AWARE OF WHETHER LOCAL LANDOWNERS HAVE CHANGED any of their management practices as a result of **their direct contact with Cows and Fish staff**? YES NO

[IF YES to question #11], please briefly describe an example of <u>what</u> you changed in your/their management.
And <u>how</u> did Cows and Fish staff contribute to your/that decision to make that change?

#12. Thinking specifically now about **ADOPTING NEW RIPARIAN MANAGEMENT PRACTICES** rather than learning and awareness, please select the **TWO MOST IMPORTANT CHARACTERISTICS** that Cows and Fish staff should consistently demonstrate to help others adopt sustainable practices. [I'll read the full list again if you like.]

- KNOWLEDGEABLE ABOUT RIPARIAN AREA MANAGEMENT** (*offer well-informed ideas and options*)
- UNDERSTAND THE PRACTICALITIES OF LIVING AND WORKING NEAR RIPARIAN AREAS** (*familiar with the realities of daily agricultural operations or of lake living*)
- ENTHUSIASTIC** (*seem motivated to work on behalf of landowners and the community*)
- ABLE TO MOTIVATE** (*encourage you and others to proactively adopt riparian management solutions*)
- UNBIASED** (*communicate information and ideas in a neutral and fair manner*)
- CREDIBLE** (*can present information and ideas in a sincere and reasonable manner*)
- RELIABLE** (*are trust-worthy in meeting your expectations and building trust in working relationships*)
- RESPECTFUL** (*value and show regard for the knowledge and experience of others, including landowners*)
- HELPFUL** (*provide ideas, information, and/or resources in a practical, positive manner*)
- OTHER (please specify)** _____

#13. Please tell me which years, between 1997 and 2003, that you **PARTICIPATED IN A COWS AND FISH RIPARIAN HEALTH INVENTORY** [if a landowner: for your own property] OR [if an agency or large organization representative: as part of your community riparian work.]

- 1997 1998 1999 2000 2001 2002 2003

#14. Just to start wrapping up then, and again using a number scale of 1 through 5, where 1 means you strongly agree and 5 means you strongly disagree, please indicate the extent to which you agree or disagree that the program staff played a key role in:	STRONGLY AGREE			STRONGLY DISAGREE	
	1	2	3	4	5
<i>First, your decision to participate in the riparian health inventory and assessment process</i>					
<i>[Staff played a key role in] your understanding of the assessment report provided to you</i>					
<i>[Staff played a key role in] your use of the information provided in your assessment</i>					

#15. Do you have any other comments or observations that you feel are important to the way that Cows and Fish staff have, or should, interact with landowners and communities, or any challenges that face the staff when working with them?

#16. And the final question is, in which Alberta **COUNTY / MUNICIPALITY** is your primary riparian area located, the one that you have most addressed with Cows and Fish staff?

THANK YOU FOR COMPLETING THIS INTERVIEW!

CONSENT IS REQUIRED ON AN EXCEPTION BASIS ONLY, THAT IS, ONLY IF THE INTERVIEWEE HAS MENTIONED A STAFF-SPECIFIC ANECDOTE ABOUT LORNE, NORINE, MICHAEL, KELSEY OR KERRI.

- CHECK HERE IF NO SPECIFIC STAFF EXAMPLES GIVEN - THEN GO TO END RE RULER TOKEN**

A bit of housekeeping that I mentioned at the beginning might be necessary -- During this interview, you mentioned a/some situations/stories/examples regarding your experience(s) specifically with:

Lorne	<input type="checkbox"/>
Norine	<input type="checkbox"/>
Michael	<input type="checkbox"/>
Kelsey	<input type="checkbox"/>
Kerri	<input type="checkbox"/>

I want to reassure you again that I am bound by professional ethics to **not** disclose to anyone any information that can identify you. As I indicated at the beginning, anything you tell me today is treated strictly confidential and protects your identity. However, because the very nature of this evaluation deals with how Cows and Fish presents itself to the public through its staff whom we've discussed, you may prefer that I do indeed disclose, to

Lorne	<input type="checkbox"/>
Norine	<input type="checkbox"/>
Michael	<input type="checkbox"/>
Kelsey	<input type="checkbox"/>
Kerri	<input type="checkbox"/>

and/or to the senior program managers of Cows and Fish,

some or all of the situations you've described about that/those staff members. In this way your observations, positive or otherwise, can be responded to in a constructive way by Cows and Fish. I can only disclose information in this way, however, if both you and the relevant staff member give me prior consent to do so.

[The following] has already told me that they are comfortable with me sharing specific information about them and has already given me their own formal consent to do so *[see chart below for who has already given consent]*

Staff Member	Disclose to Staff (Yes/No)	Disclose to Norine/Lorne
Lorne		
Norine		
Michael		
Kelsey		
Kerri		

You are, of course, under no obligation to give me consent to disclose what we've discussed today, but I am asking on behalf of Cows and Fish because of their wish to resolve any potential concerns or ideas coming out of your experience.

So, there's a couple of ways that I can handle this based on direction from you. Choose whatever option you are most comfortable with.

The first option is, of course, that:

- YOU PREFER THAT I NOT DISCLOSE ANY INFORMATION ABOUT [STAFF MEMBER(S)] TO [THE RELEVANT STAFF MEMBER], NOR TO NORINE AMBROSE OR LORNE FITCH WHO ARE THE SENIOR MANAGERS OF THE COWS AND FISH PROGRAM**

The second option is that:

YOU COULD CONSENT TO ME DISCLOSING THE INFORMATION THAT YOU PROVIDED TO ME TODAY ABOUT [list all relevant staff]

Lorne	<input type="checkbox"/>
Norine	<input type="checkbox"/>
Michael	<input type="checkbox"/>
Kelsey	<input type="checkbox"/>
Kerri	<input type="checkbox"/>

IF YOU CONSENT, THE WAY I WILL COMMUNICTE THE INFORMATION IS THAT I WILL PROVIDE IT IN A CONSTUCTIVE WAY, IN VERBAL FORM ONLY, AND IN A PRIVATE SETTING WITH _____, AND I WILL IDENTIFY YOU AS THE SOURCE OF THE INFORMATION UNLESS YOU PREFER NOT TO BE IDENTIFIED – THE CHOICE IS, OF COURSE, ENTIRELY YOURS.

CONSENT?

Staff Member	Disclose to Staff (Yes/No)	ID Source (Yes/No)
Lorne		
Norine		
Michael		
Kelsey		
Kerri		

A third option is that you consent to me disclosing the information about XXX to the Cows and Fish program managers, that is to Norine and/or Lorne [i.e. as well as, or instead of, disclosing the information to the staff member only].

[ADJUST IF RE LORNE OR NORINE]

Staff Member	Disclose to Lorne (Yes/No)	Disclose to Norine (Yes/No)	Do Not Disclose (No only)	Disclose Source (Yes/No)
Lorne				
Norine				
Michael				
Kelsey				
Kerri				

Thank you.

If consent given:

I'd like to confirm the type of response you prefer once I verbally disclose the information. Some of your options, and you can pick one or more, include [adjust based on answers above]:

- YOU DO NOT REQUIRE ANY SPECIFIC RESPONSE FROM EITHER THE STAFF MEMBER OR THE PROGRAM MANAGERS**
- YOU WANT TO HEAR BACK DIRECTLY FROM THE RELEVANT STAFF MEMBER(S)**
- YOU WANT TO HEAR BACK DIRECTLY FROM LORNE FITCH AND/OR NORINE AMBROSE AS THE SENIOR MANAGERS OF COWS AND FISH**
- OR PERHAPS OTHER ACTIONS YOU'D CARE TO SUGGEST**

Staff Member	Hear Back from Lorne (Yes/No)	Hear Back from Norine (Yes/No)	Do Not Hear Back (No only)	Other
Lorne				
Norine				
Michael				
Kelsey				
Kerri				

If want to hear back, what is the best way to get in touch with you?

To finish off, I'd like to thank you again and also offer you a complementary Cows and Fish ruler as a token for taking time from your busy schedule to complete this interview. Would you like me to mail you one of these rulers?

YES NO

Record name and mailing address.

APPENDIX C***SURVEY COVER LETTER***

November 2003

Dear Cows and Fish Participant:***PLEASE HELP MAKE A
DIFFERENCE ON BEHALF OF YOUR COMMUNITY !***

I am writing to you on behalf of the Cows and Fish program to ask for your views about the characteristics you believe are most appropriate for the program's staff to have when working with you, your neighbours and your community to help understand and address riparian issues.



The feedback you are being asked to provide as part of this evaluation project will be used to make the interaction between the program's staff, and you, as effective as possible when providing information, technical assistance and support on riparian areas. Improving that interaction, in ways that you suggest, will continue to help landowners address local riparian management and maintain healthy riparian areas.

Your name was provided to me by Cows and Fish for **one-time use** for the purpose of this evaluation project only, using the program's own records of landowners who, in recent years, have taken part in Cows and Fish riparian health inventories (for which you would have later received a written assessment report from Cows and Fish).

So much of the work that Cows and Fish does is really about people – indeed, landowners have sometimes mentioned that a very important strength of the program is the ability of its staff to work well, both with individual landowners and community groups, on a credible one-to-one basis.

But is this consistently the case?

Cows and Fish believes it's important to step back and evaluate, from your point of view, how the interaction between landowners and the program staff really works – and more importantly -- to then incorporate your feedback about how the staff present themselves to you into future program activities. Only by getting your direct feedback can Cows and Fish understand and improve its future efforts working with landowners on riparian awareness and management.

Please take 8-10 minutes to complete the short enclosed confidential survey asking for your views on interactions with the Cows and Fish program staff.

Please return your completed survey using the enclosed stamped envelope, within 5 days. Thank you!

How Will the Information from this Evaluation Survey be Used?

The enclosed evaluation survey is your opportunity to tell Cows and Fish about your perceptions of the program's staff. For example:

- *What characteristics do you think are essential for the program staff to consistently demonstrate to assist you and/or your community on riparian issues and sustainable management action (e.g. are staff reliable, helpful and knowledgeable)?*
- *Do you feel that Cows and Fish staff have approached you and/or your community in ways that are appropriate (e.g. are staff respectful and motivating)?*

I will collect and analyze your survey, and provide a summary of all of the surveys I receive to Cows and Fish. Cows and Fish will use the summarized results to ensure that its staff continue to apply the most effective characteristics when working with you and others on riparian issues.

Please be assured that all the information you provide in your survey will be treated by me on a strictly confidential basis. All results will be reported in summary form only. Feedback you provide on the personal survey you mail back to me can never be matched (by Cows and Fish or any other party) to your name, or location, or riparian health assessment results; nor will your name and/or location ever appear in any reported survey results, now or in the future.

Thank you for taking the time to complete the enclosed survey.

Your contribution is extremely valuable and will help Cows and Fish do the best job possible in building community awareness and action on riparian management.

If you have any questions, please do not hesitate to contact me at 403-394-0494, or call the Cows and Fish Program Manager (Norine Ambrose) at 403-381-5538. We will be happy to answer any questions you have about this evaluation. *[Note that you may also receive from Norine, under separate cover, a comment sheet giving you the opportunity to share ideas or concerns about interactions with program staff that you would like Cows and Fish to address with you personally. Completing that comment sheet and returning it directly to Norine is a way for you to resolve any individual concerns directly with Cows and Fish -- in fulfilling my requirement to protect your anonymity, I will not give to Cows and Fish any information you may provide on the enclosed survey that identifies you or your specific situation.]*

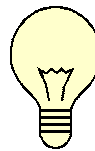
By completing the enclosed evaluation survey, you are making a very important contribution to your community and to others around Alberta interested in maintaining healthy riparian areas.

Thank you!

Yours sincerely,



Nancy G. Bateman, M.A.



As a token of appreciation for you taking time from your busy schedule to complete and submit the enclosed survey, I would like to send you a COMPLEMENTARY COWS AND FISH RULER. To receive your ruler, be sure to provide me with your address using the enclosed card, and include the card with your returned survey. Thank you!

Alberta Fish and Wildlife Division
has generously covered the cost of mailing out this evaluation survey to you,
as part of their support of Cows and Fish activities.

APPENDIX D

FIGURES

BY TYPES OF DATA SOURCES n=207

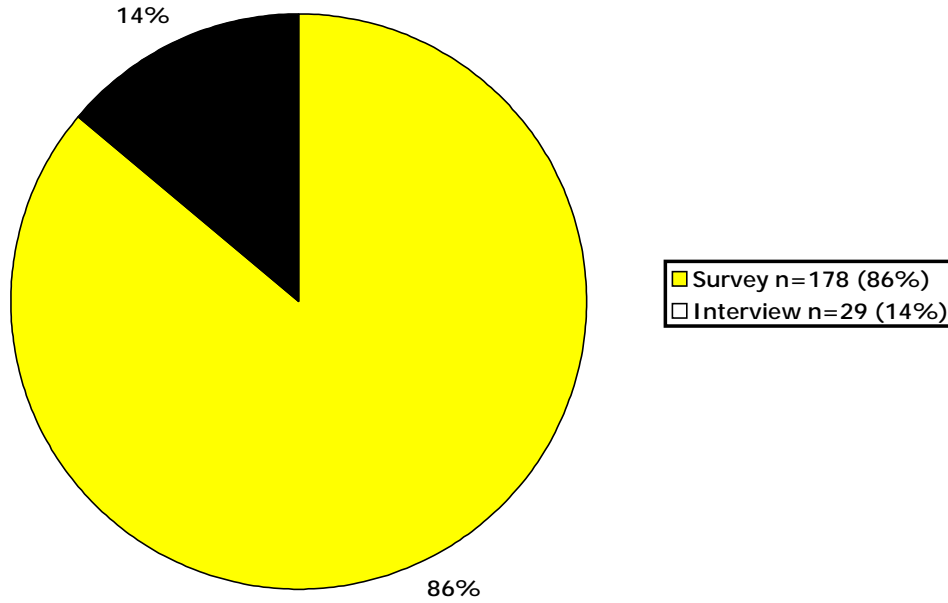


FIGURE 1

BY ROLE n=207

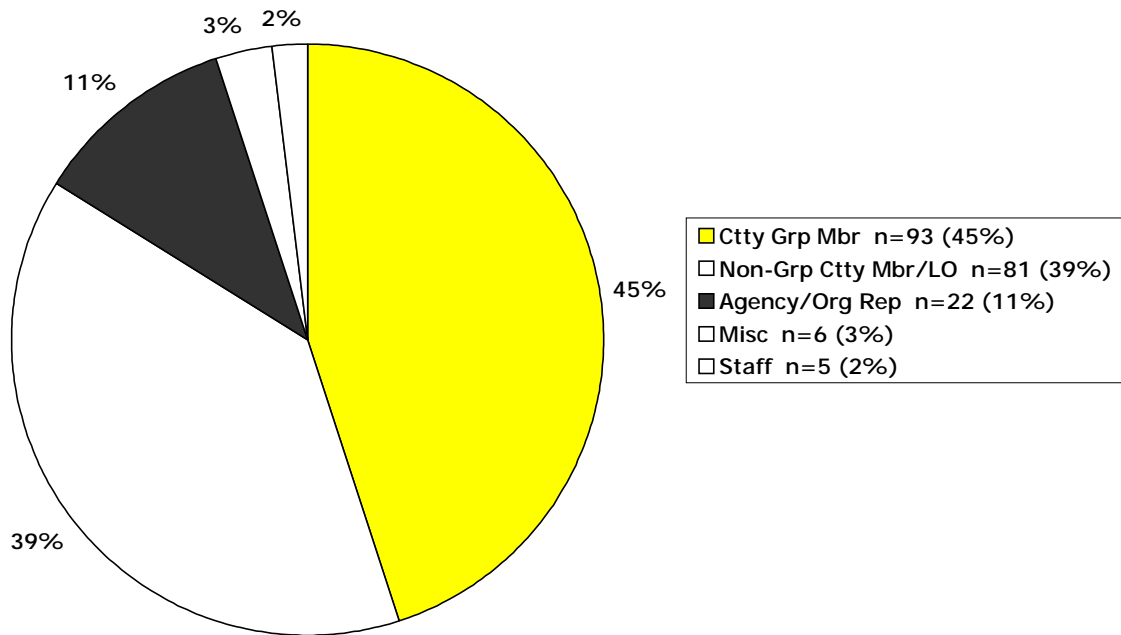


FIGURE 2

BY PRODUCER / NON-PRODUCER n=207

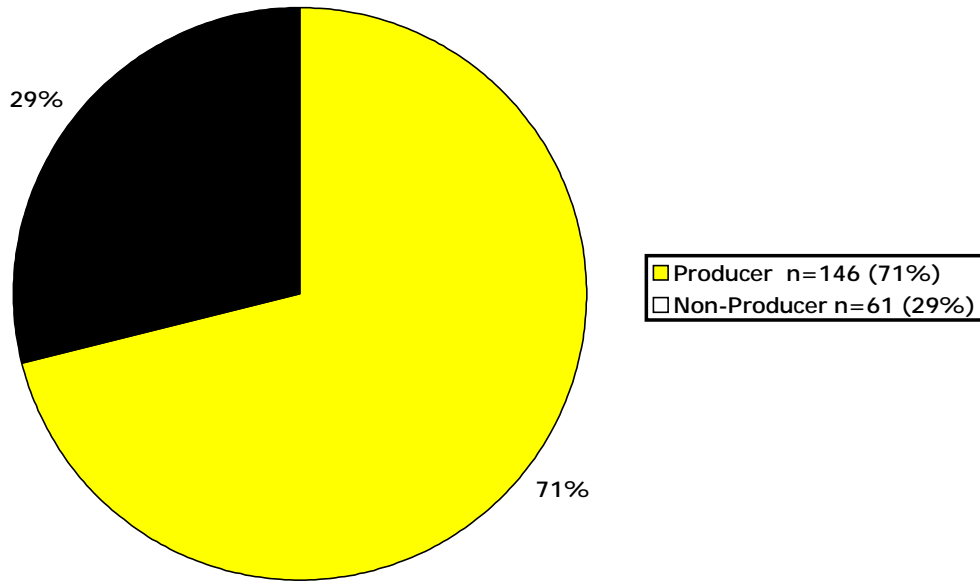


FIGURE 3

BY LAKE / NON-LAKE n=202

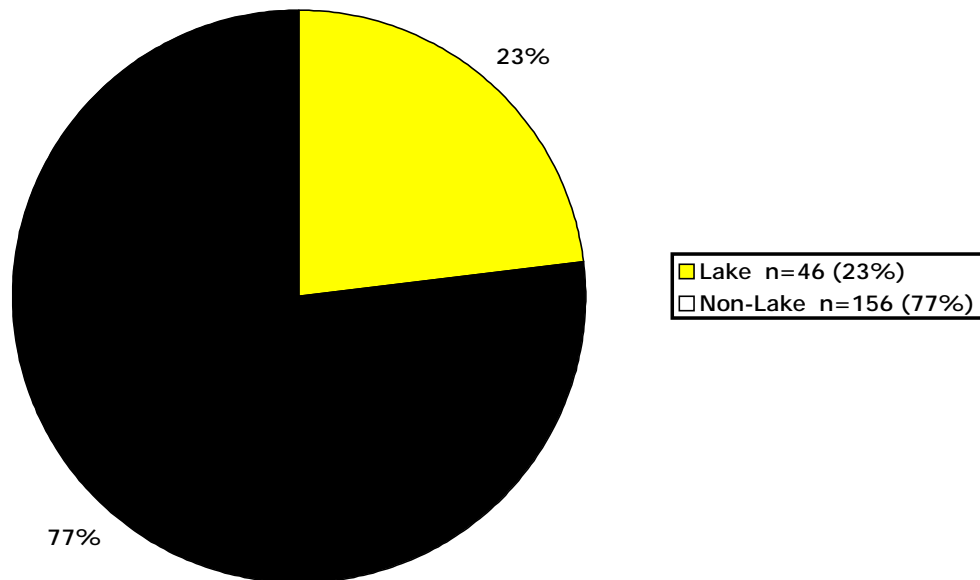


FIGURE 4

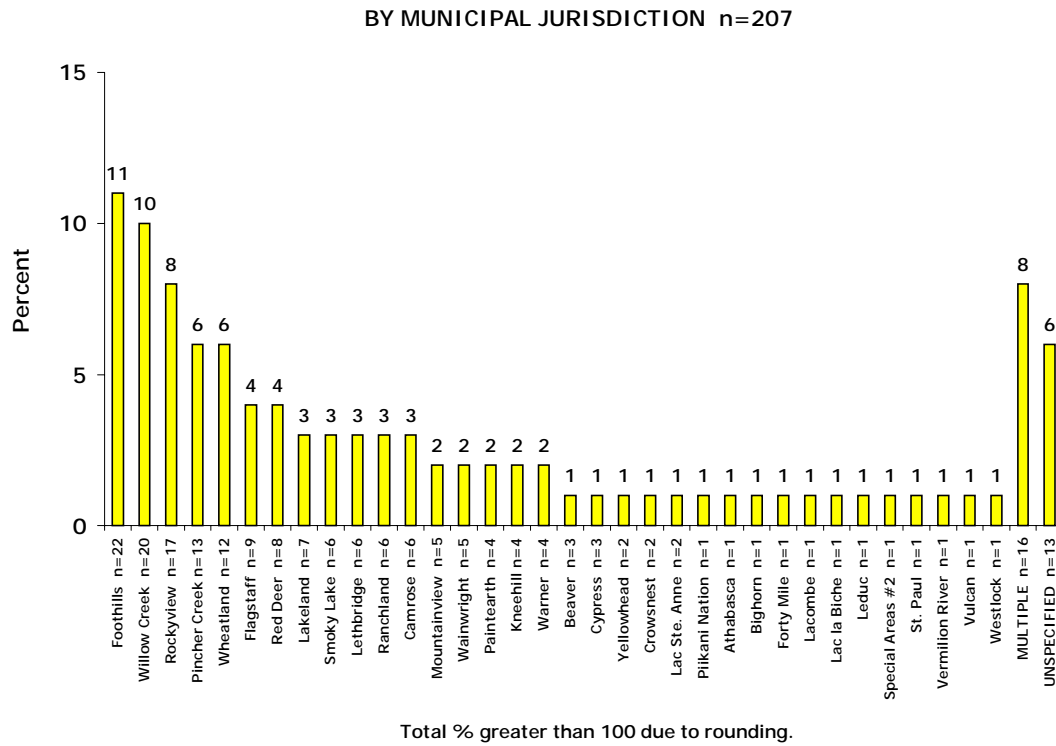


FIGURE 5

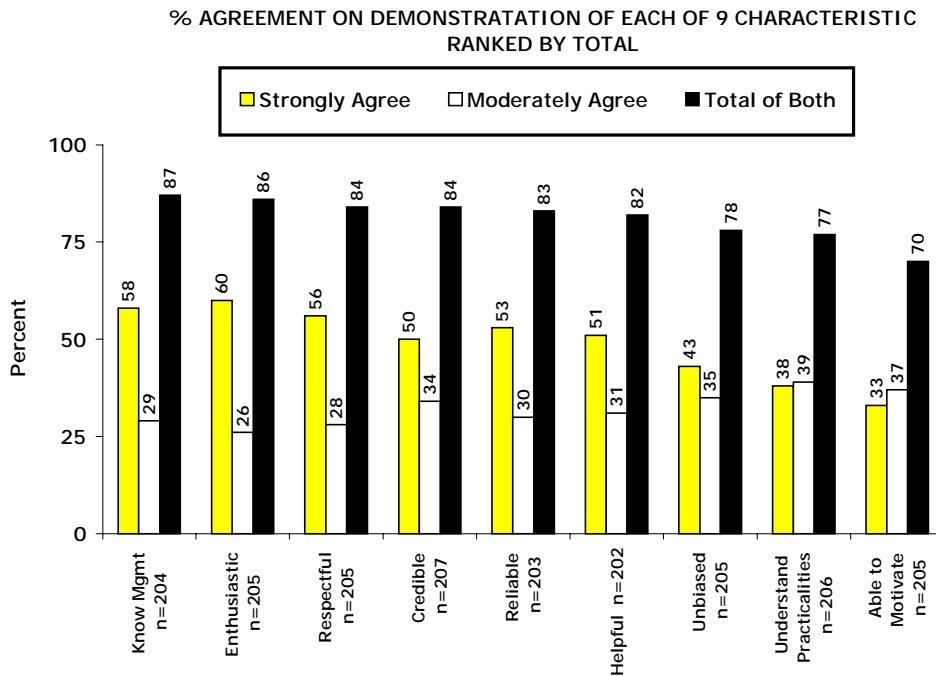


FIGURE 6

STAFF DEMONSTRATE RIPARIAN MANAGEMENT KNOWLEDGE n=204

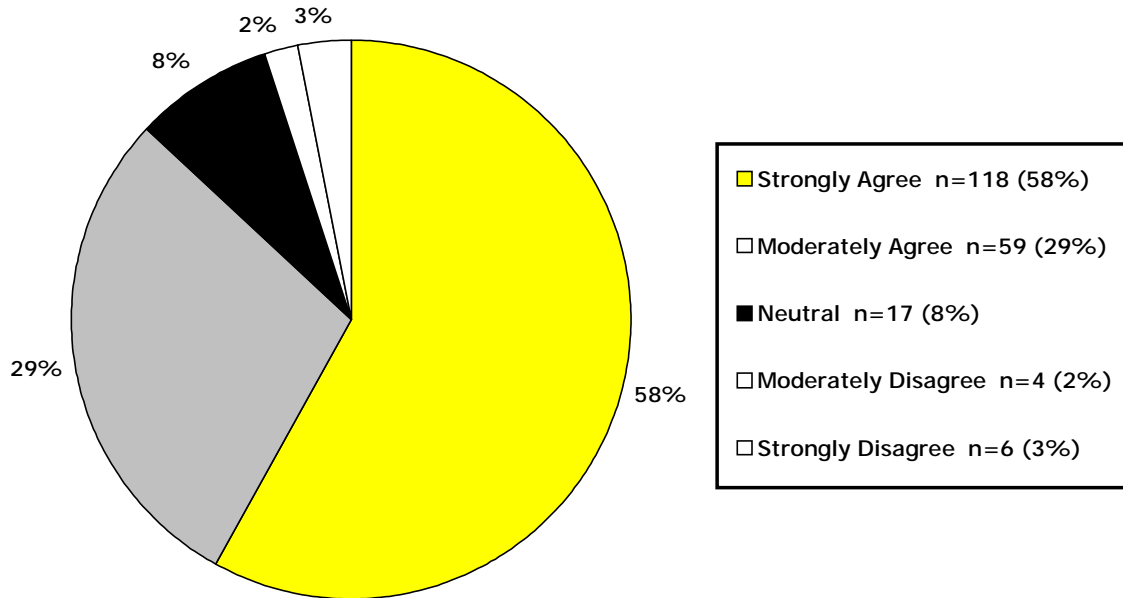


FIGURE 7

STAFF DEMONSTRATE ENTHUSIASM n=205

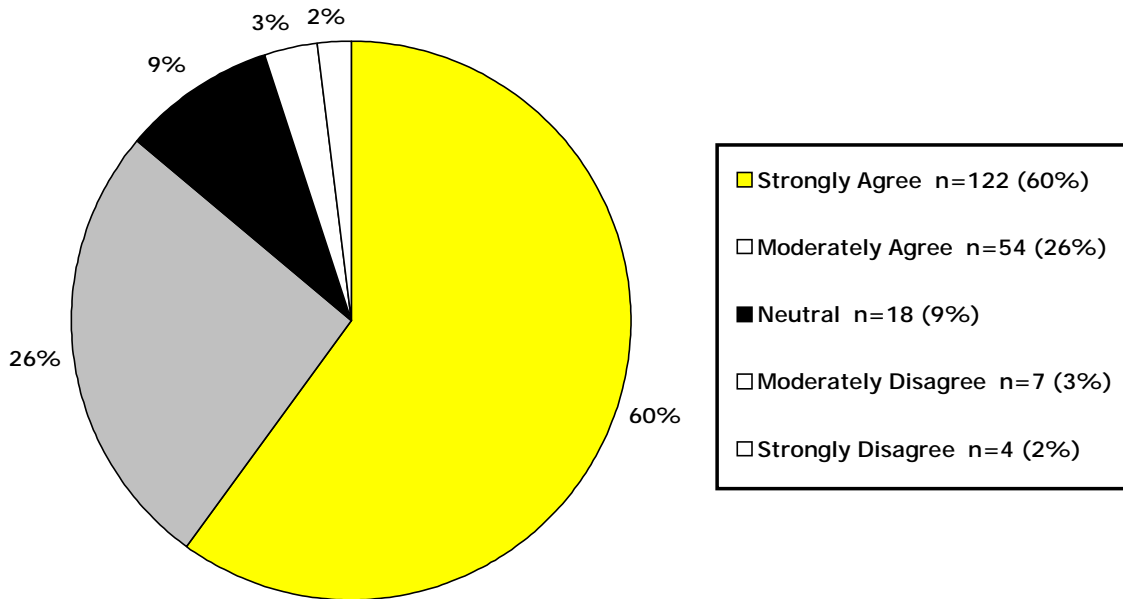


FIGURE 8

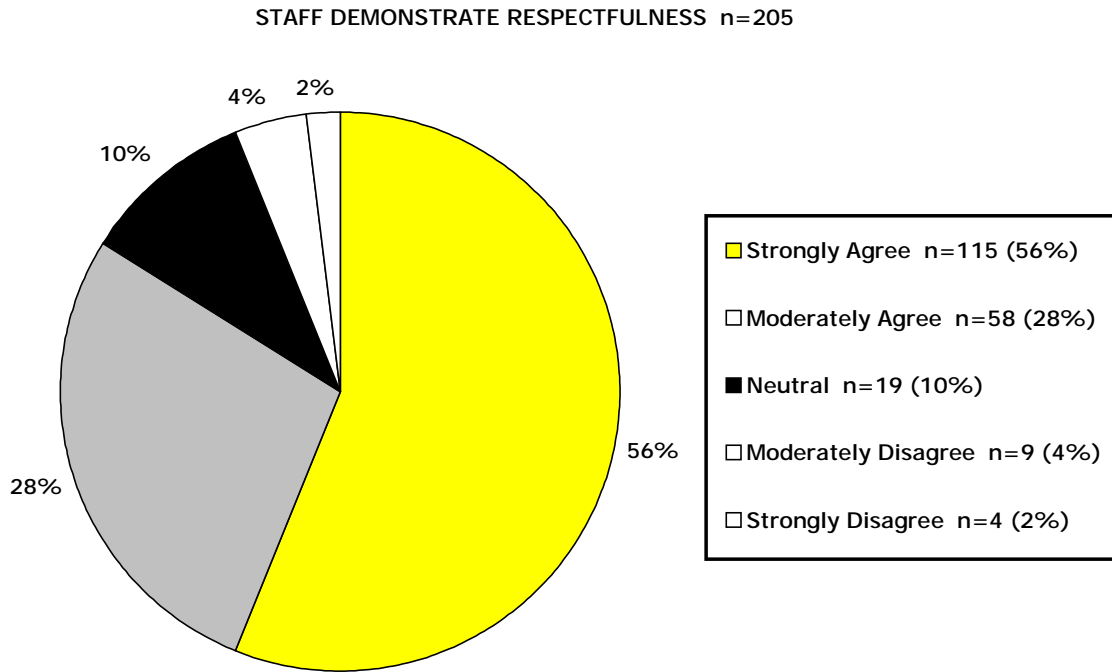


FIGURE 9

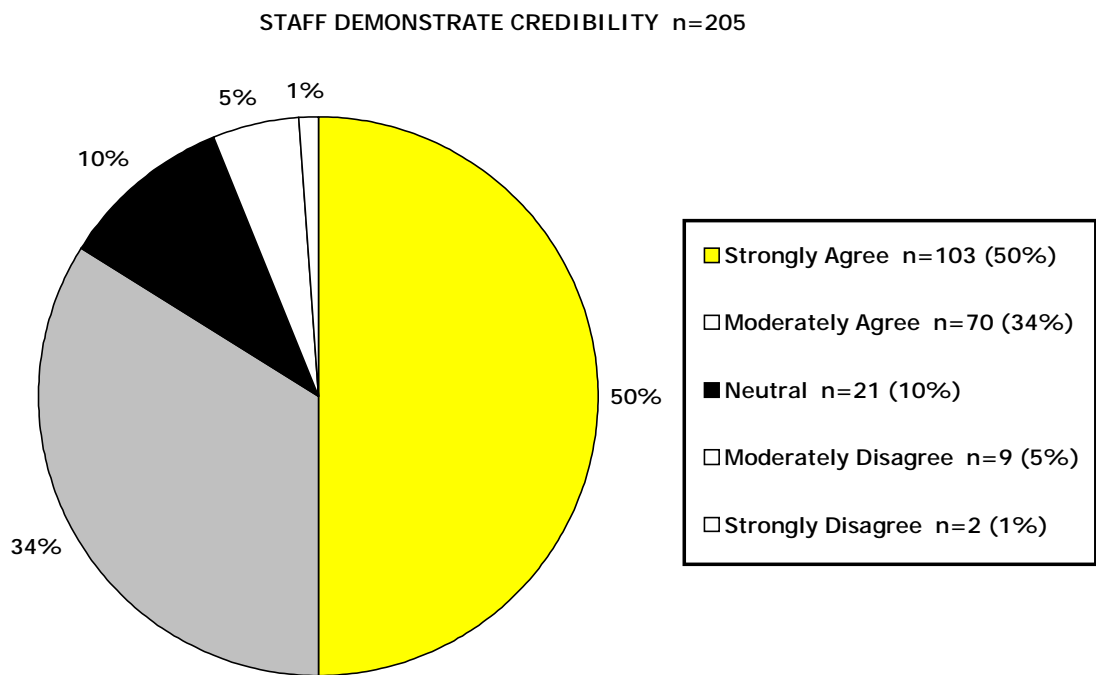


FIGURE 10

STAFF DEMONSTRATE RELIABILITY n=203

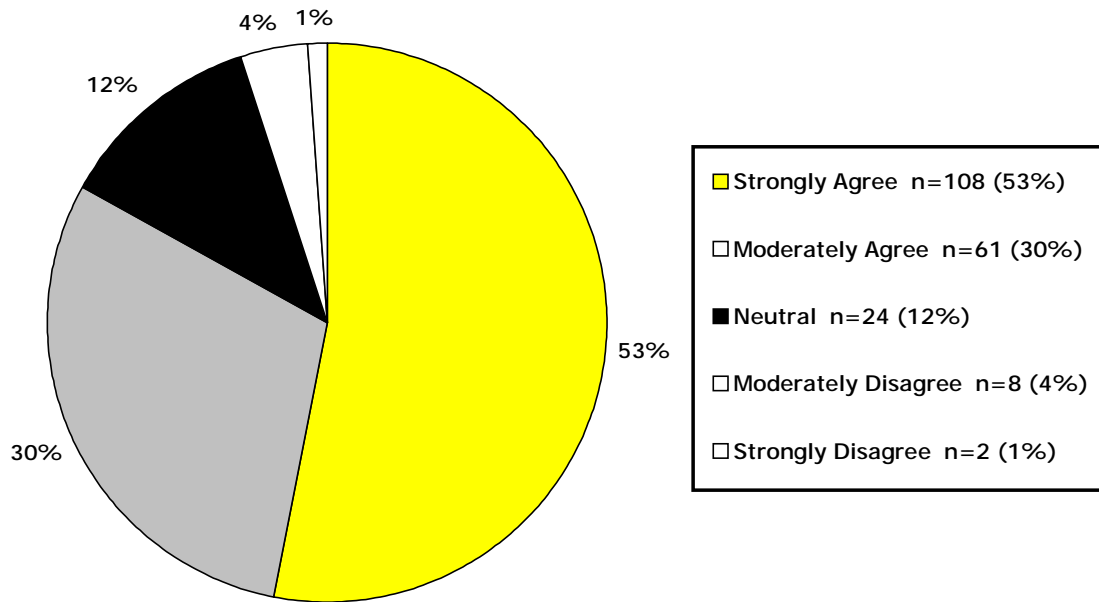


FIGURE 11

STAFF DEMONSTRATE HELPFULNESS n=202

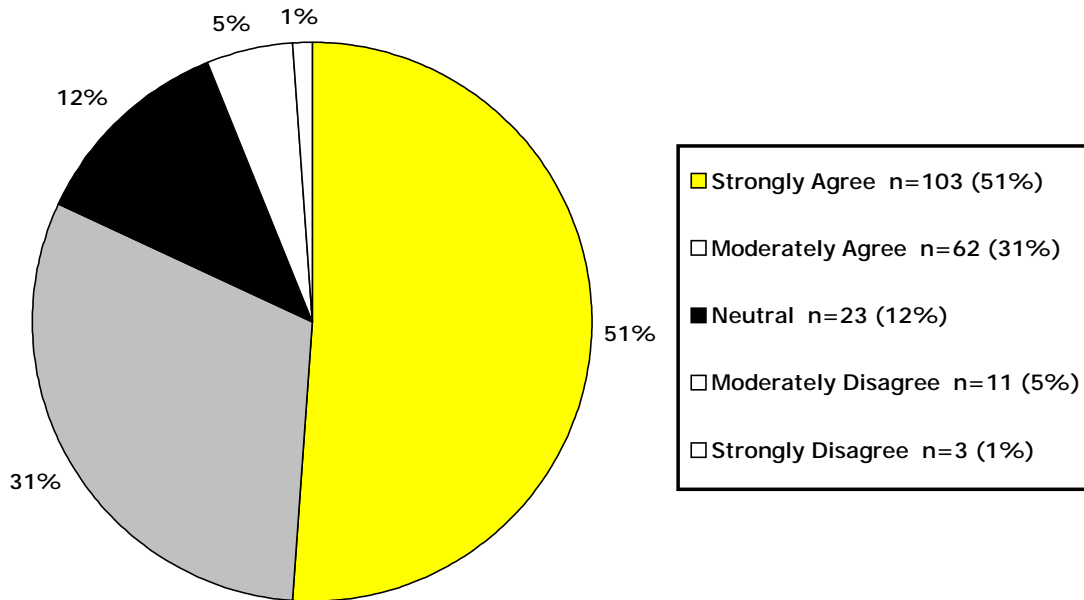


FIGURE 12

STAFF DEMONSTRATE BEING UNBIASED n=205

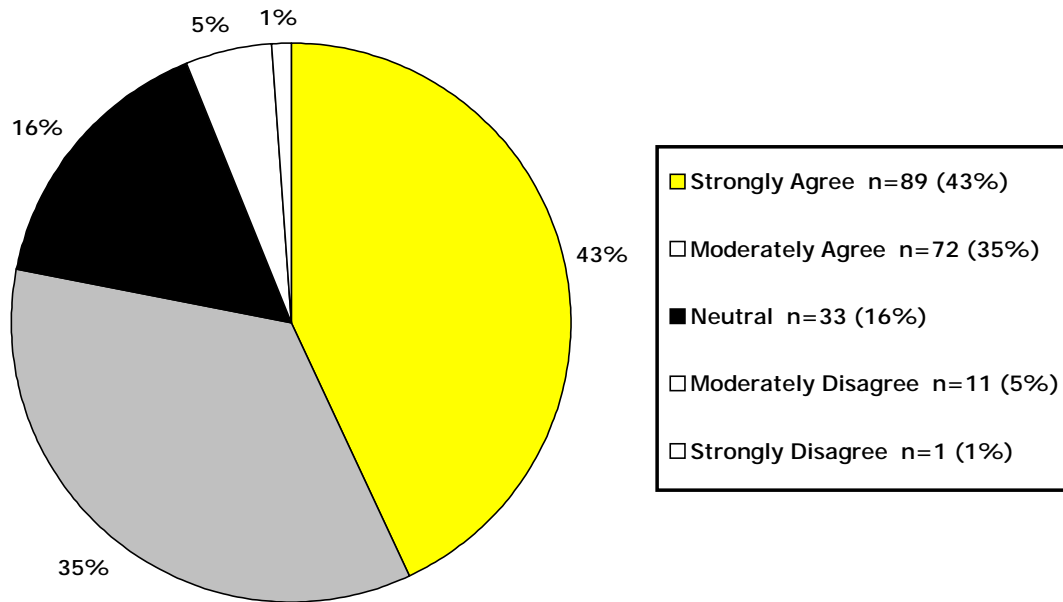


FIGURE 13

STAFF DEMONSTRATE UNDERSTANDING OF PRACTICALITIES n=206

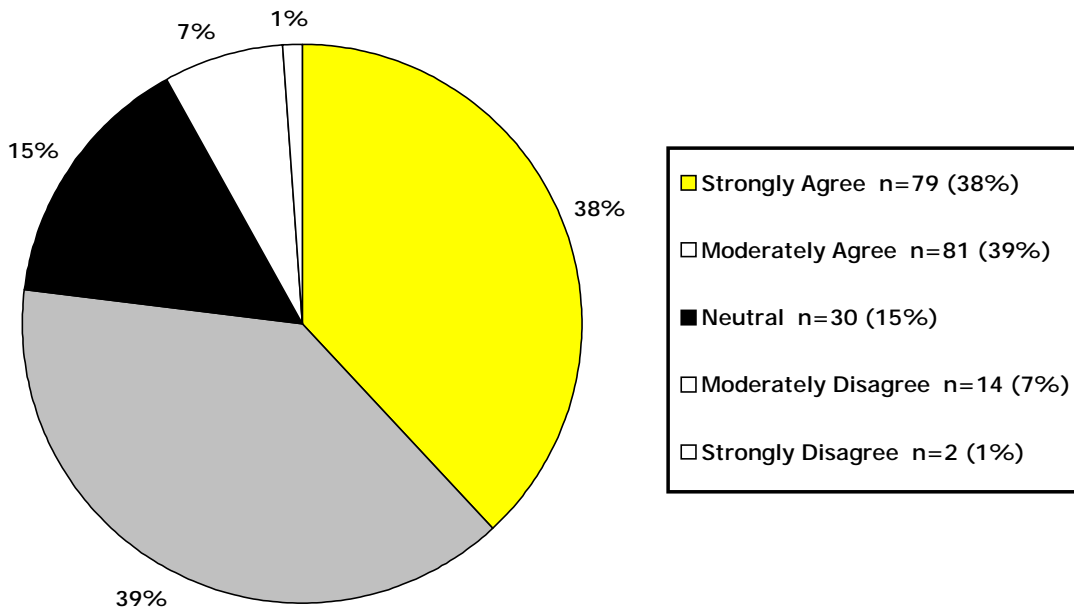


FIGURE 14

STAFF DEMONSTRATE ABILITY TO MOTIVATE n=205

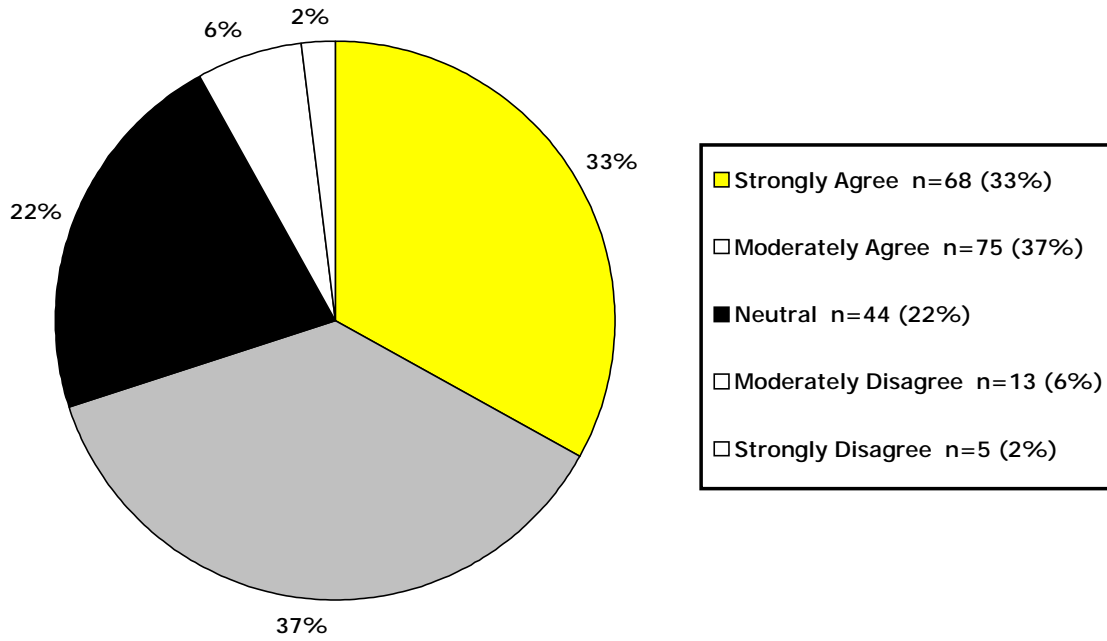


FIGURE 15

STAFF ACT APPROPRIATELY OVERALL WITH RESPONDENTS n=204

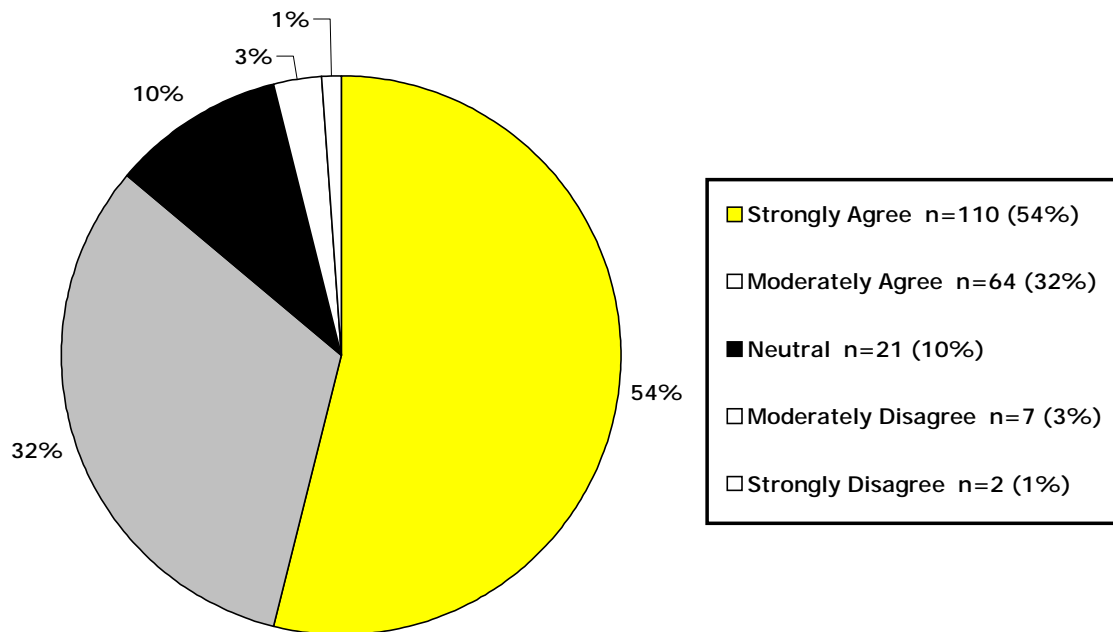


FIGURE 16

STAFF ACT APPROPRIATELY OVERALL WITH OTHERS n=188

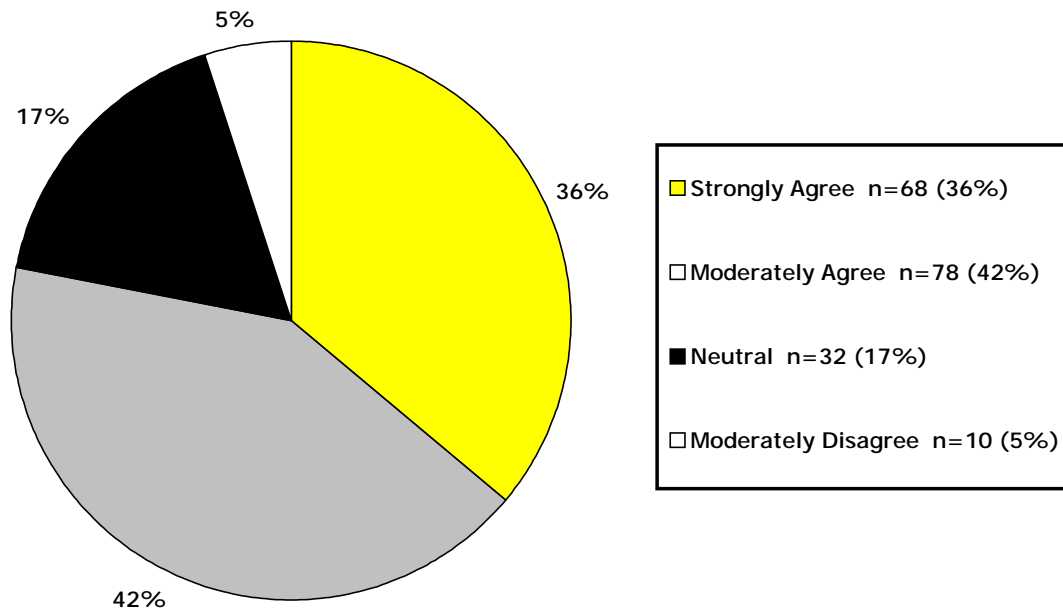


FIGURE 17

KNOW RIPARIAN MANAGEMENT BY PRODUCER / NON-PRODUCER n=204

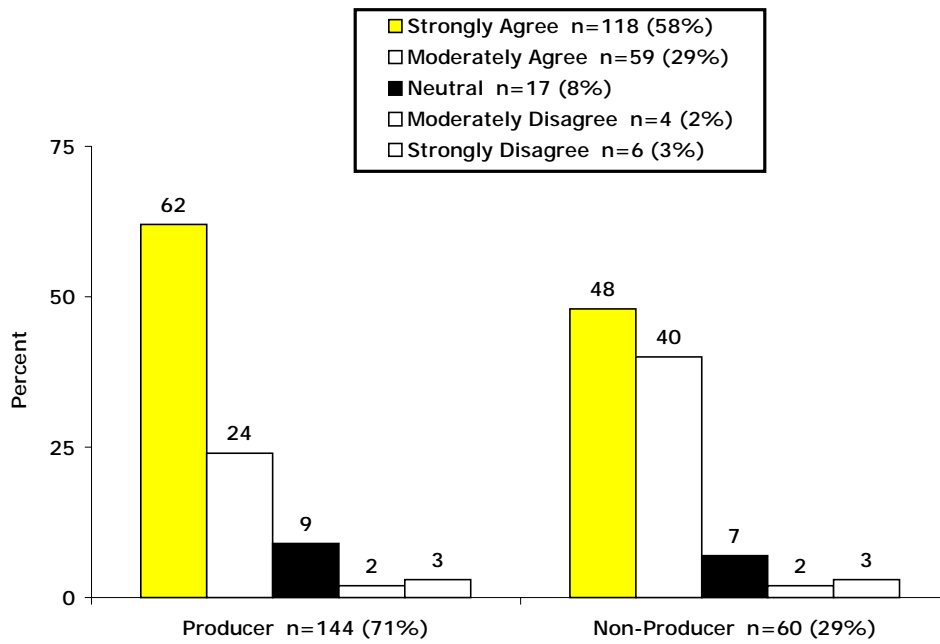


FIGURE 18

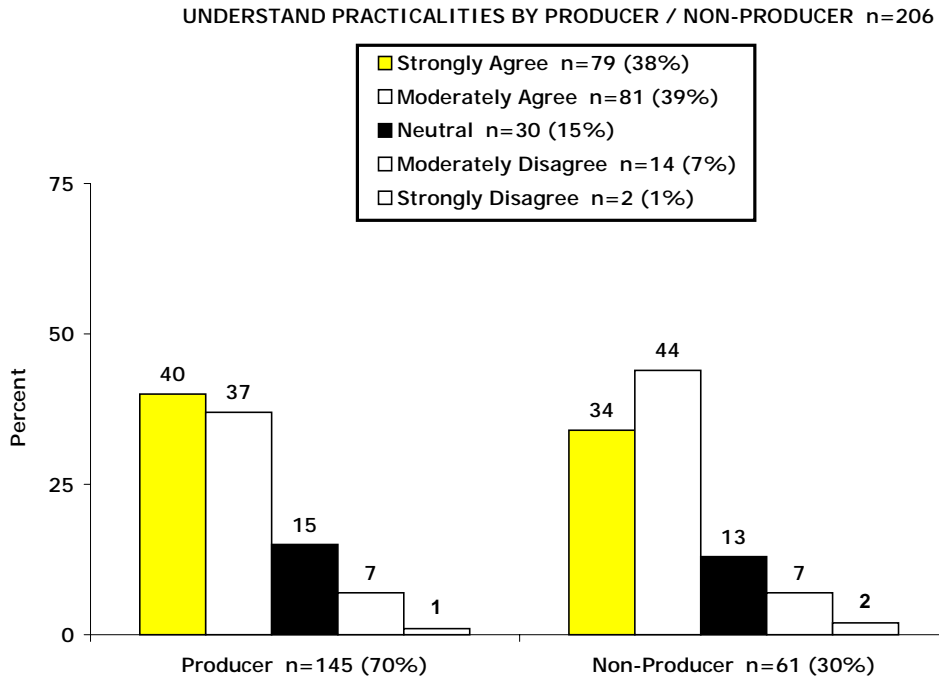


FIGURE 19

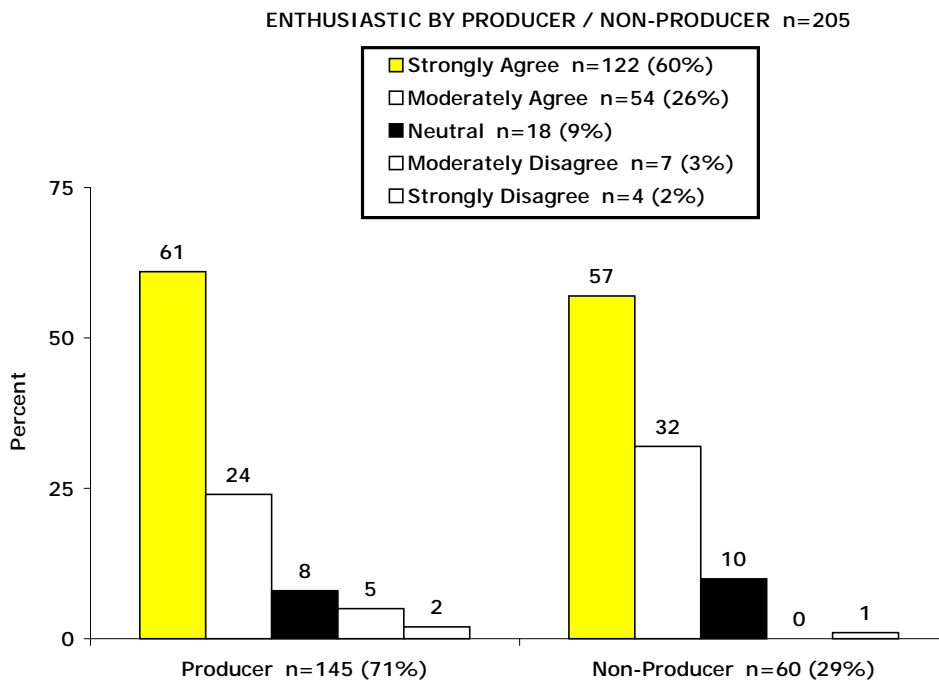


FIGURE 20

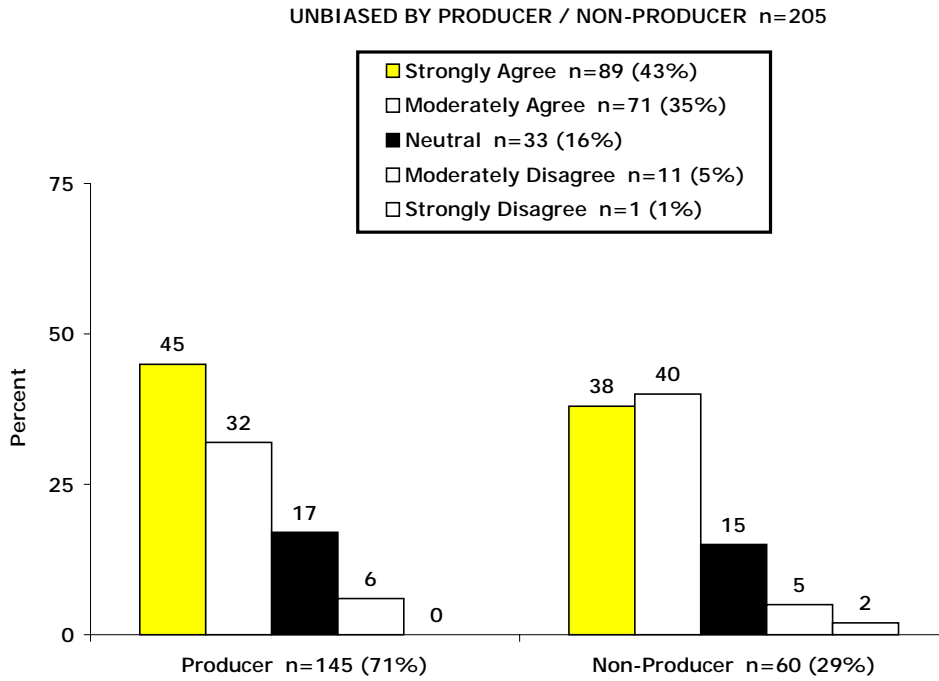


FIGURE 21

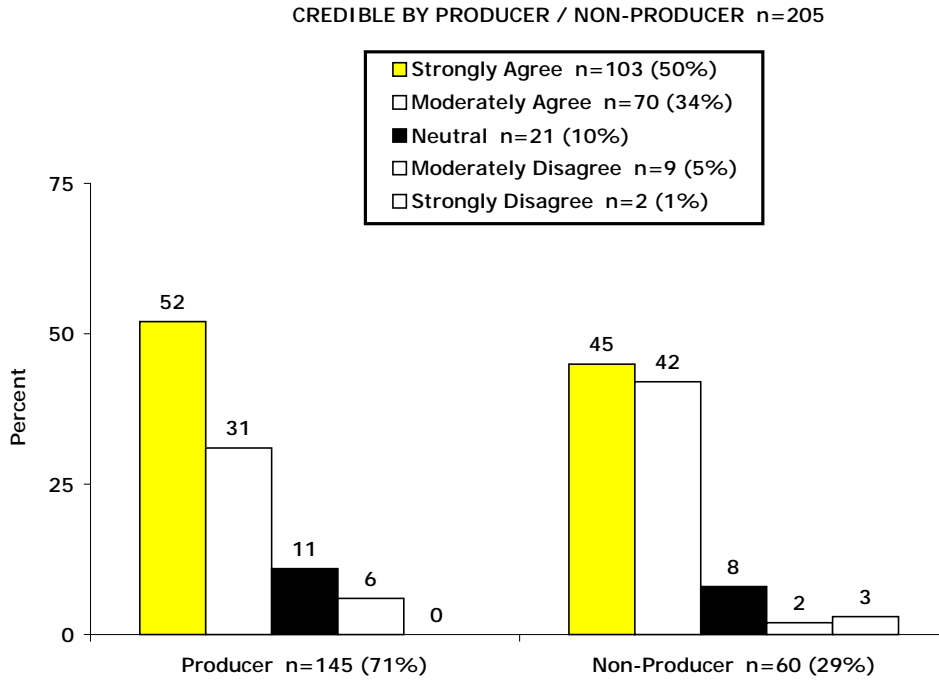


FIGURE 22

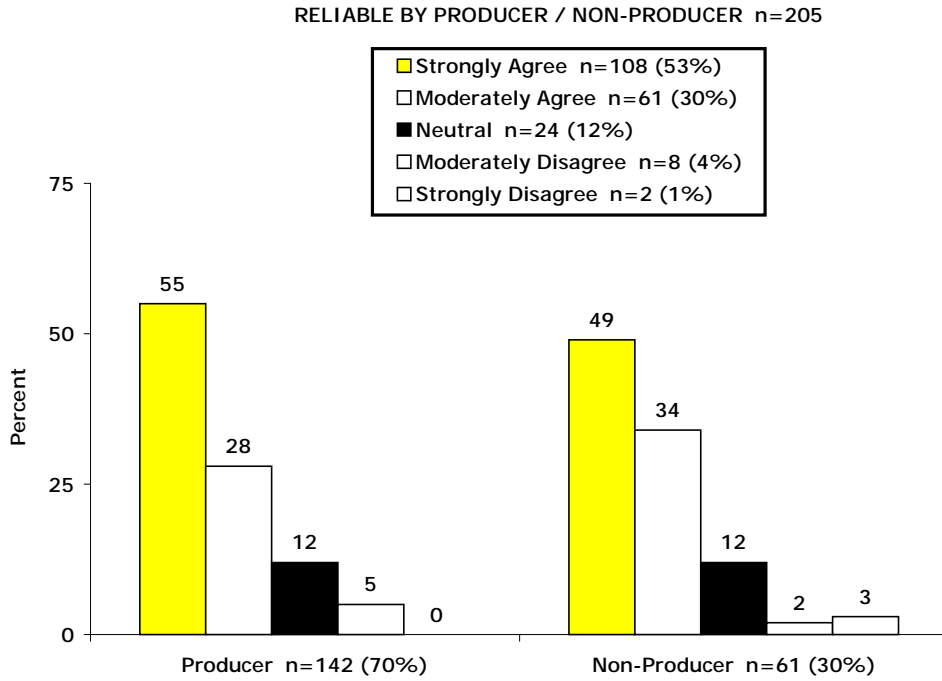


FIGURE 23

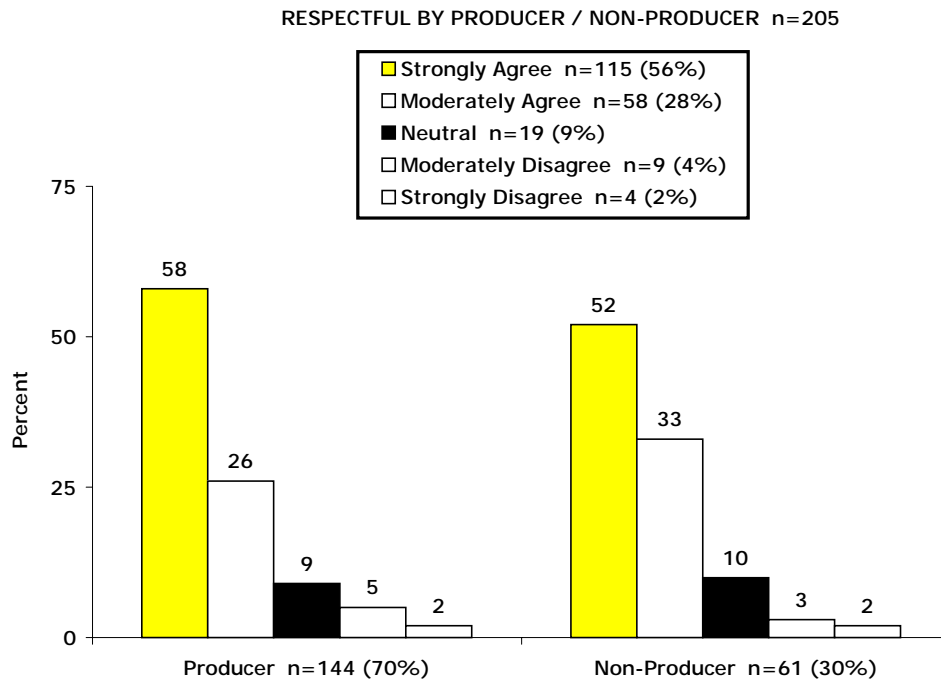


FIGURE 24

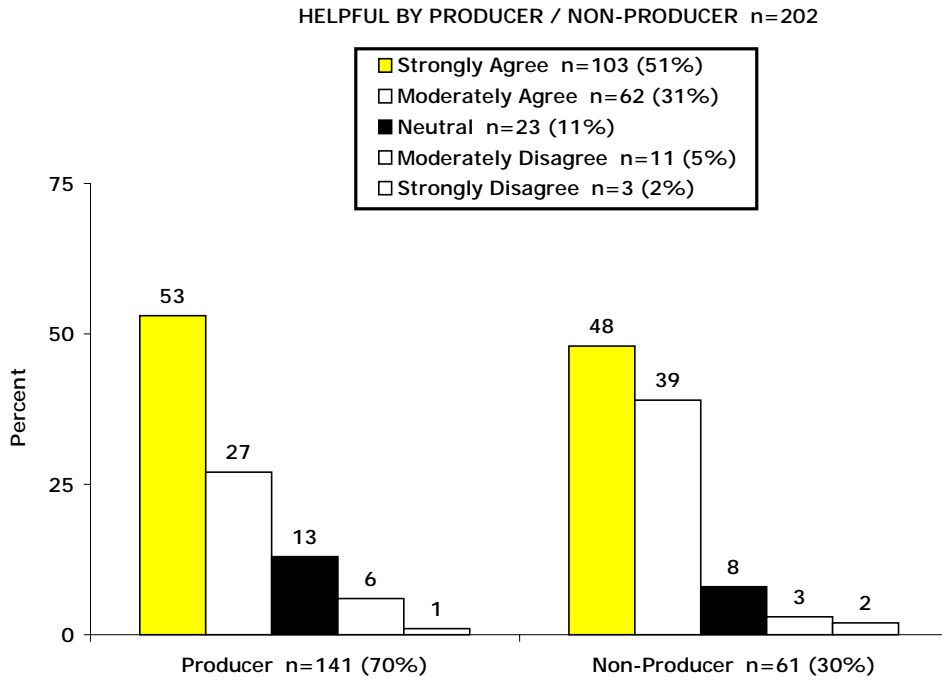


FIGURE 25

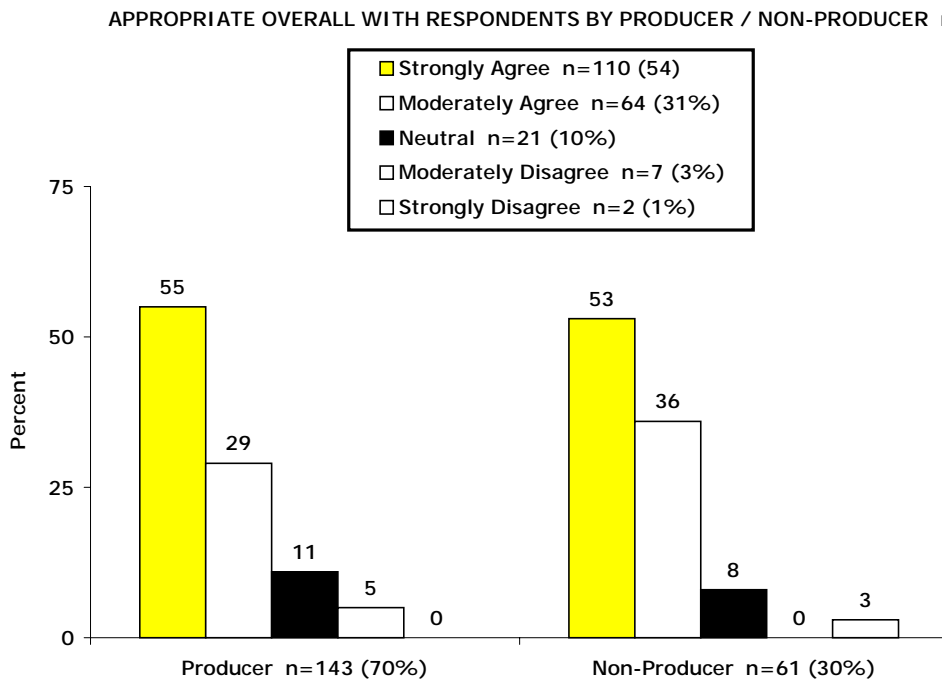


FIGURE 26

APPROPRIATE OVERALL WITH OTHERS BY PRODUCER / NON-PRODUCER n=188

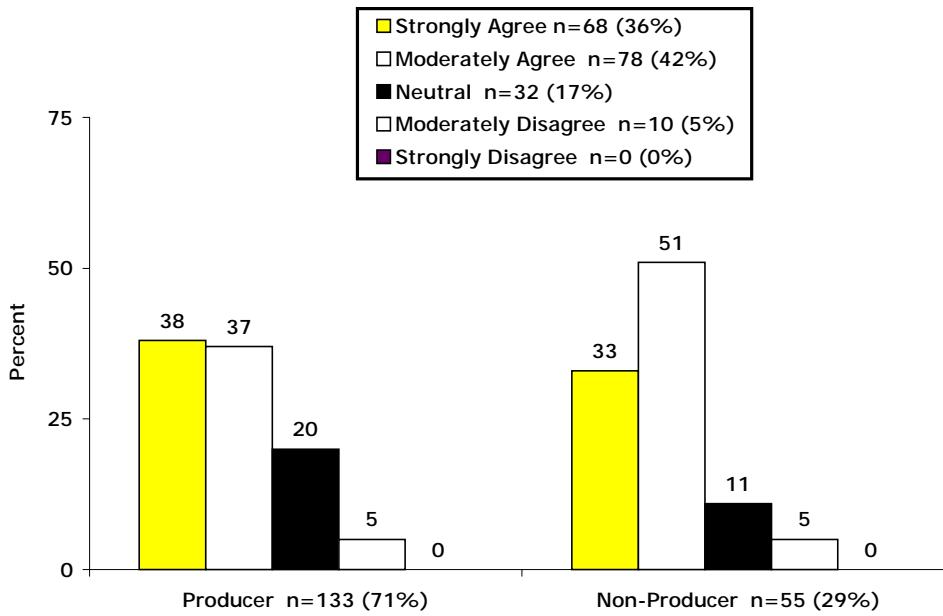


FIGURE 27

ABLE TO MOTIVATE BY PRODUCER / NON-PRODUCER n=205

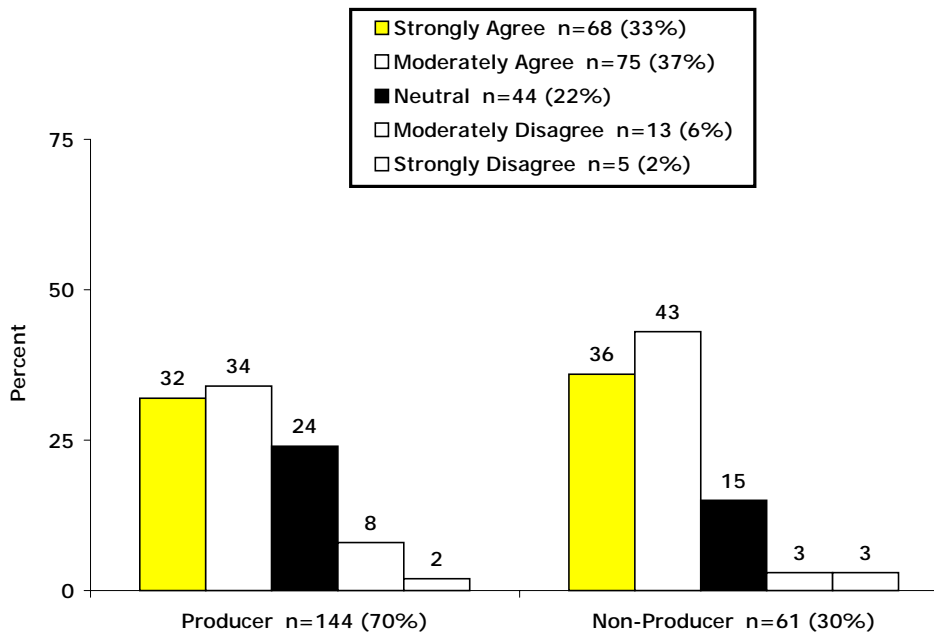


FIGURE 28

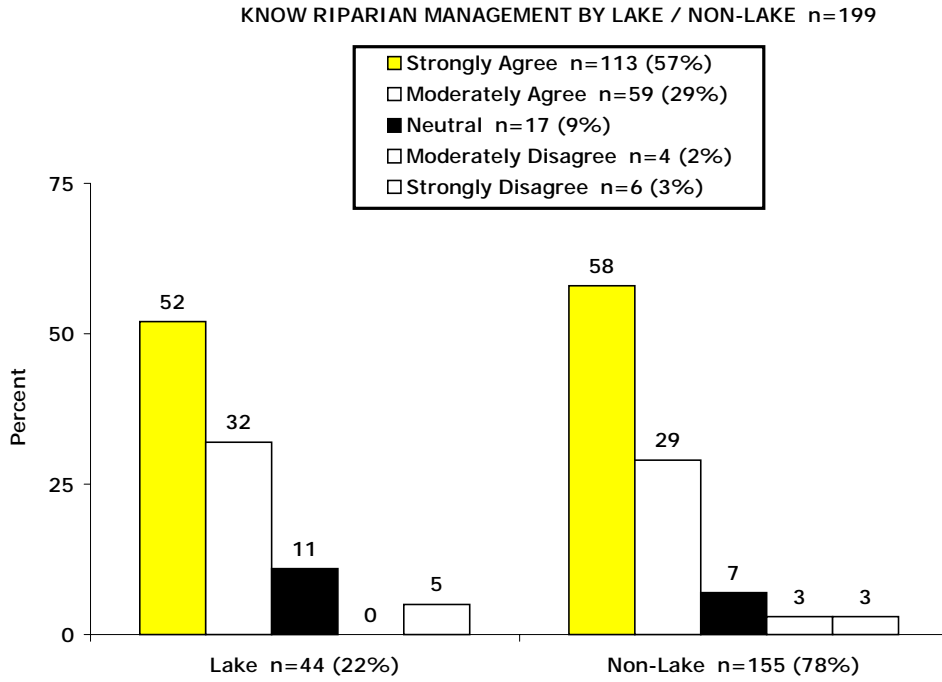


FIGURE 29

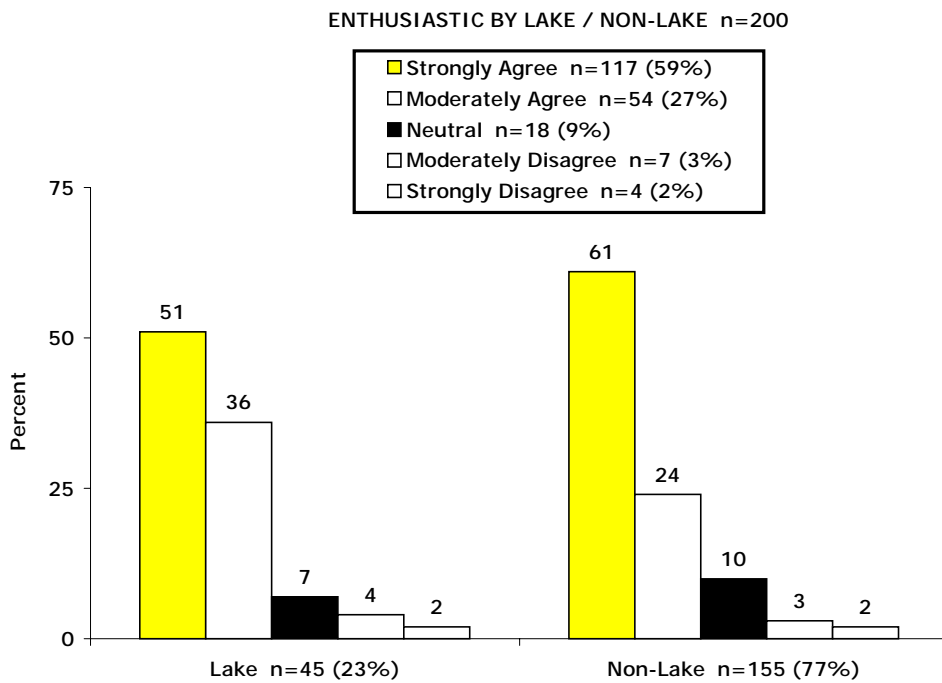


FIGURE 30

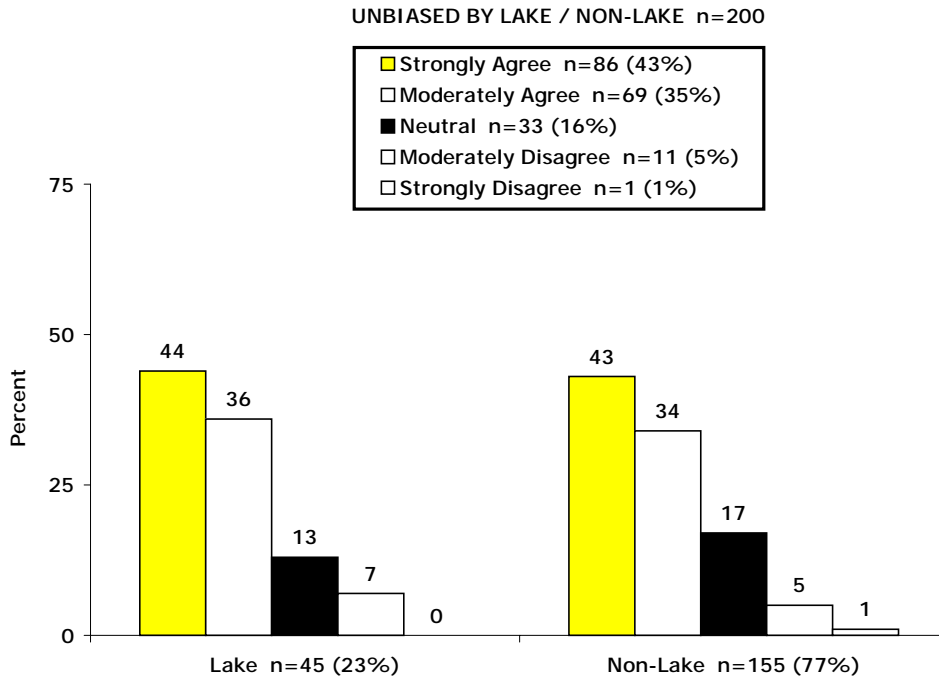


FIGURE 31

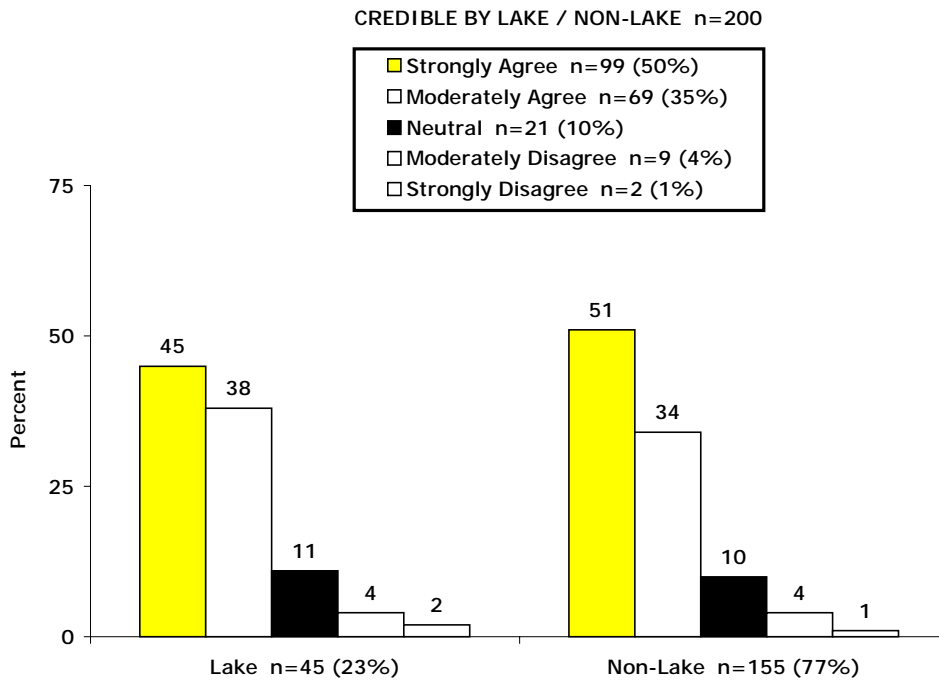


FIGURE 32

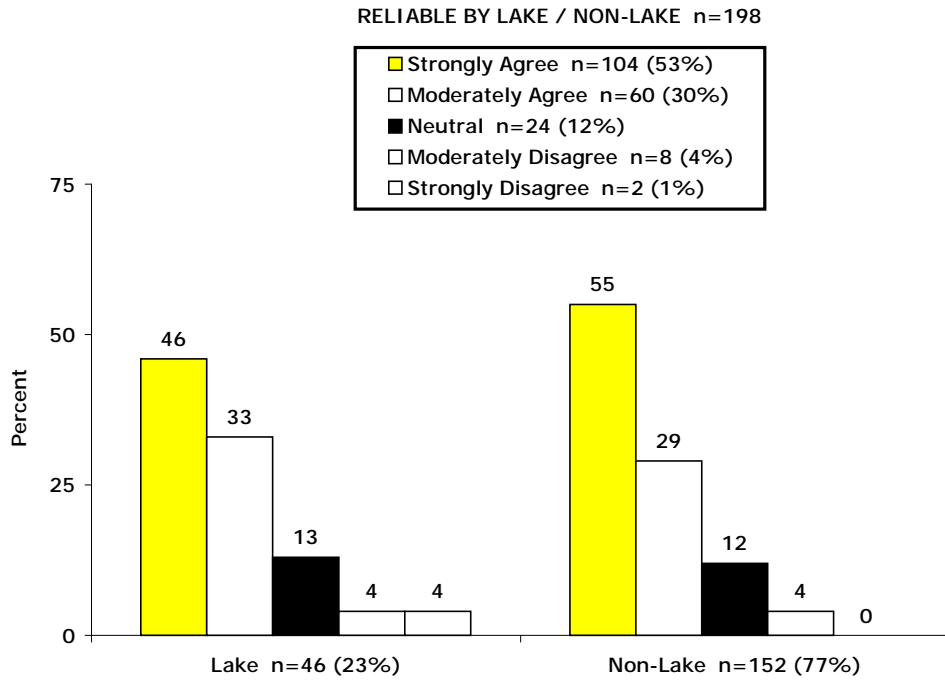


FIGURE 33

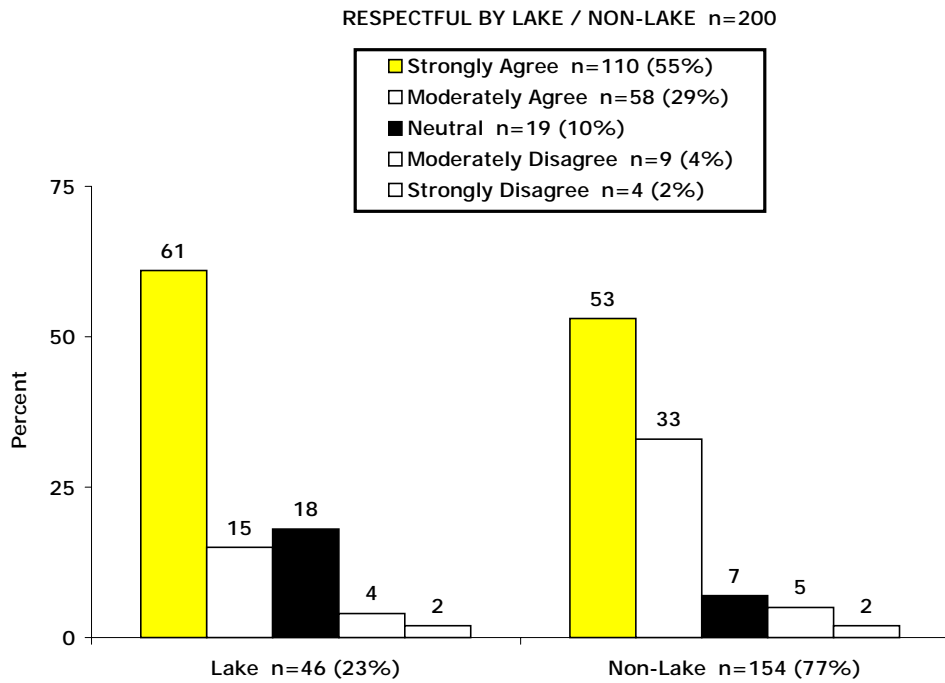


FIGURE 34

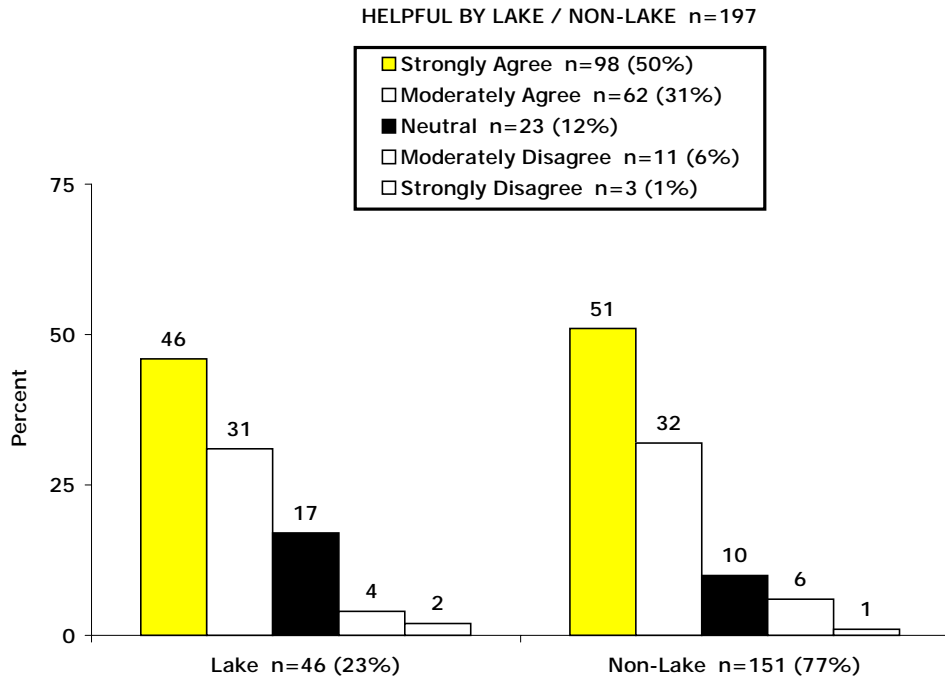


FIGURE 35

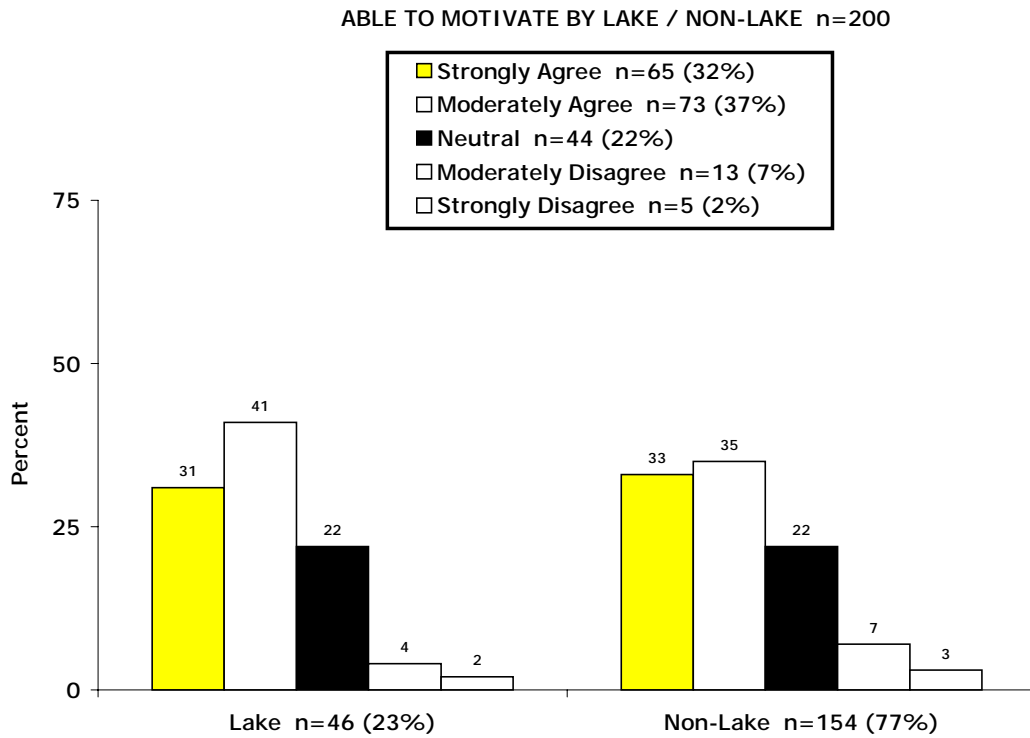


FIGURE 36

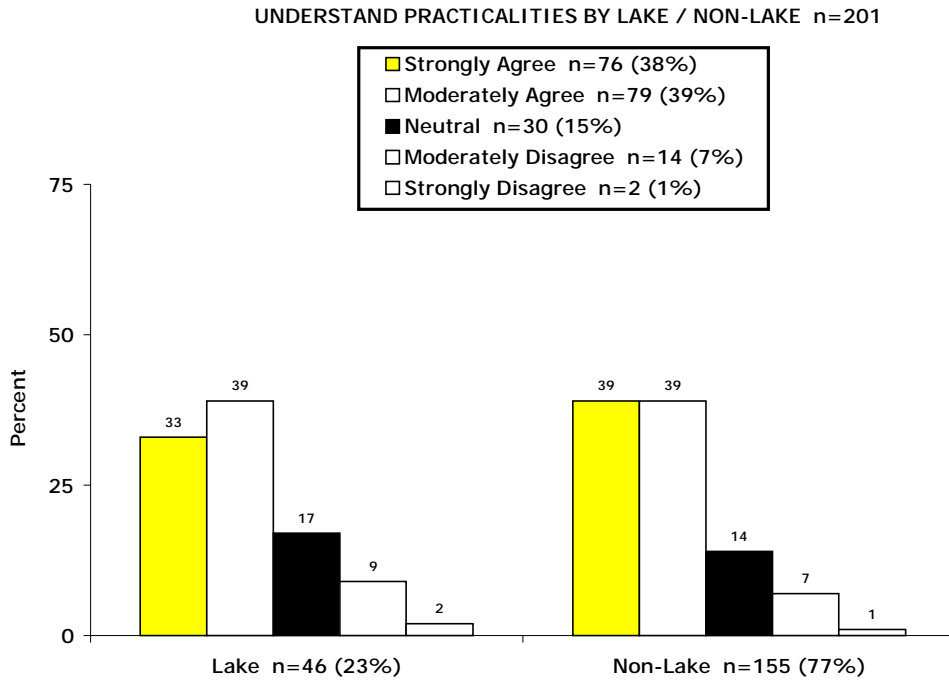


FIGURE 37

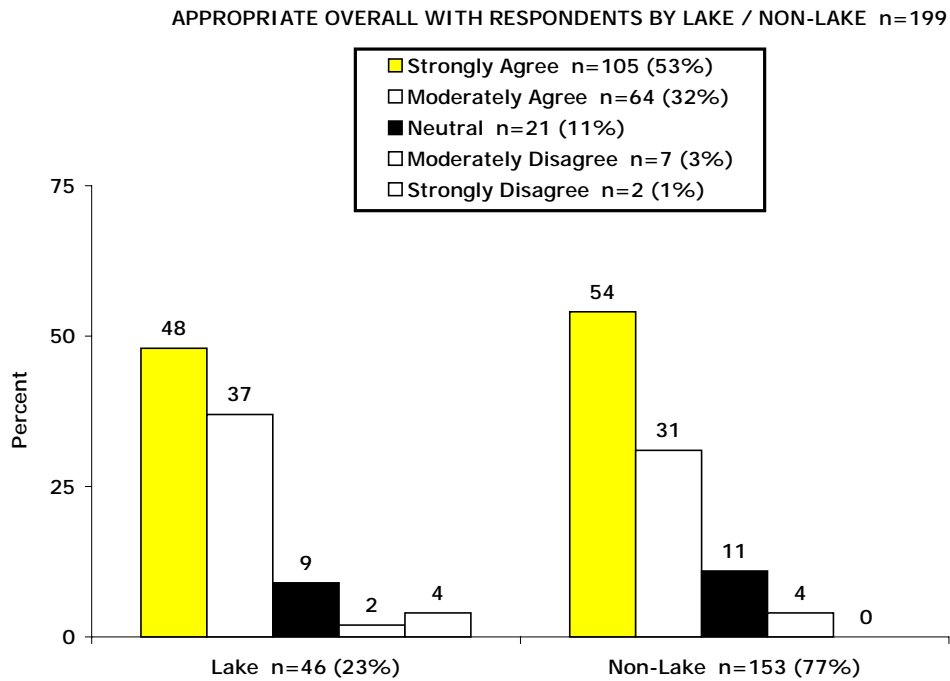


FIGURE 38

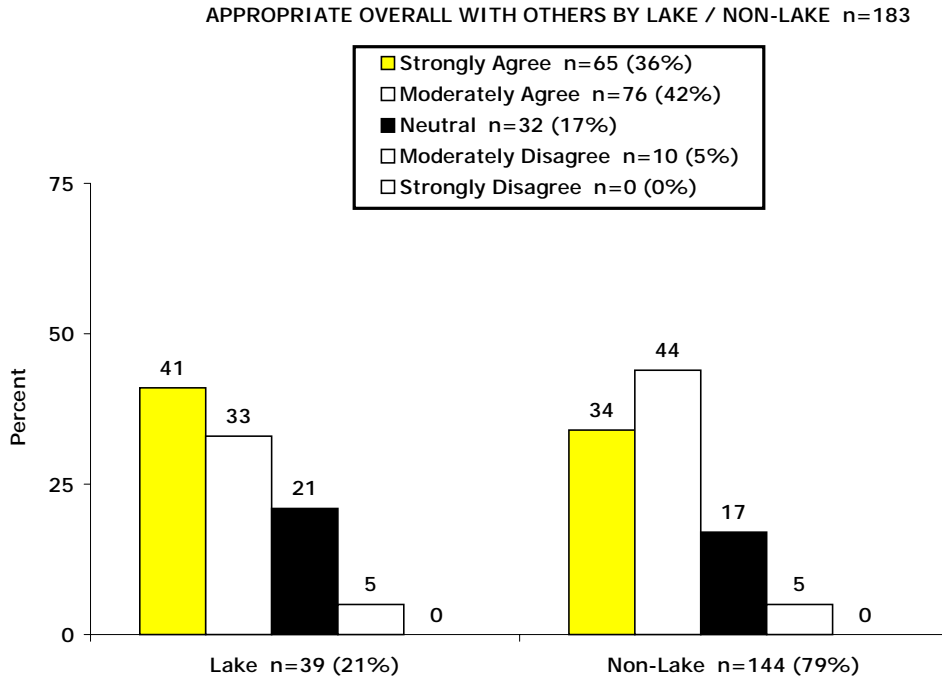


FIGURE 39

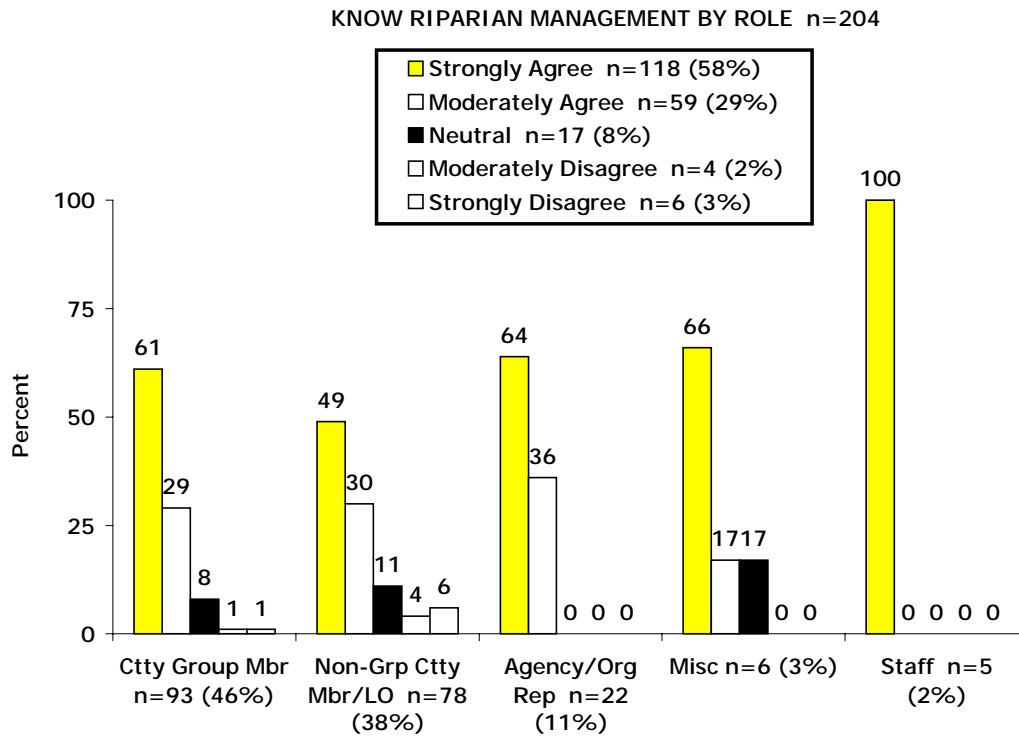


FIGURE 40

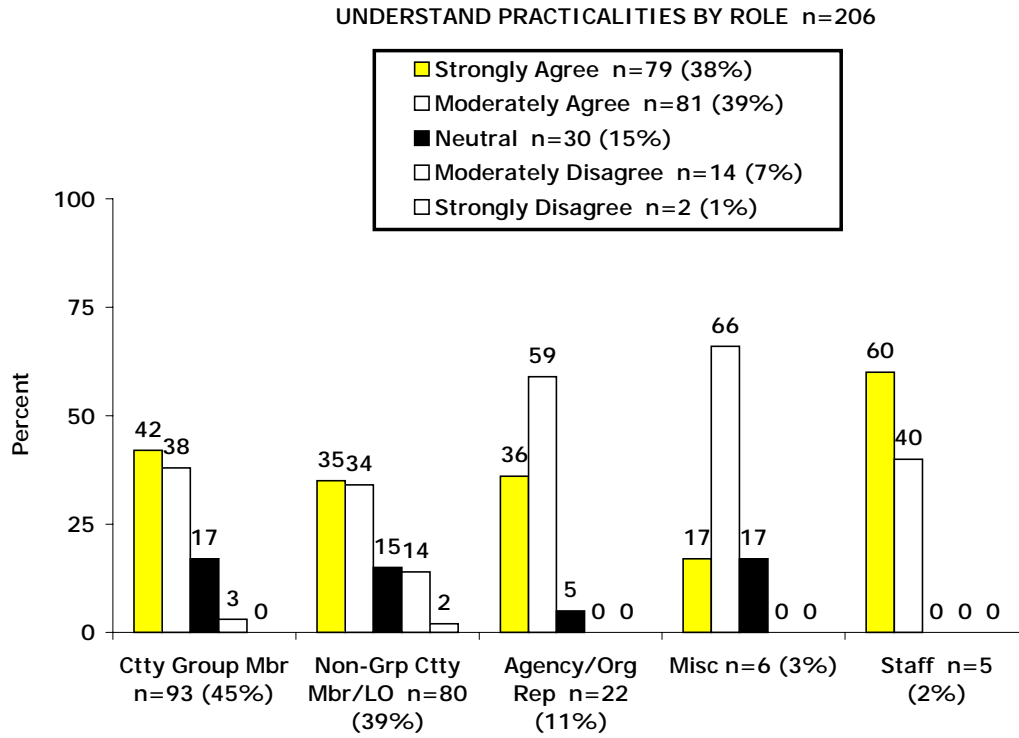


FIGURE 41

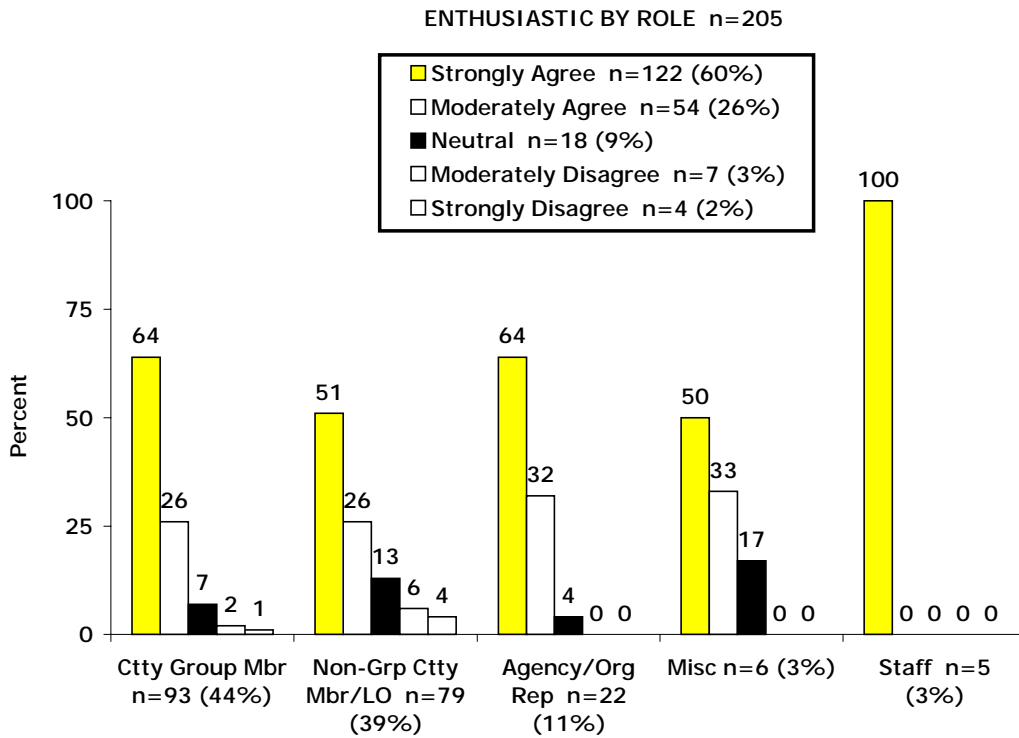


FIGURE 42

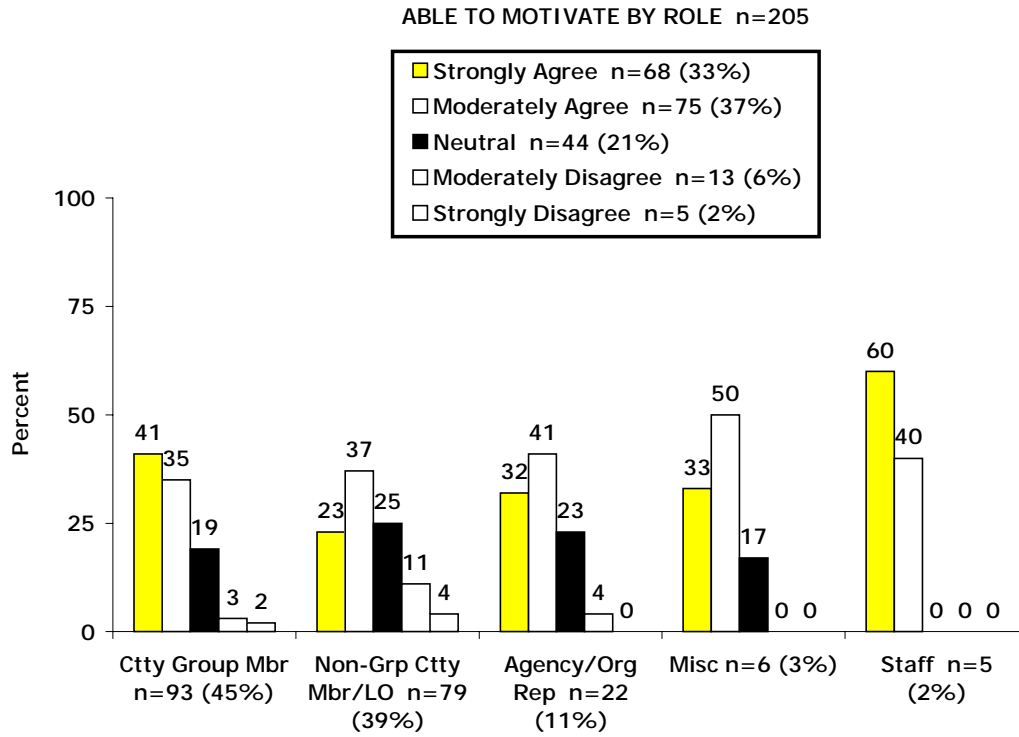


FIGURE 43

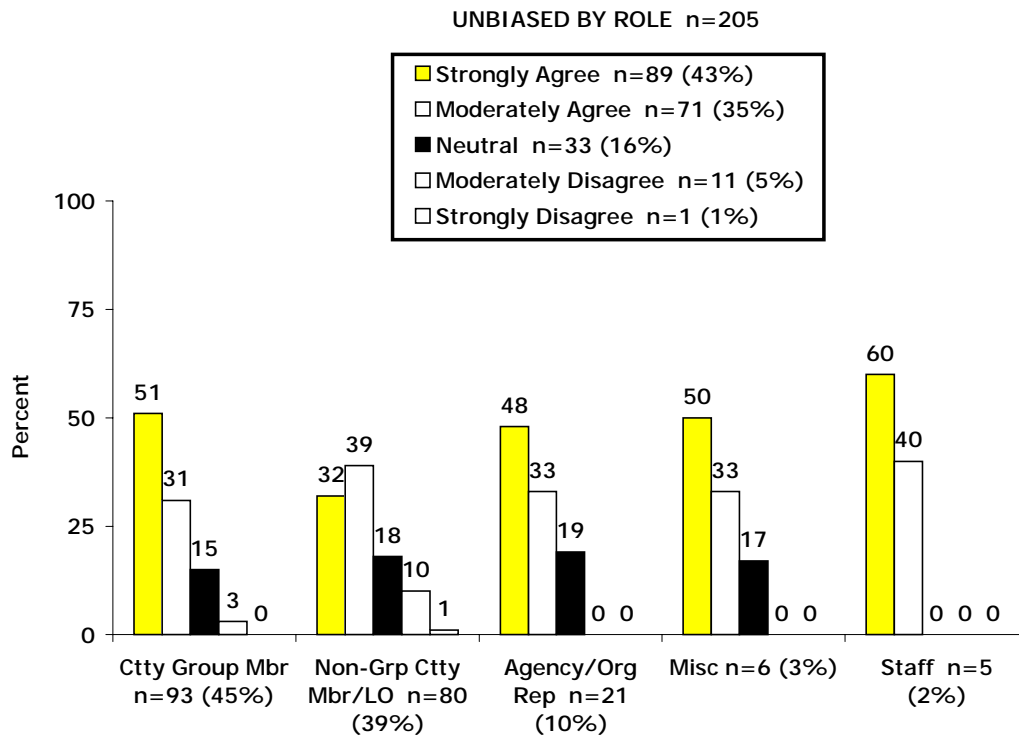


FIGURE 44

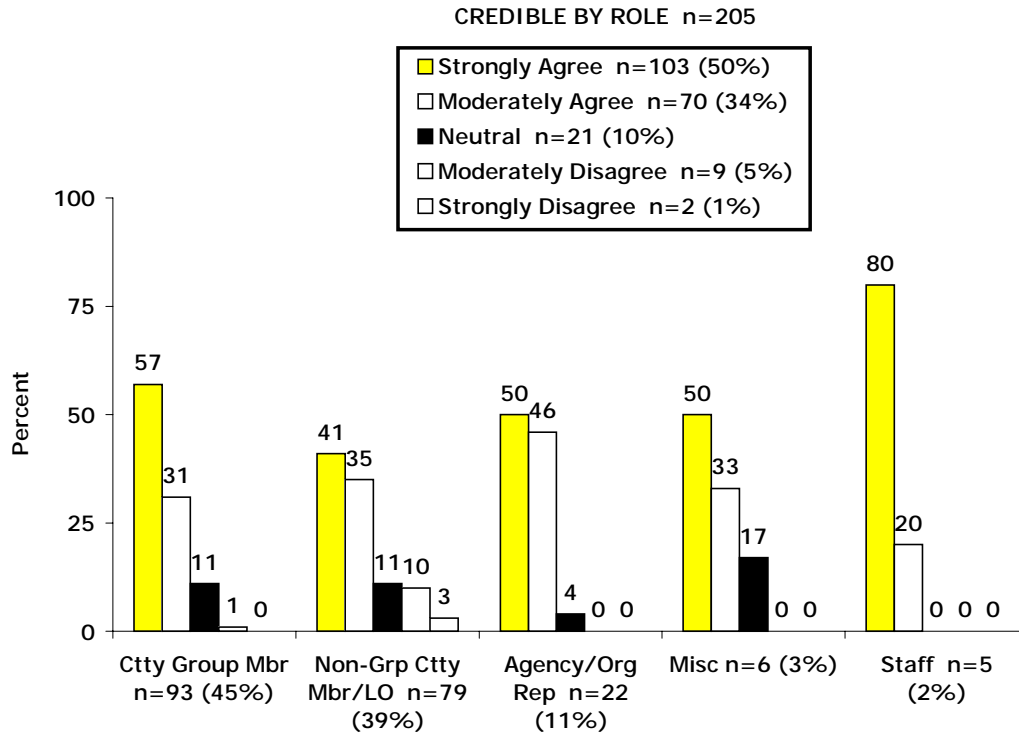


FIGURE 45

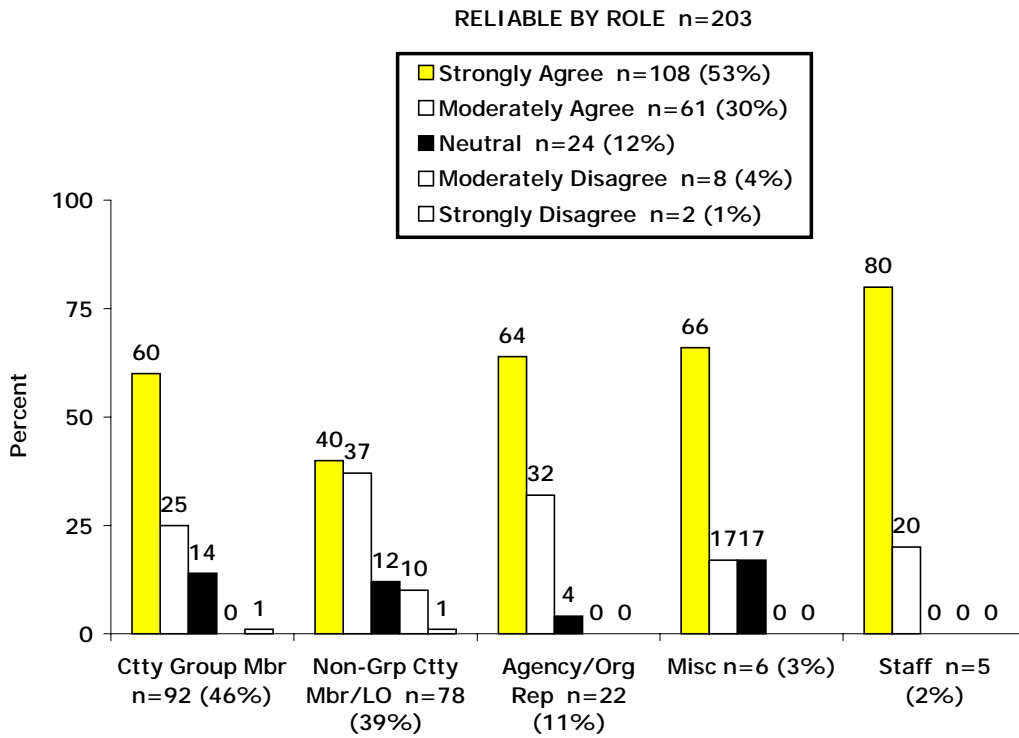


FIGURE 46

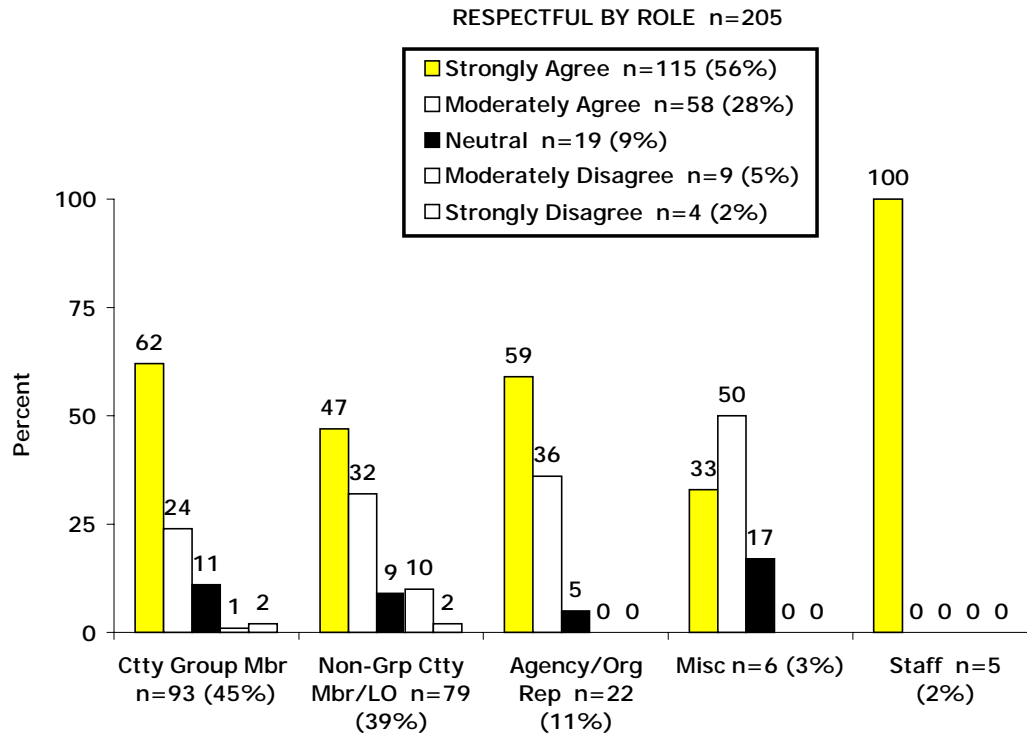


FIGURE 47

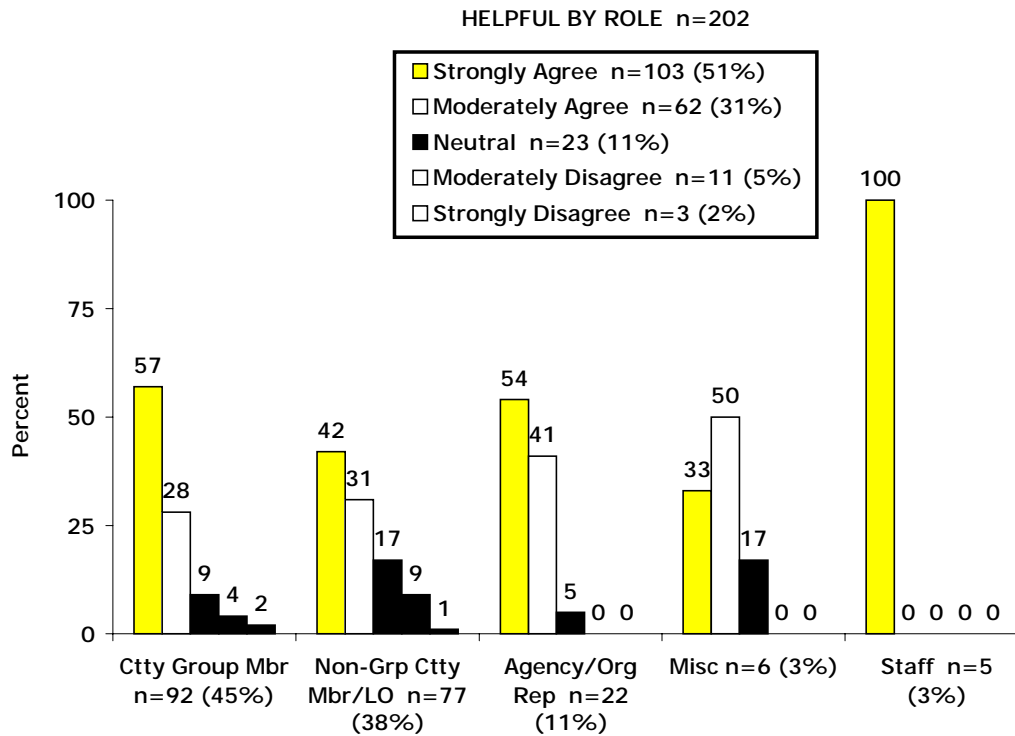


FIGURE 48

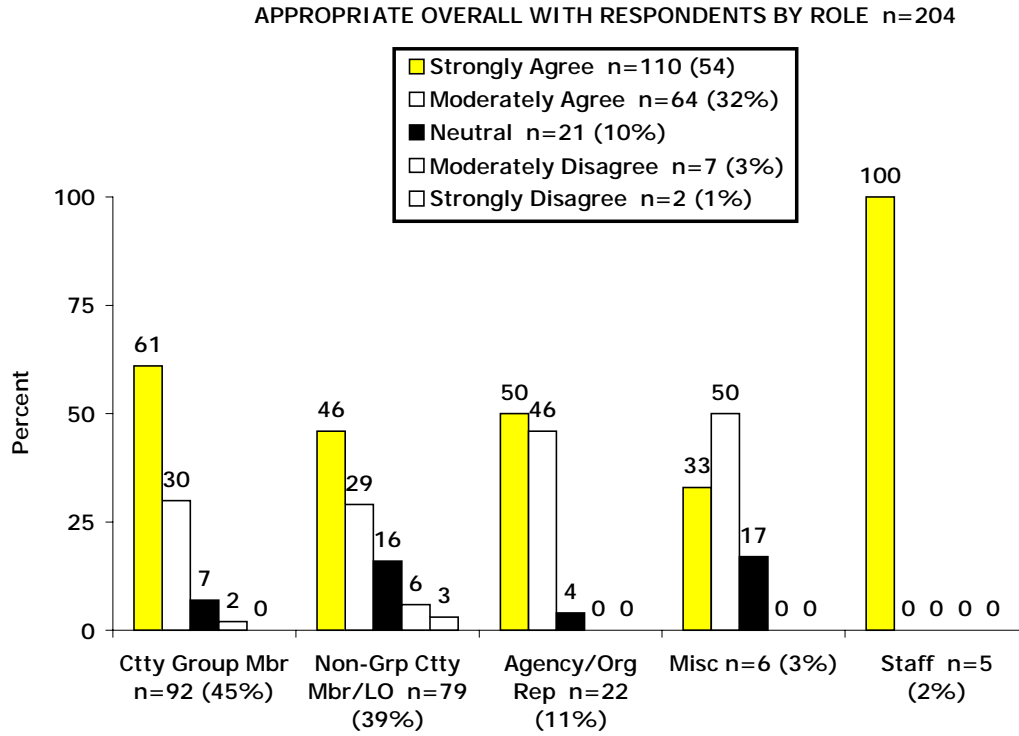


FIGURE 49

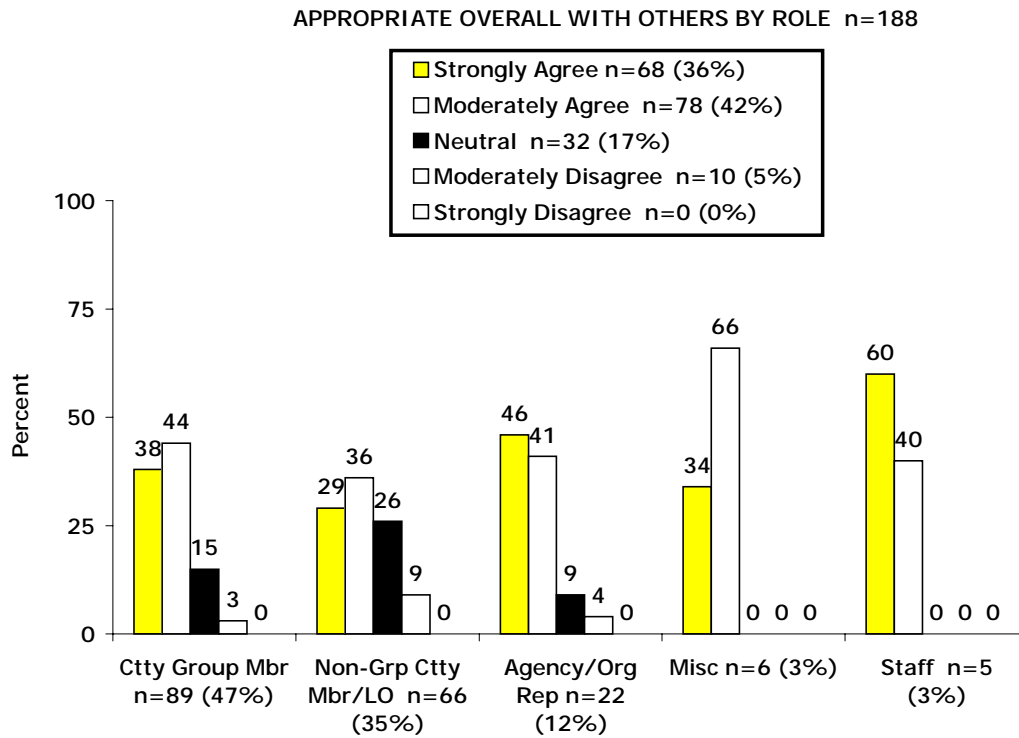


FIGURE 50

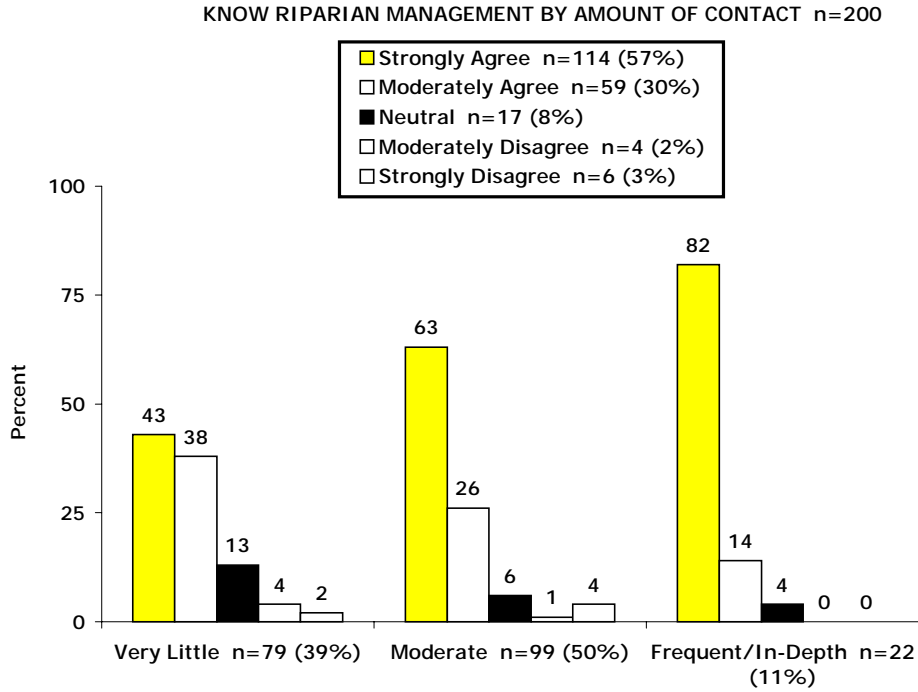


FIGURE 51

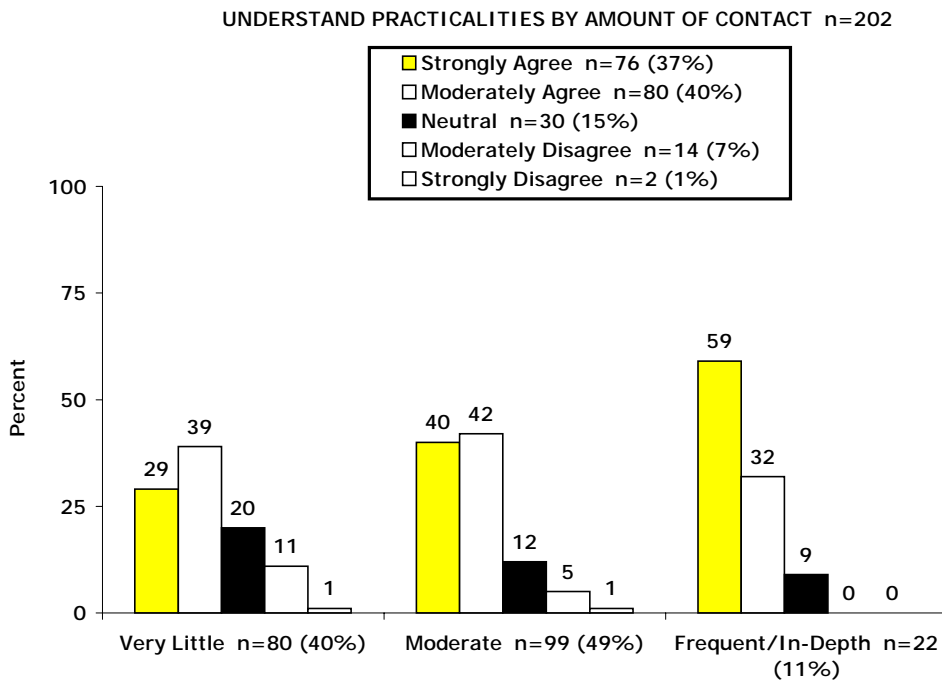


FIGURE 52

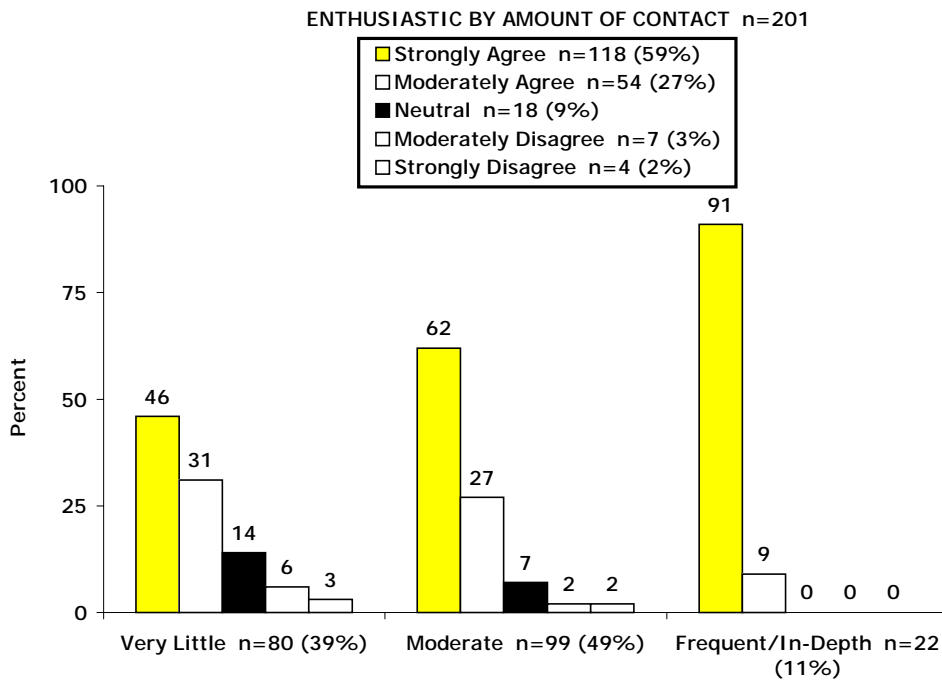


FIGURE 53

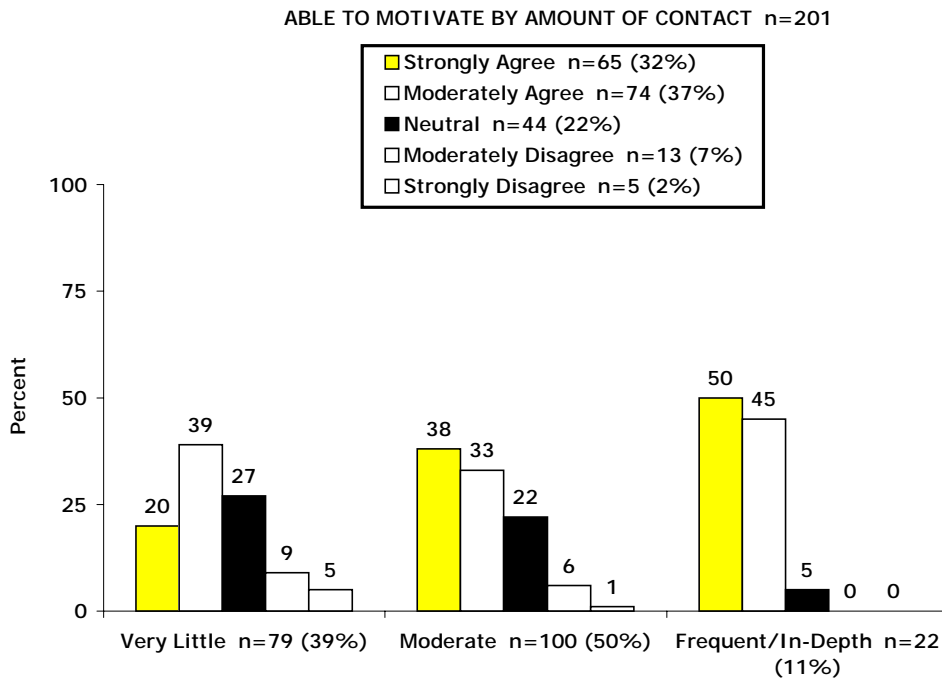


FIGURE 54

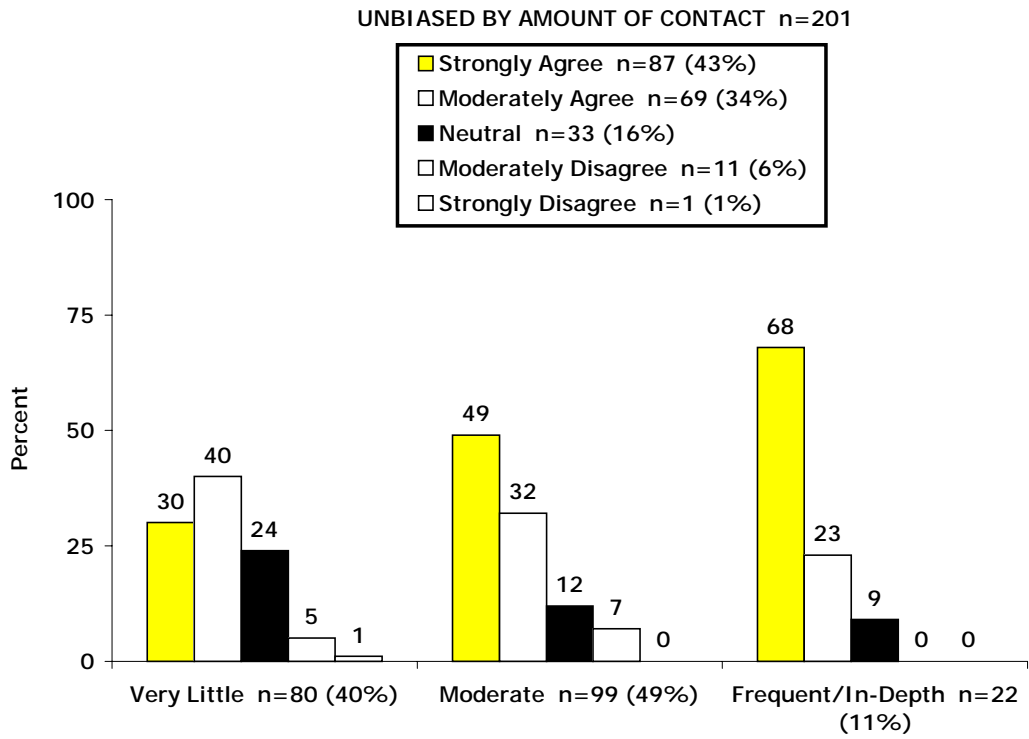


FIGURE 55

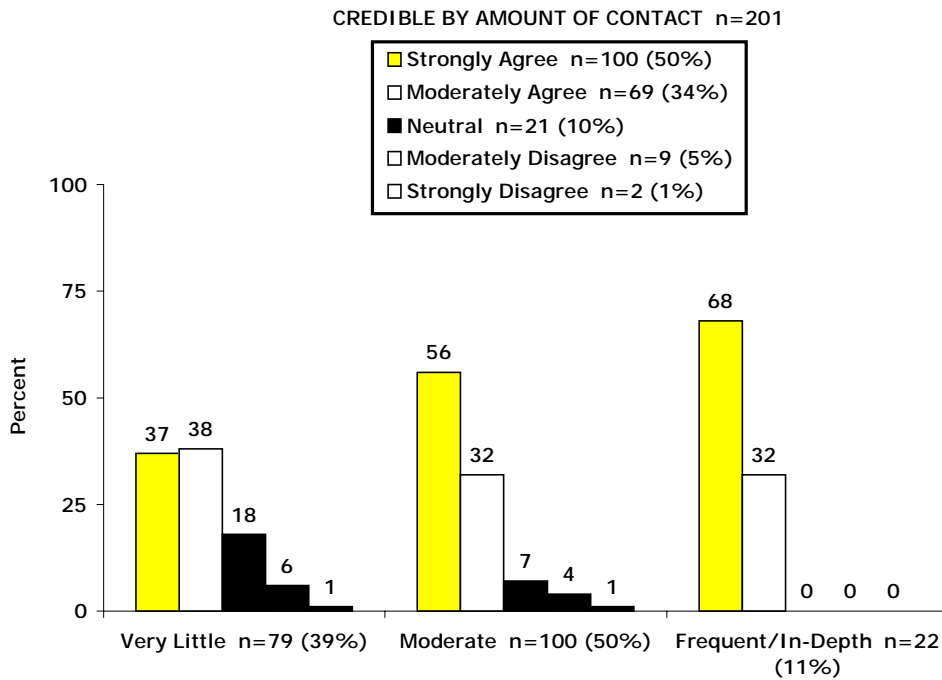


FIGURE 56

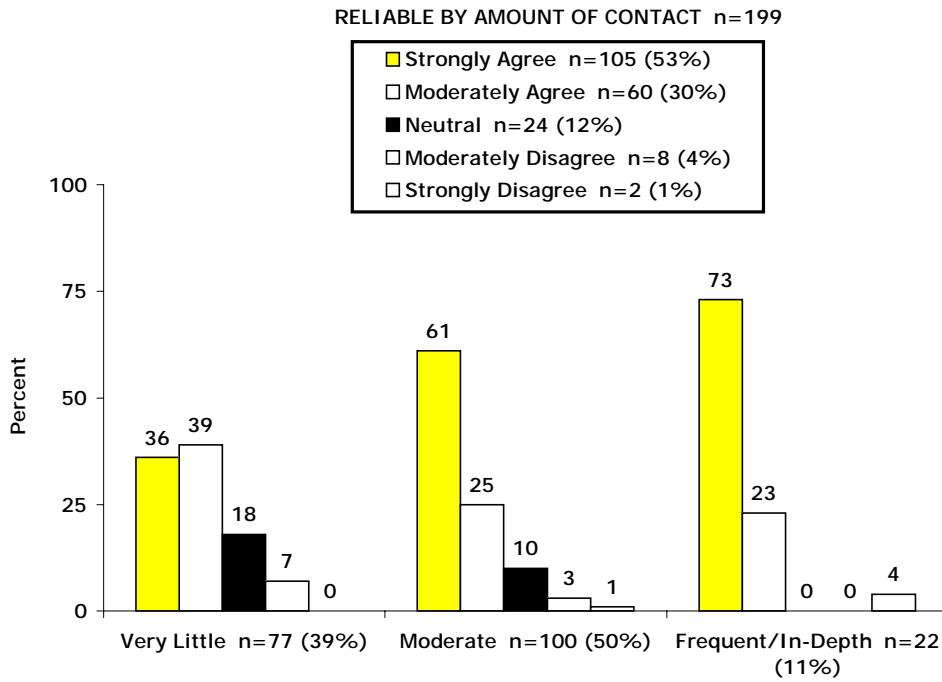


FIGURE 57

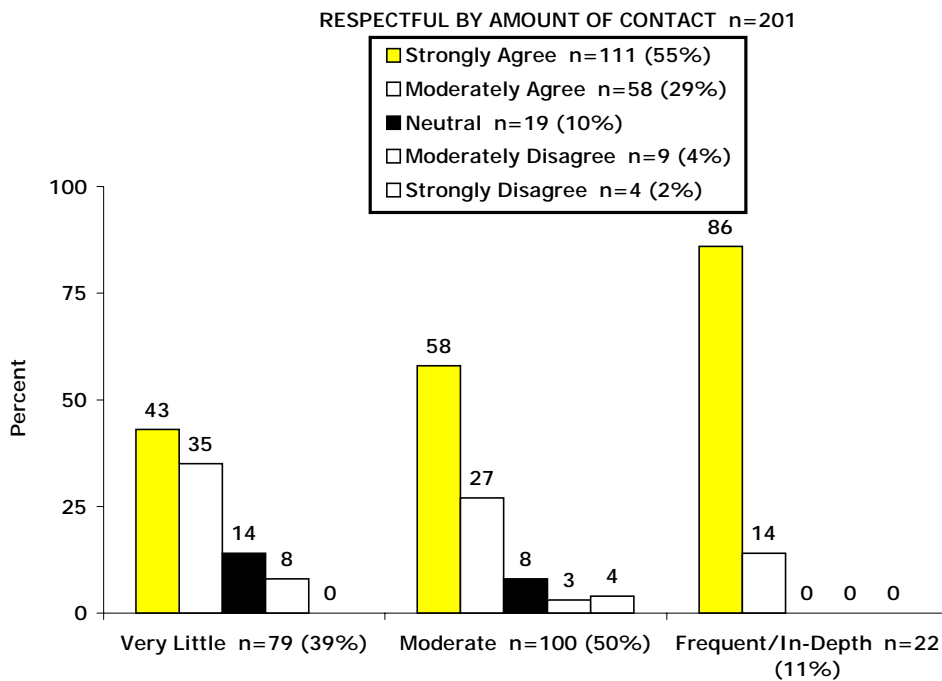


FIGURE 58

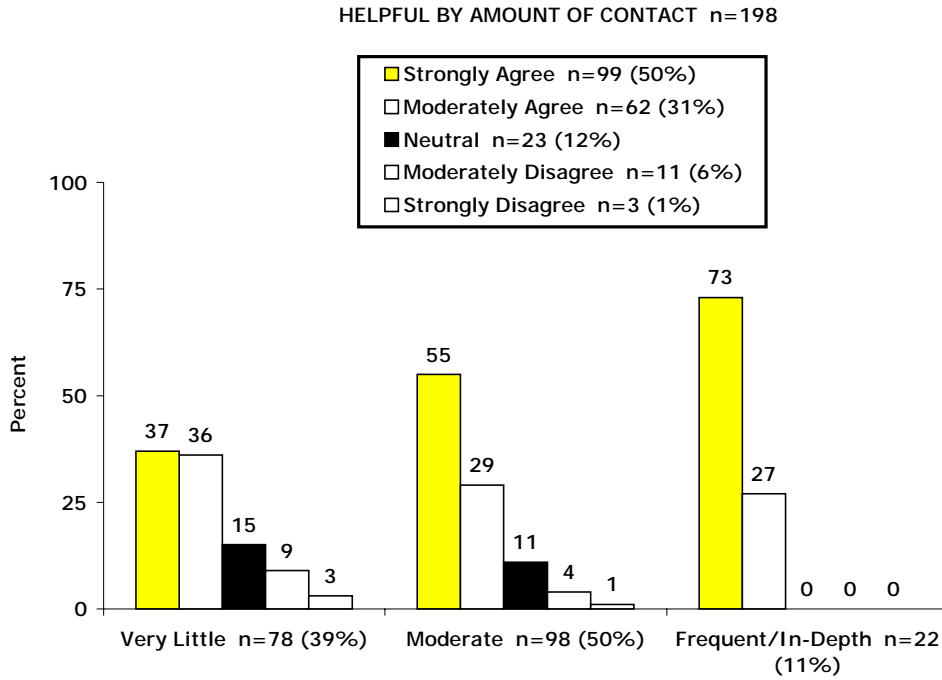


FIGURE 59

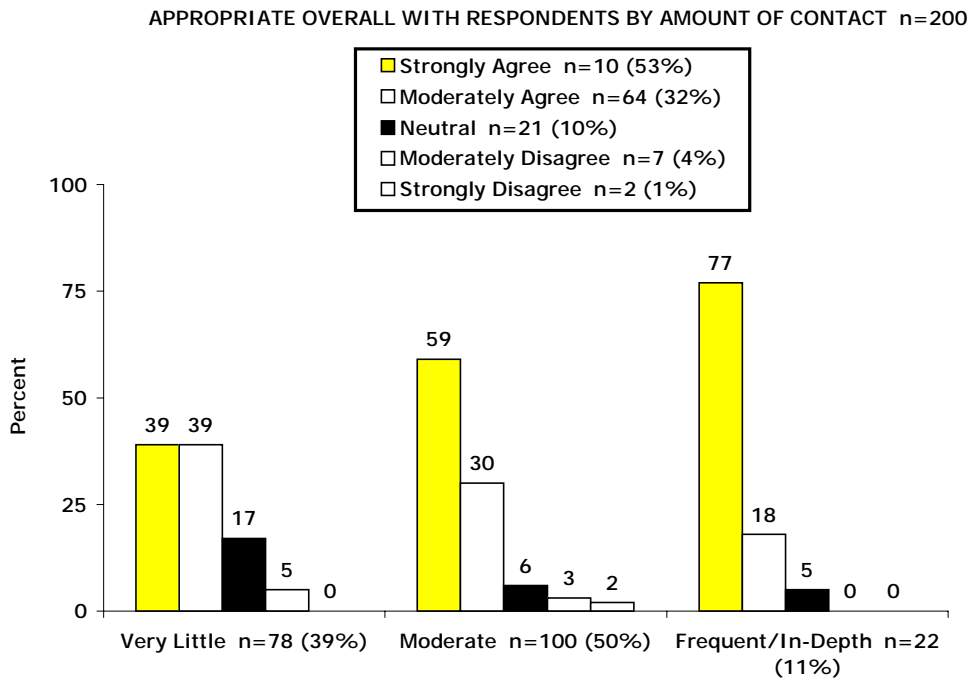


FIGURE 60

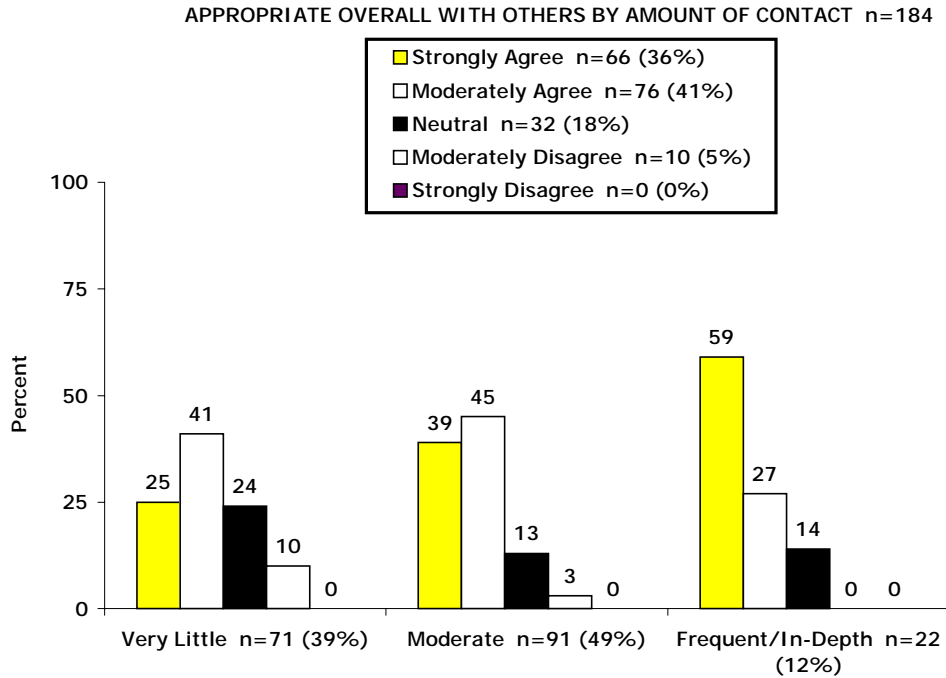


FIGURE 61

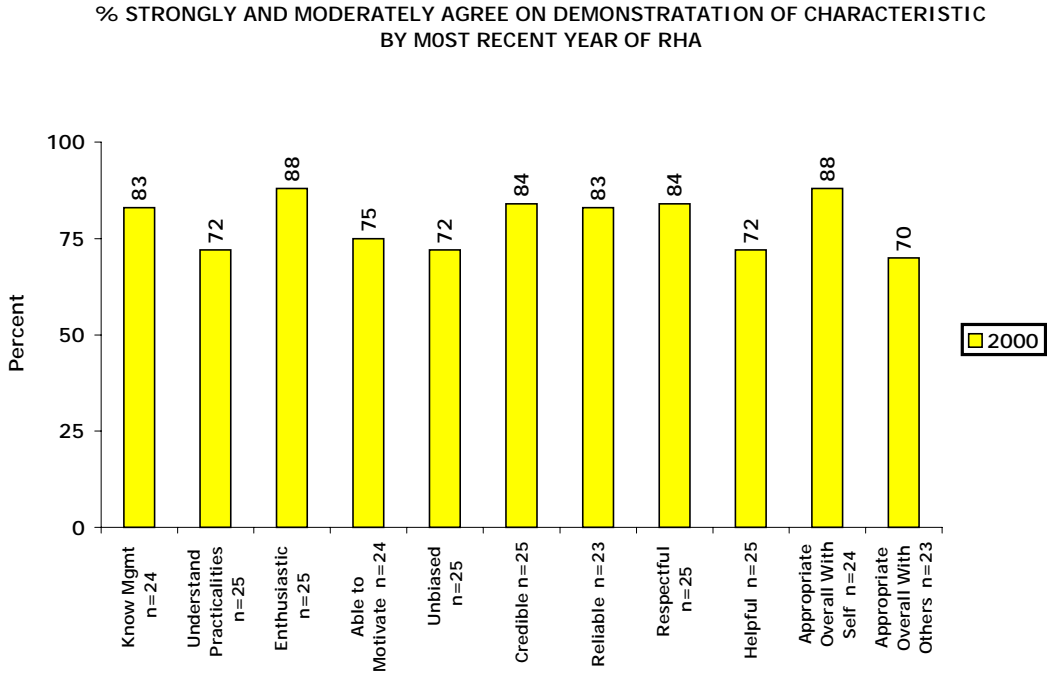


FIGURE 62

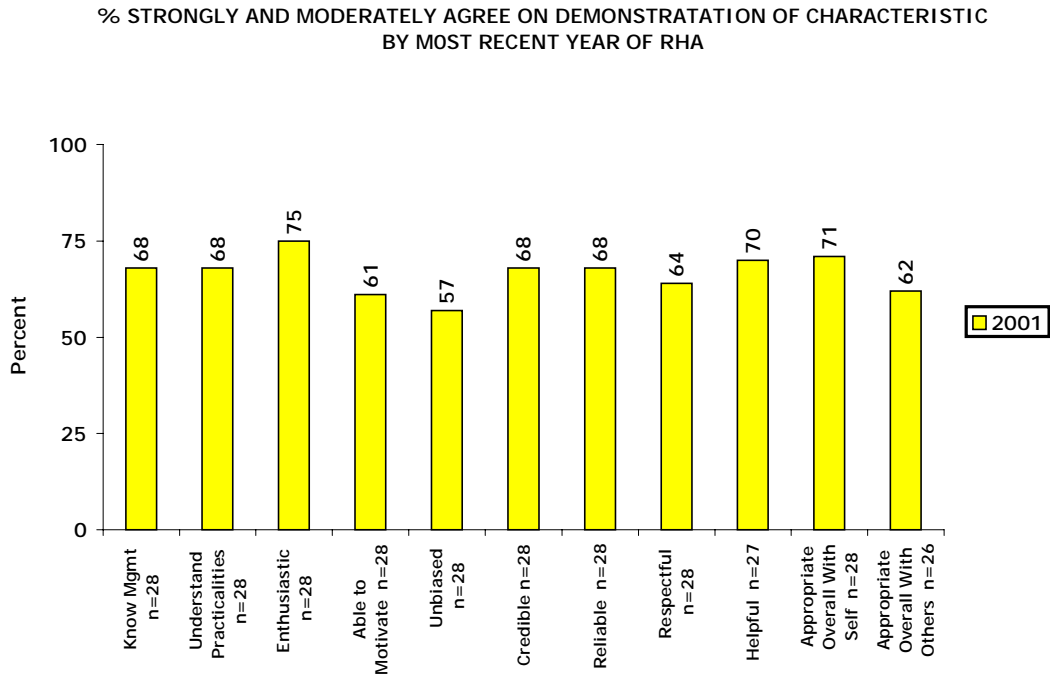


FIGURE 63

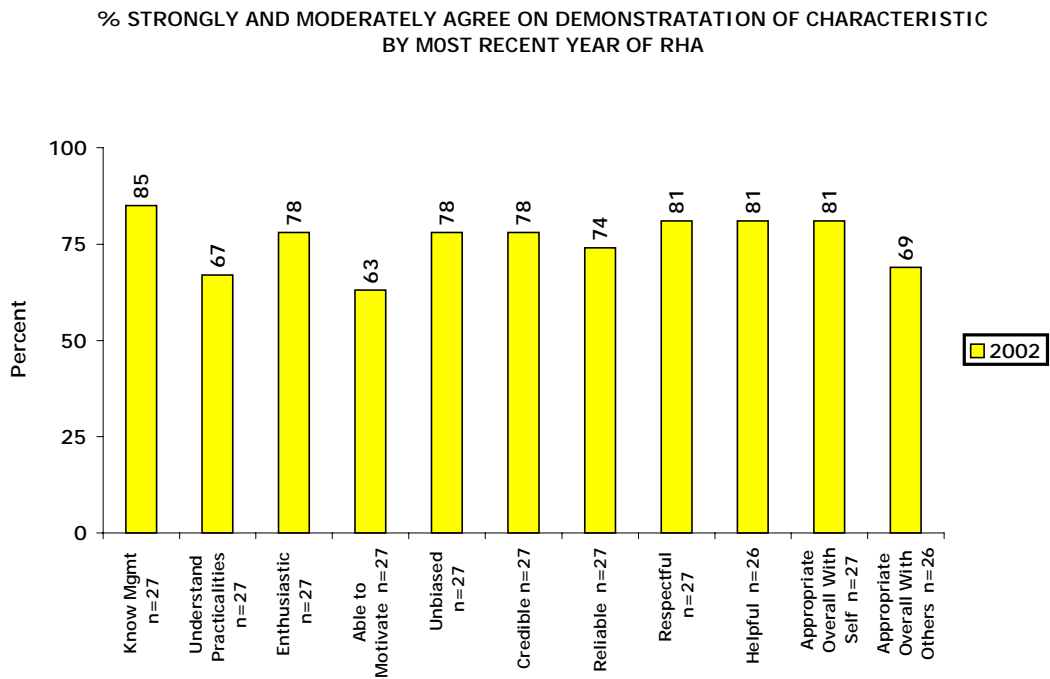


FIGURE 64

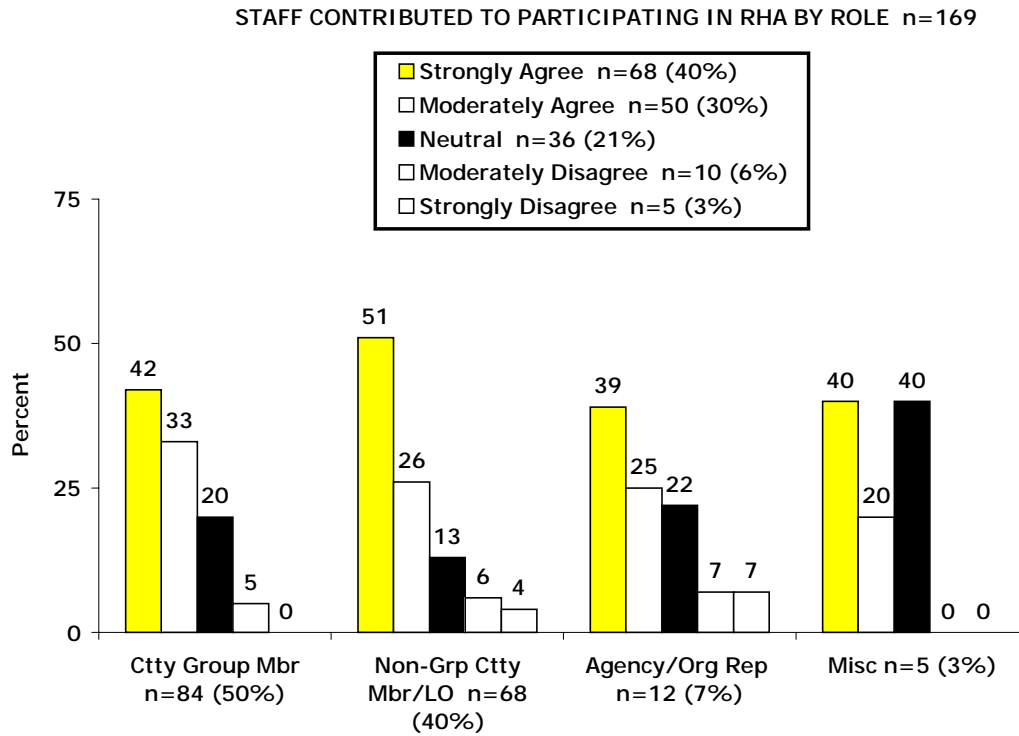


FIGURE 65

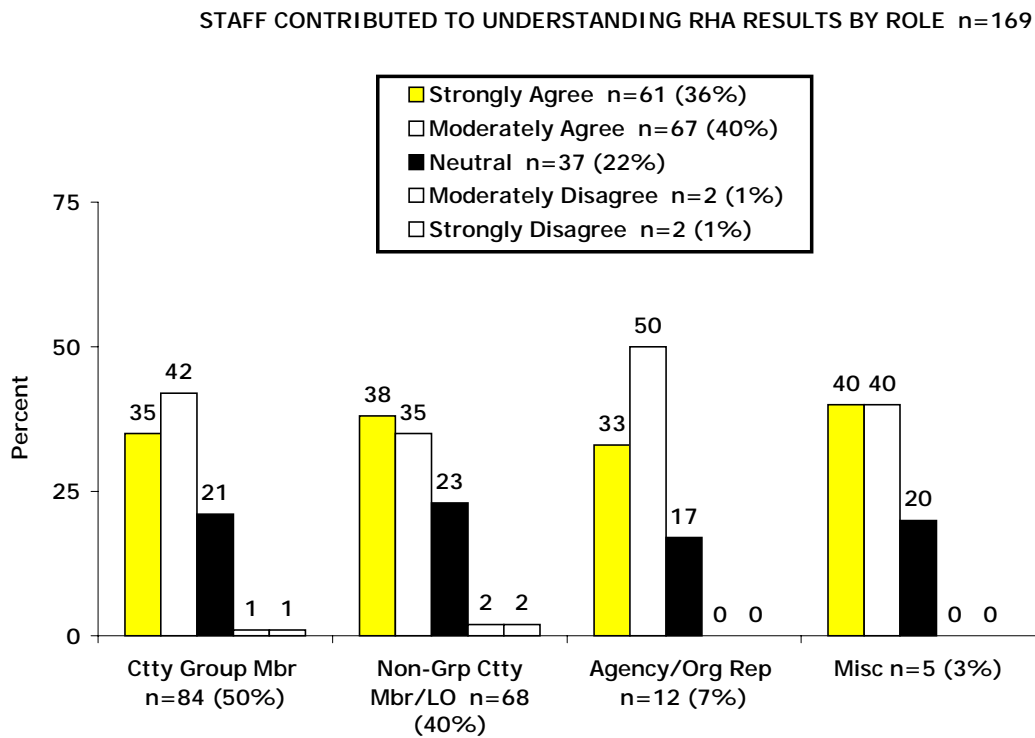


FIGURE 66

STAFF CONTRIBUTED TO USING RHA RESULTS BY ROLE n=165

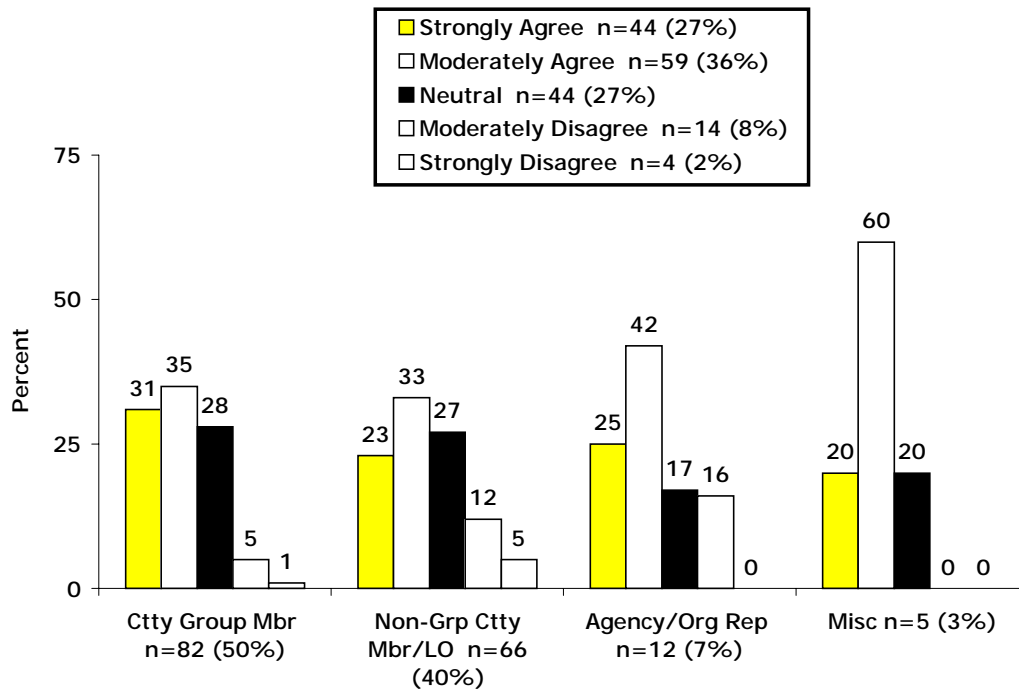


FIGURE 67

STAFF CONTRIBUTED TO PARTICIPATING IN RHA BY PRODUCER / NON-PRODUCER n=169

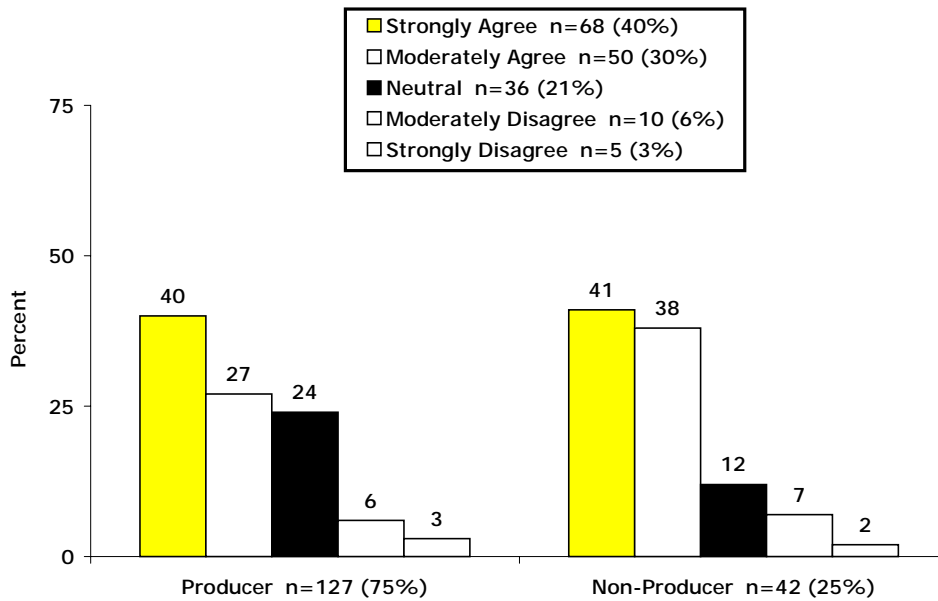


FIGURE 68

STAFF CONTRIBUTED TO UNDERSTANDING RHA RESULTS BY PRODUCER / NON-PRODUCER n=169

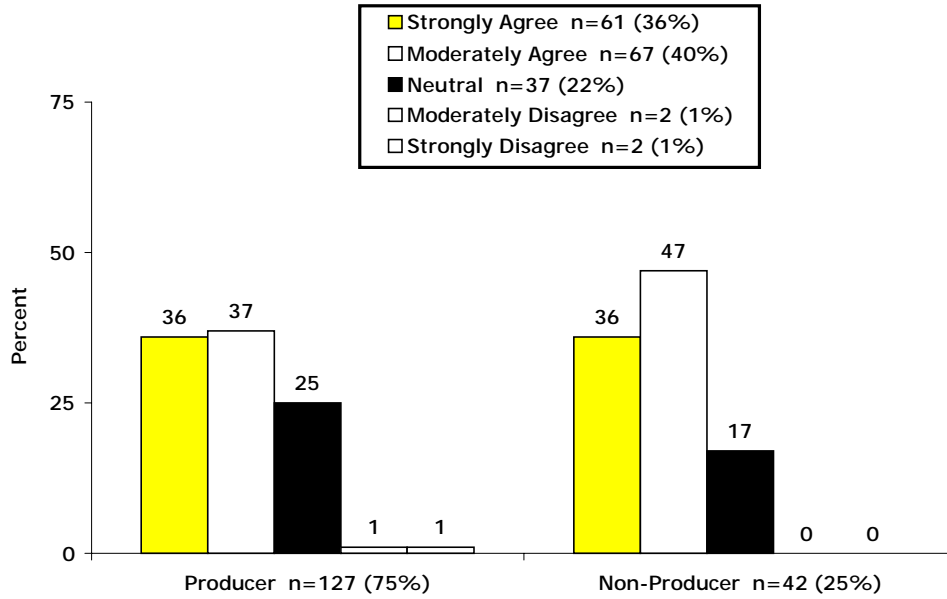


FIGURE 69

STAFF CONTRIBUTED TO USING RHA RESULTS BY PRODUCER / NON-PRODUCER n=165

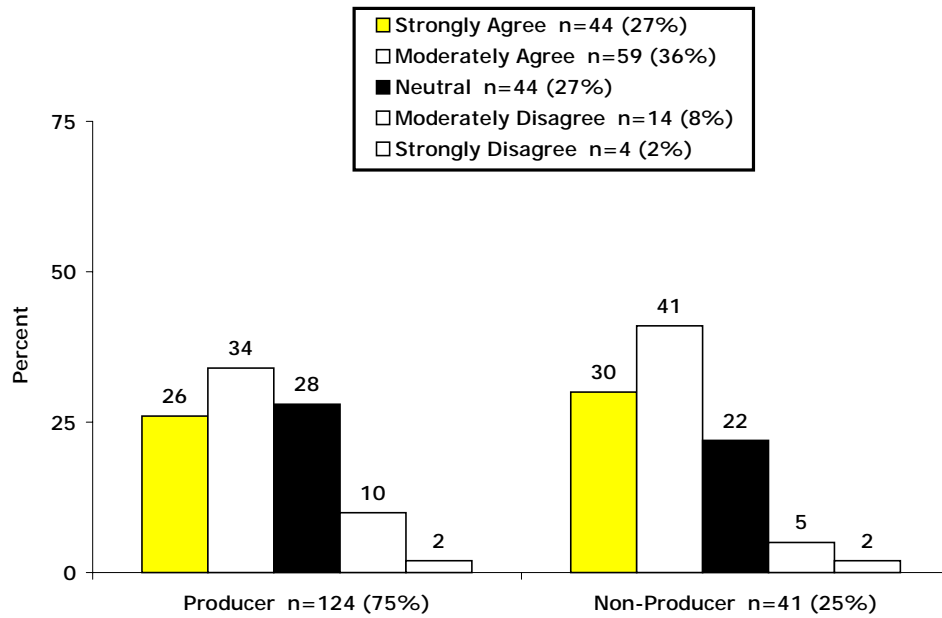


FIGURE 70

STAFF CONTRIBUTED TO PARTICIPATING IN RHA BY LAKE / NON-LAKE n=169

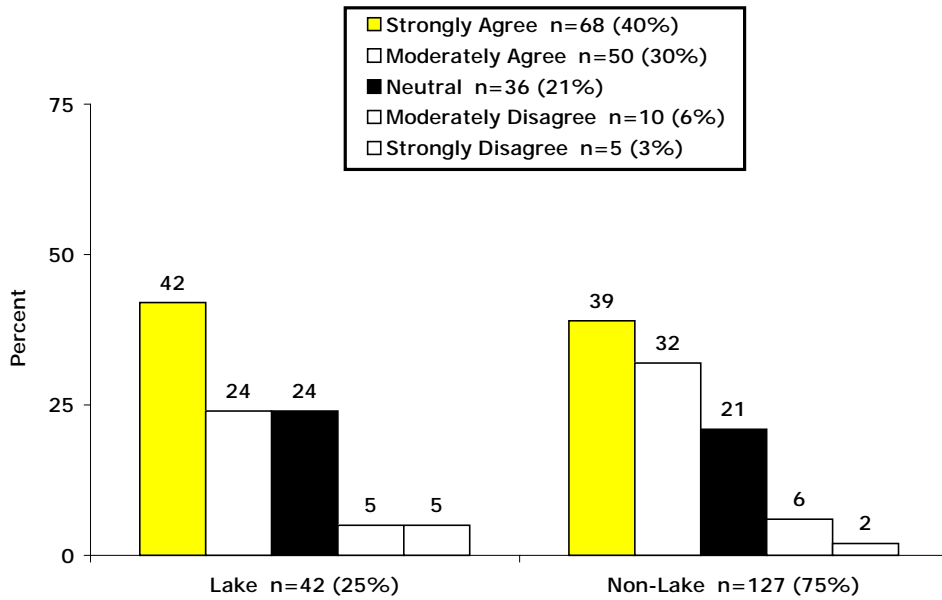


FIGURE 71

STAFF CONTRIBUTED TO UNDERSTANDING RHA RESULTS BY LAKE / NON-LAKE n=169

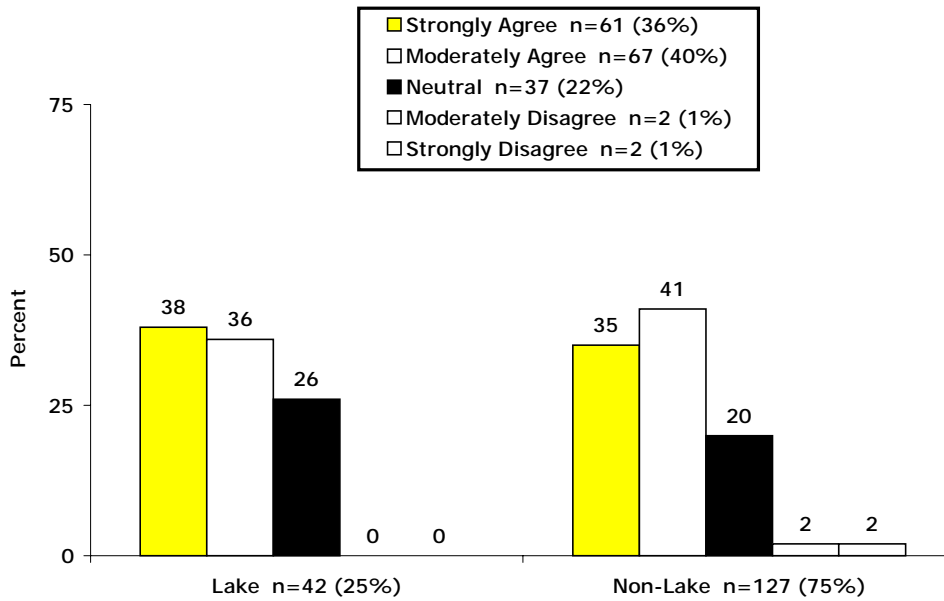


FIGURE 72

STAFF CONTRIBUTED TO USING RHA RESULTS BY LAKE / NON-LAKE n=165

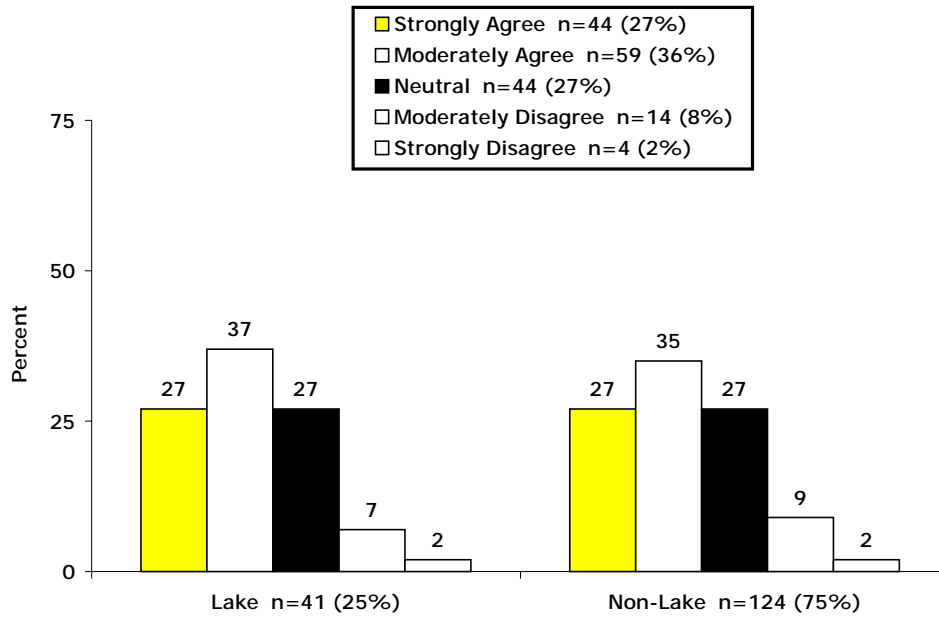


FIGURE 73

LEARNED NEW INFO / RAISED AWARENESS n=199

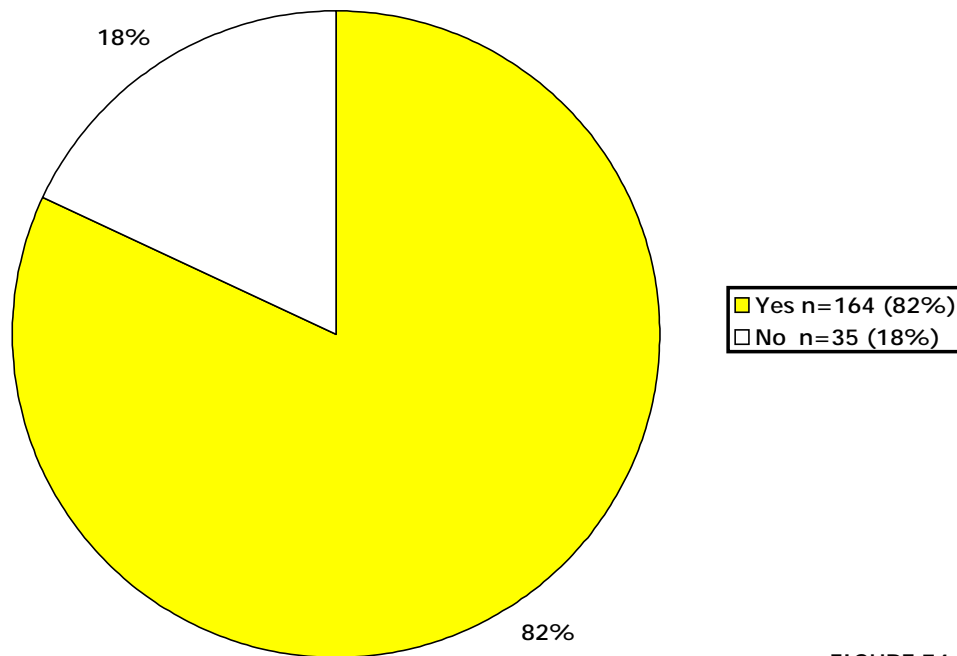


FIGURE 74

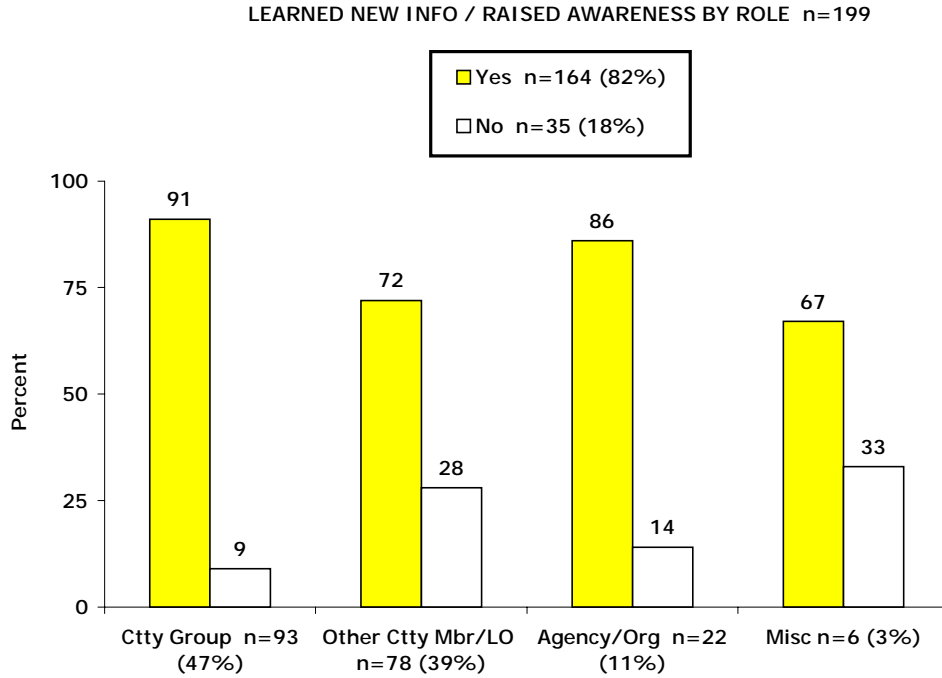


FIGURE 75

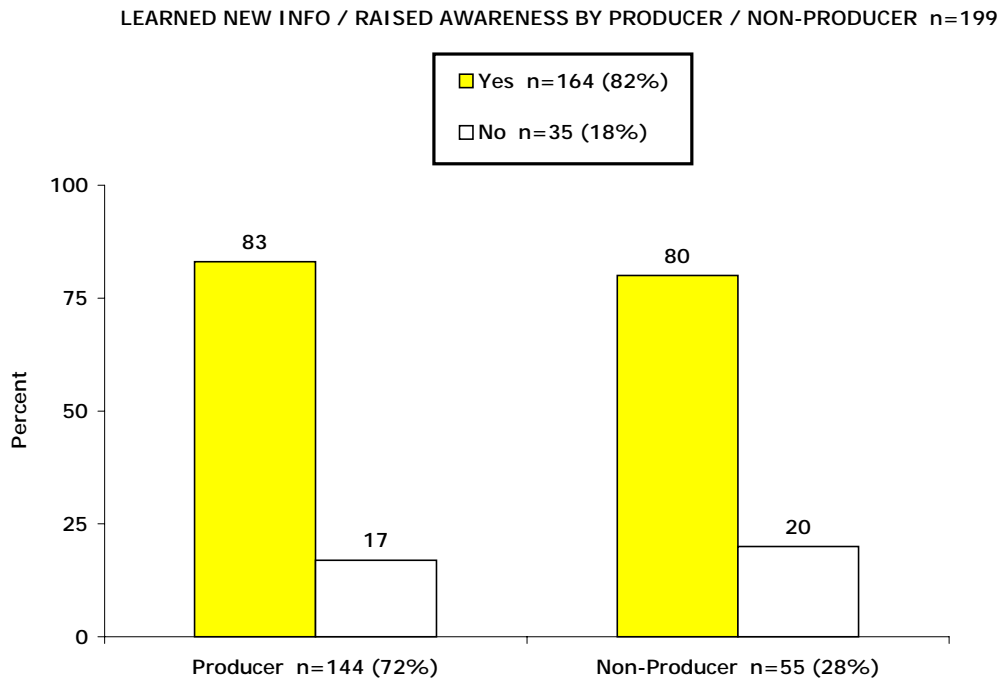


FIGURE 76

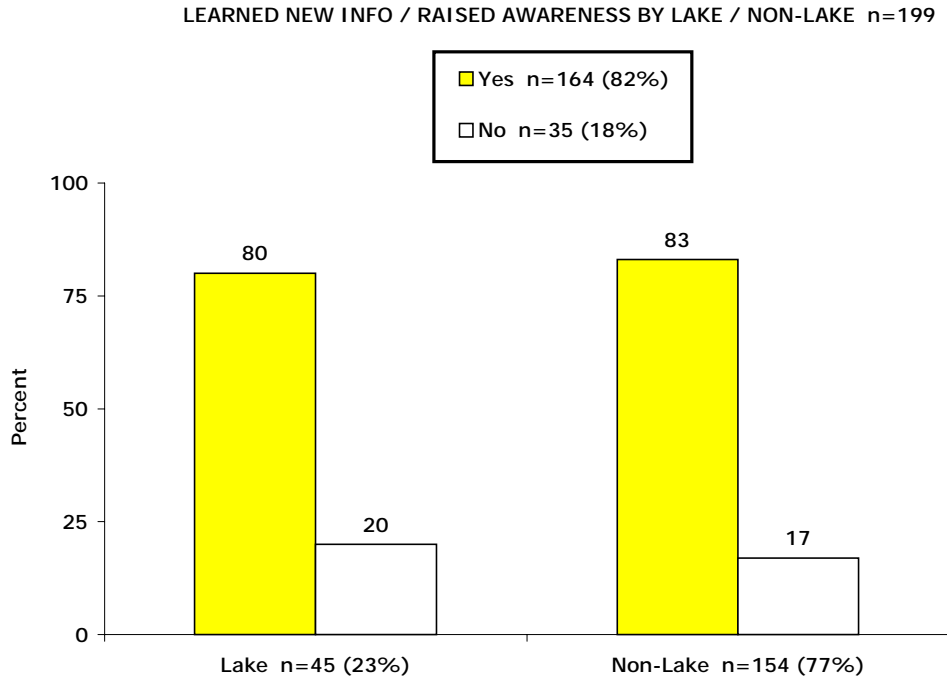


FIGURE 77

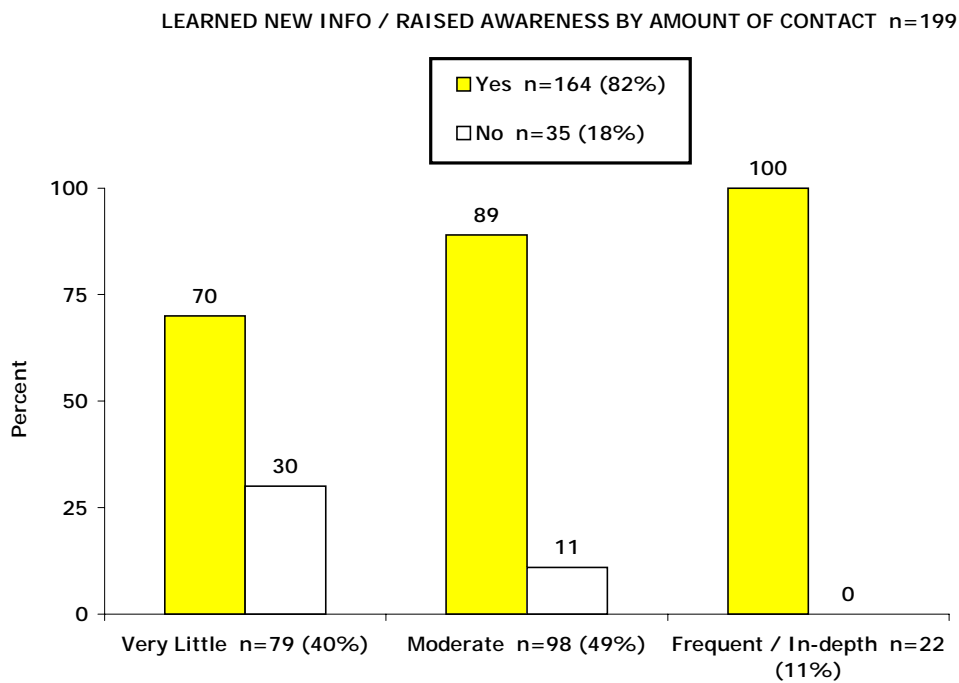


FIGURE 78

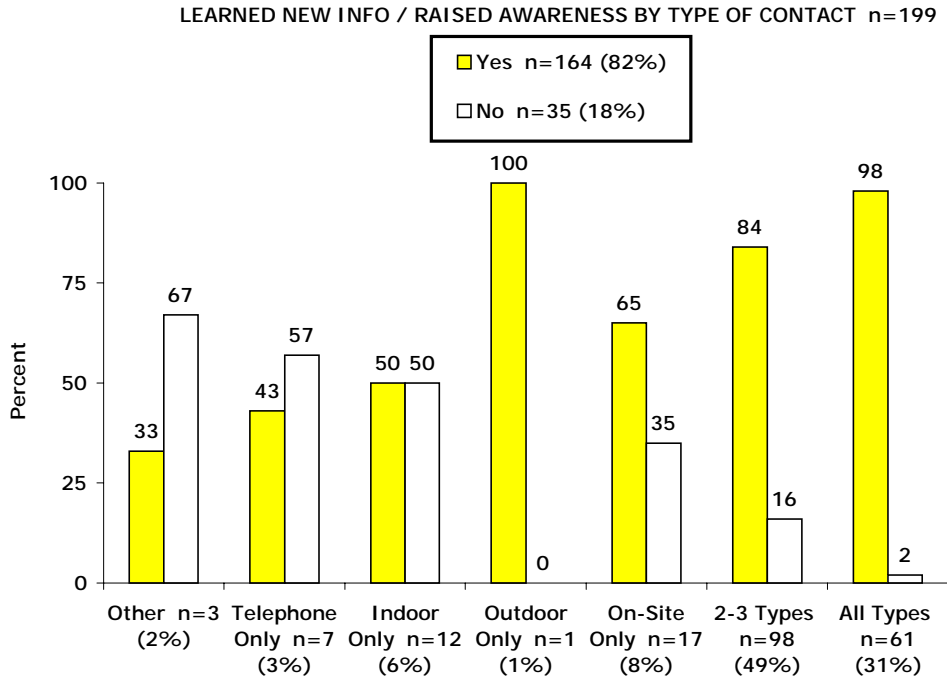


FIGURE 79

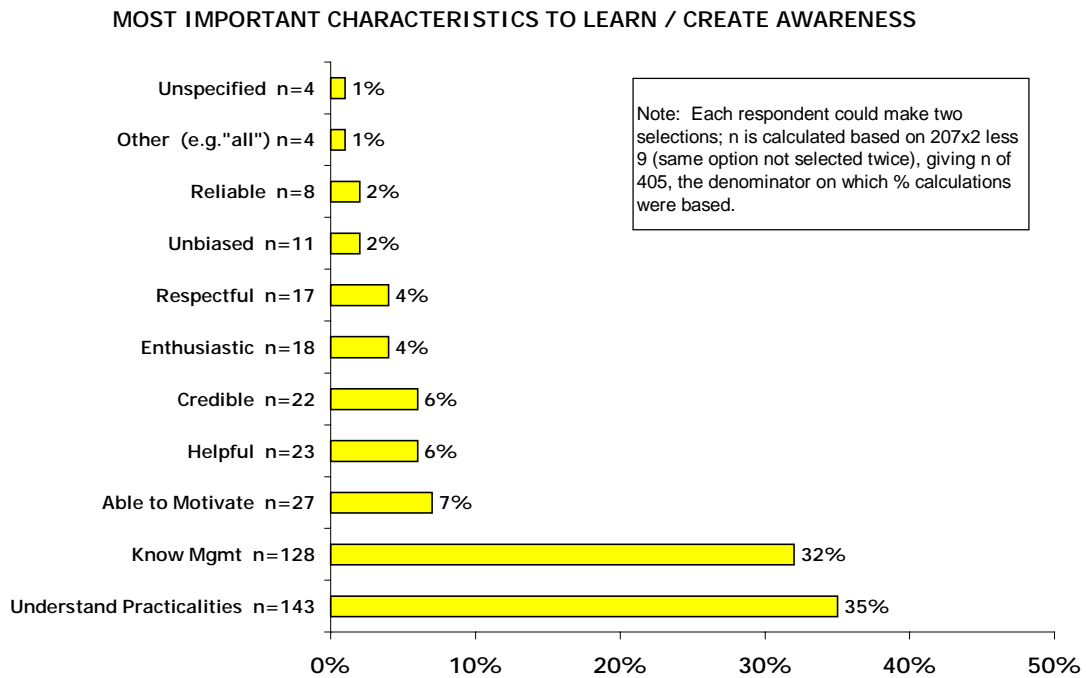


FIGURE 80

KNOWLEDGE TOPICS LEARNED ABOUT n=145

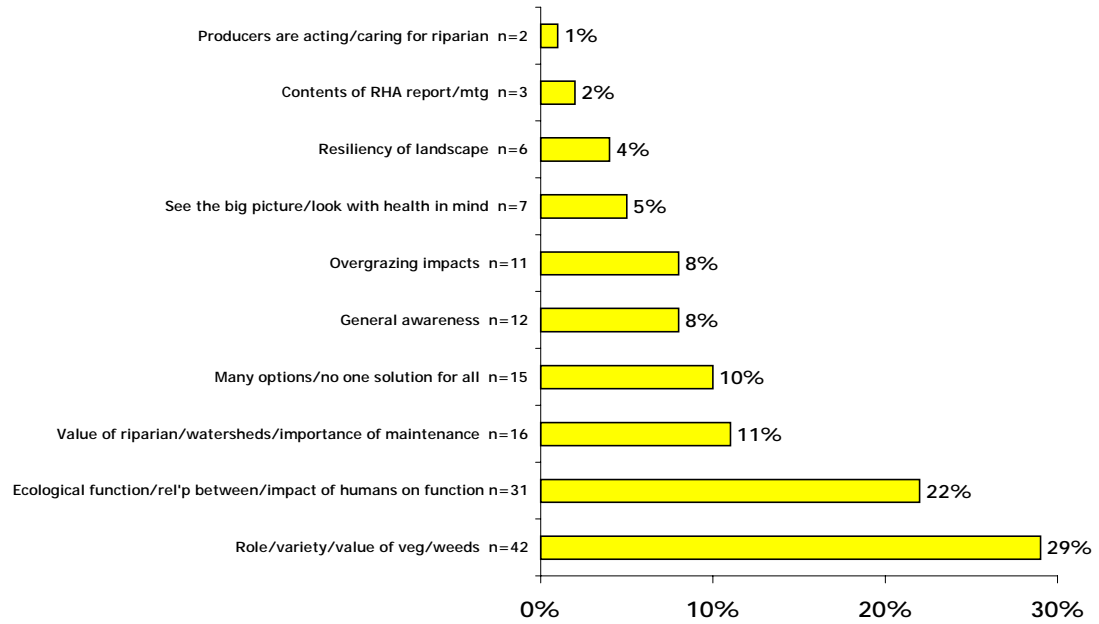


FIGURE 81

STRATEGIES LEARNED ABOUT n=56

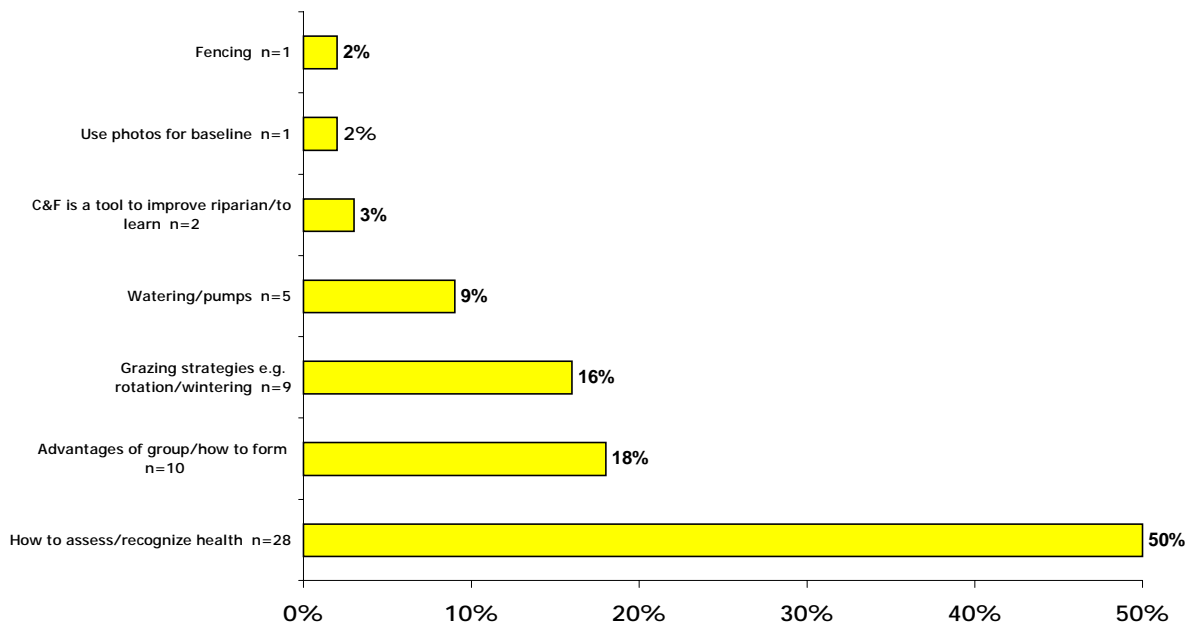


FIGURE 82

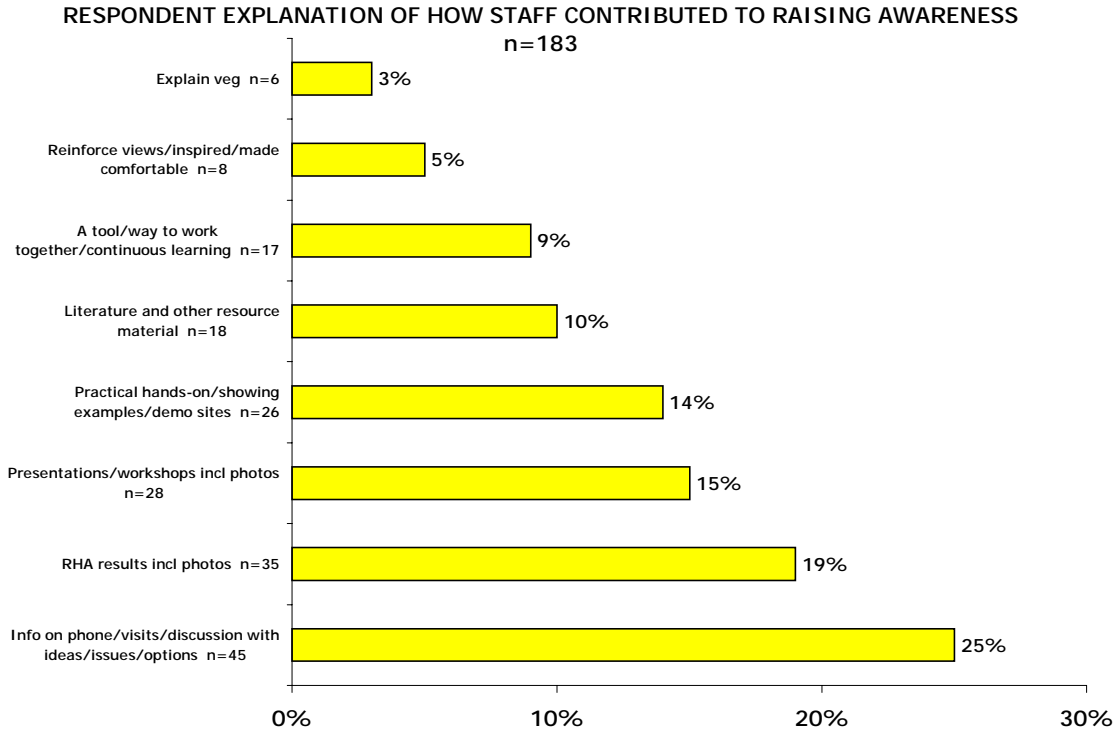


FIGURE 83

RAISED AWARENESS
BY MOST RECENT YEAR OF RHA (includes respondents indicating one RHA year only, not multiple years) n=100
AND BY TOTAL NUMBER OF YEARS OF RHA n=167

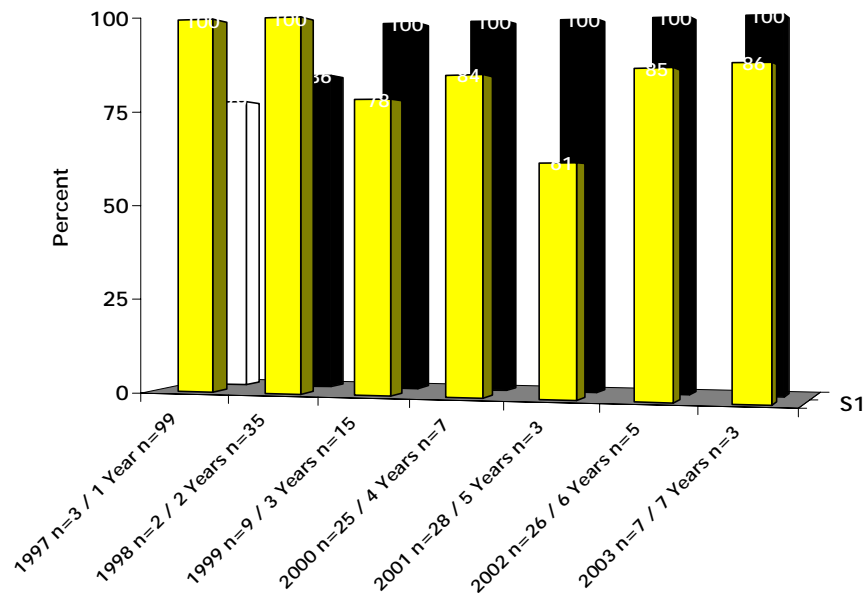


FIGURE 84

ADOPTED NEW / CHANGED MANAGEMENT n=193

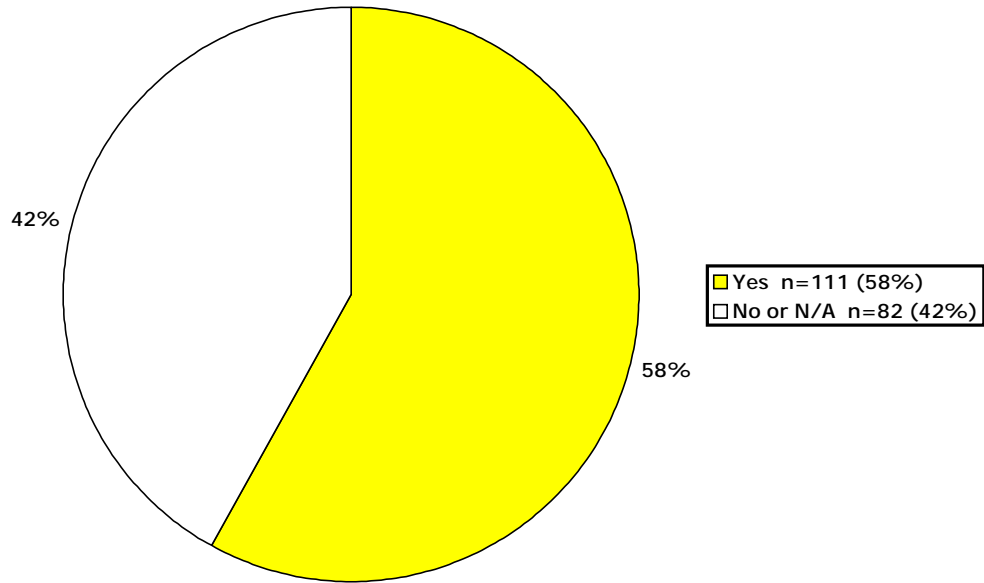


FIGURE 85

ADOPTED NEW / CHANGED MANAGEMENT BY ROLE n=193

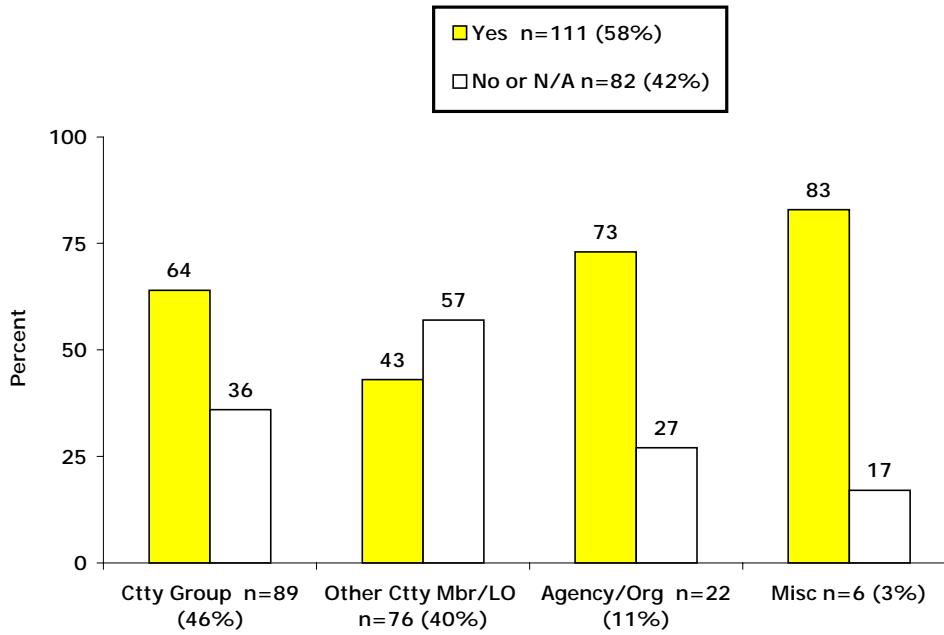


FIGURE 86

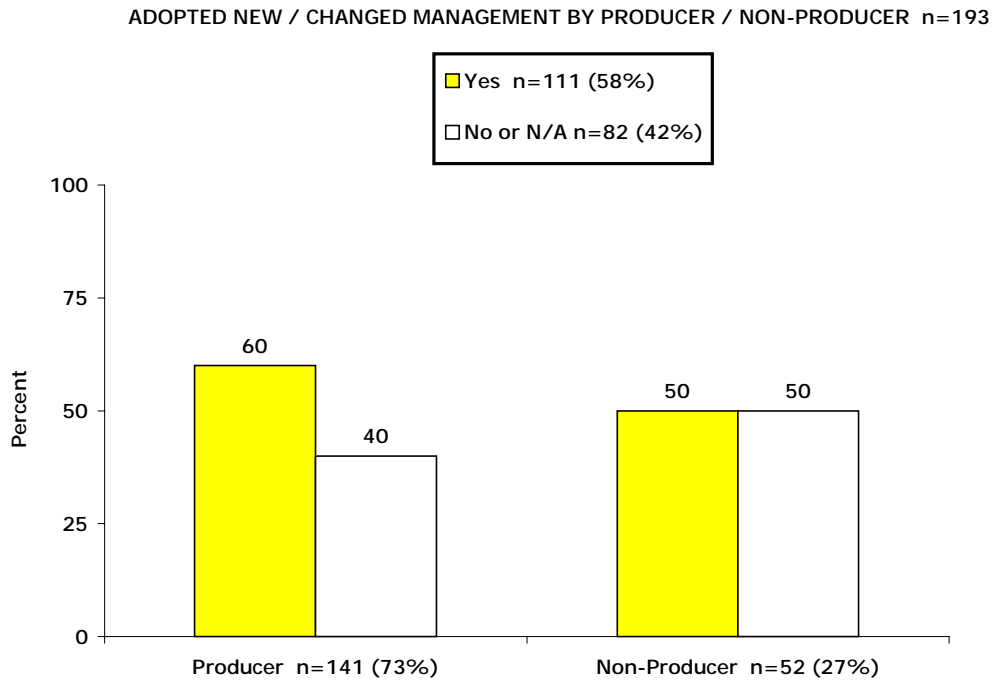


FIGURE 87

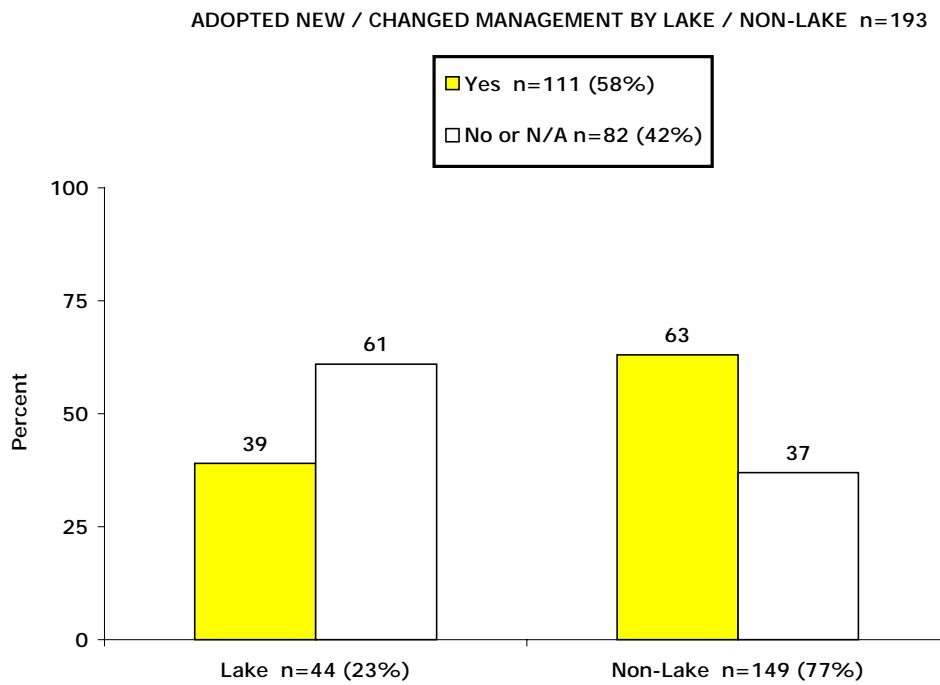


FIGURE 88

ADOPTED NEW / CHANGED MANAGEMENT BY AMOUNT OF CONTACT n=193

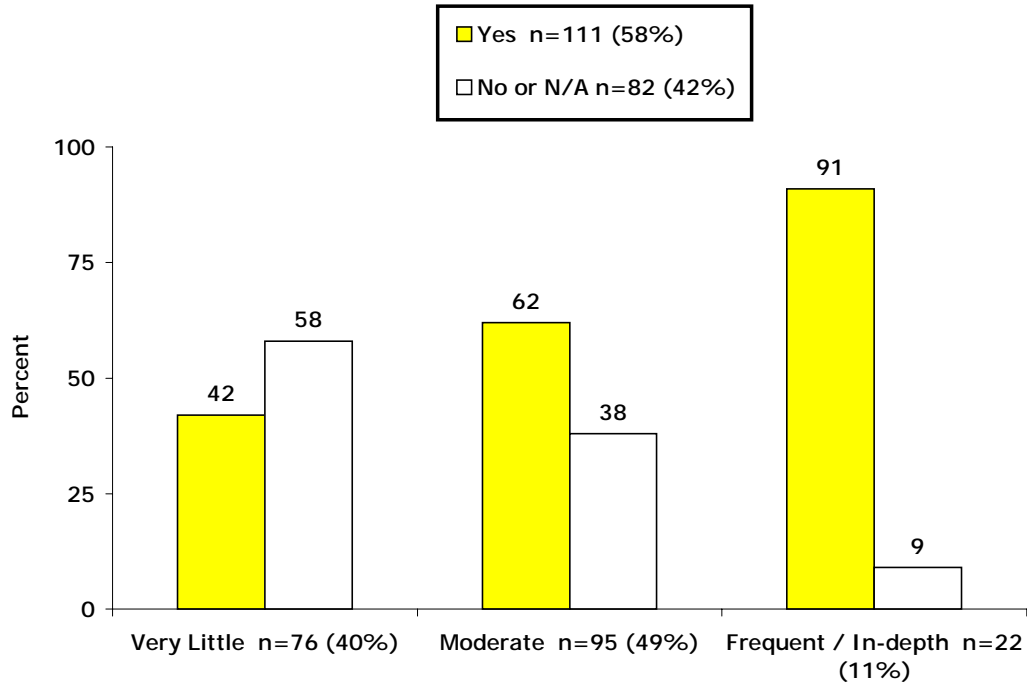


FIGURE 89

ADOPTED NEW / CHANGED MANAGEMENT BY TYPE OF CONTACT n=193

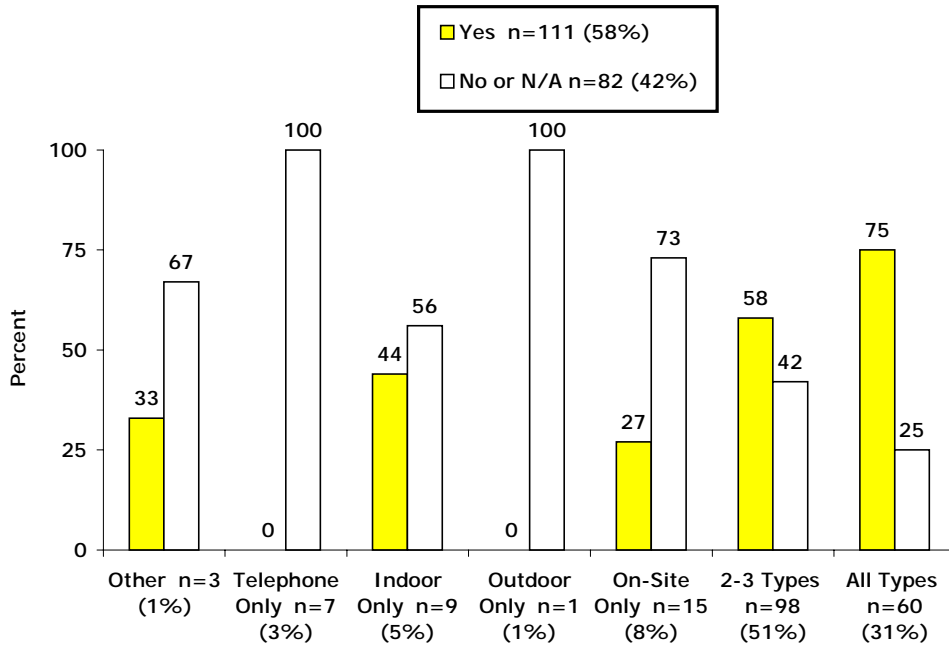


FIGURE 90

MOST IMPORTANT CHARACTERISTICS TO PROMOTE PRACTICE CHANGE

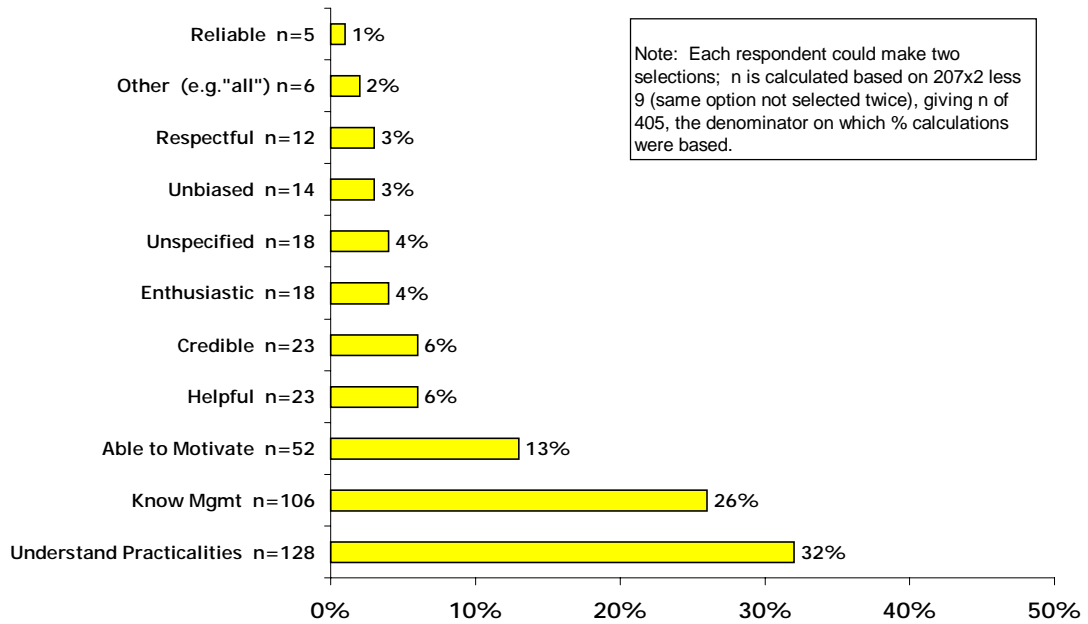


FIGURE 91

TYPES OF PRACTICE CHANGE n=143

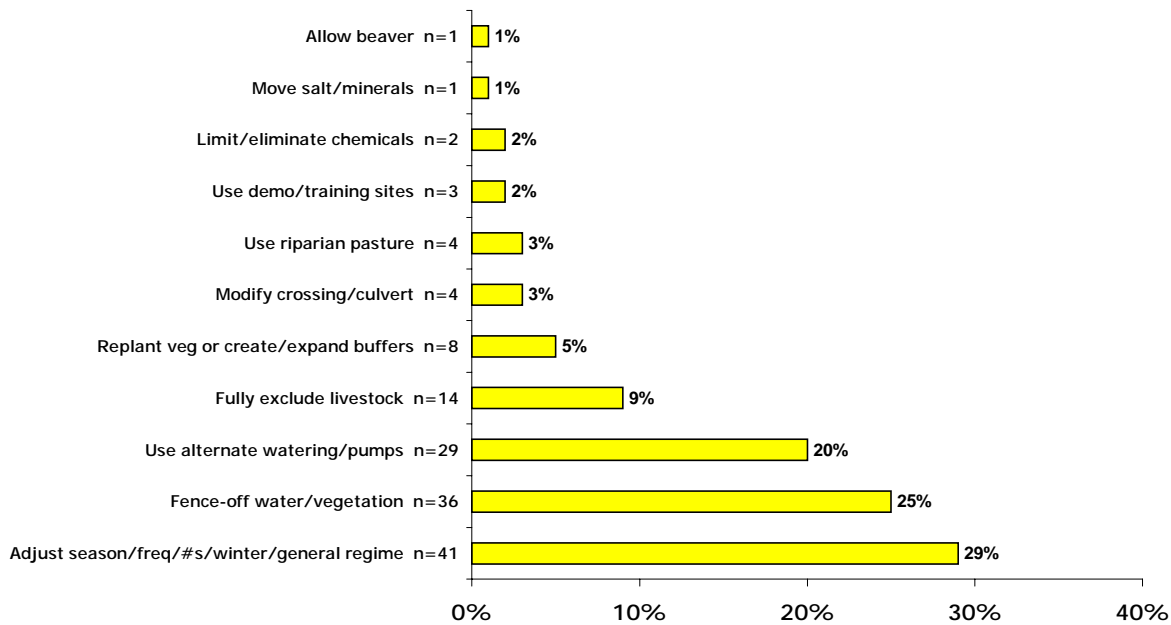
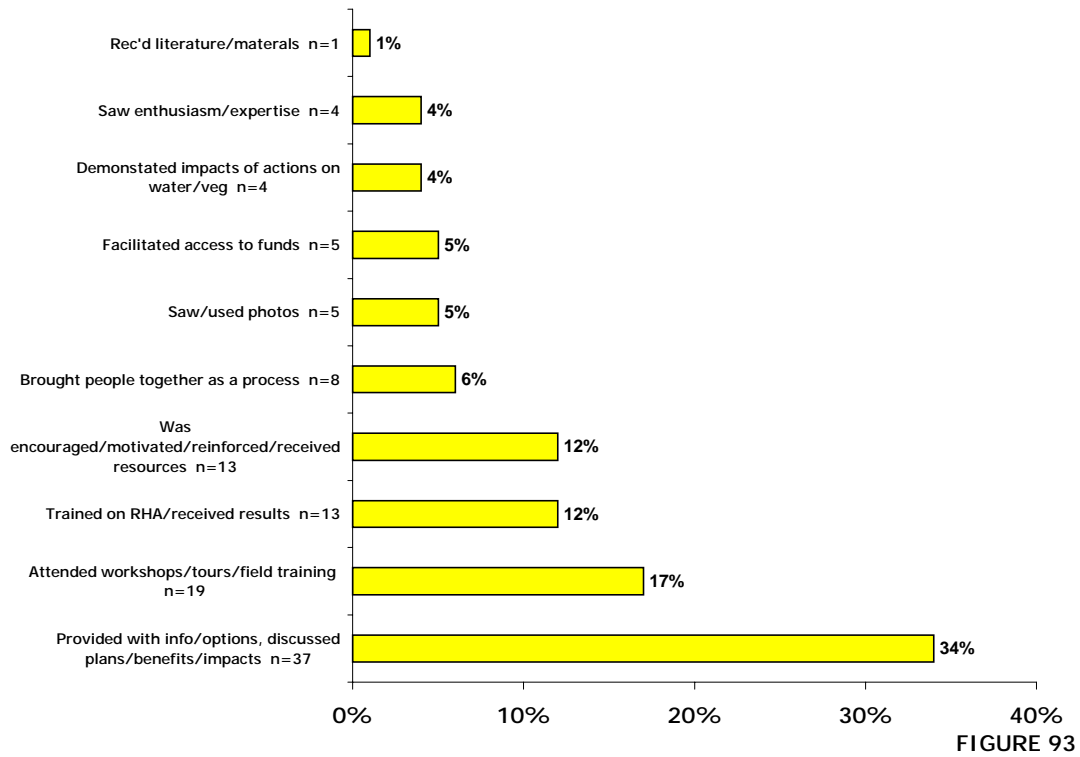


FIGURE 92

RESPONDENT EXPLANATION OF HOW STAFF CONTRIBUTED TO PRACTICE CHANGE DECISION n=109



CHANGED PRACTICES BY MOST RECENT YEAR OF RHA (includes respondents indicating one RHA year only, not multiple years) n=97 AND BY TOTAL NUMBER OF YEARS OF RHA n=163

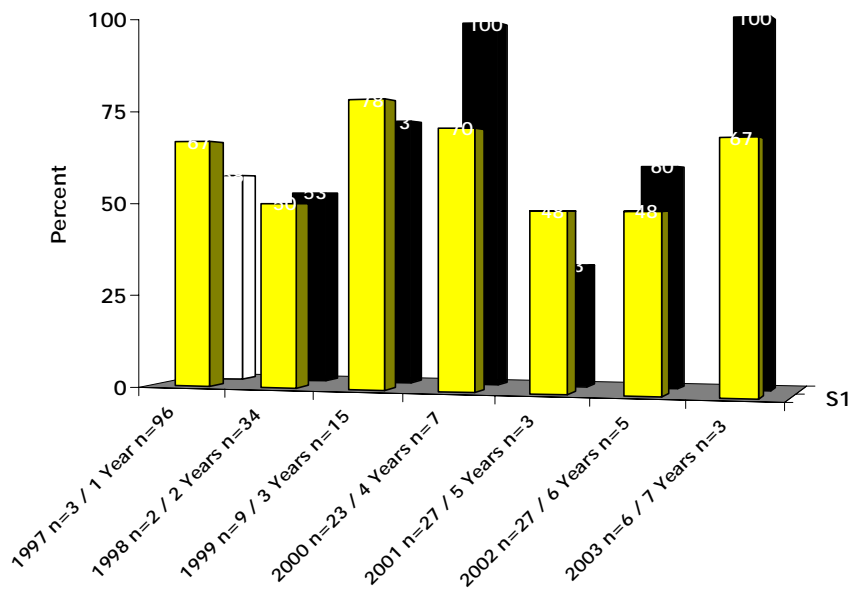


FIGURE 94

APPENDIX E***LITERATURE CITED***

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